



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

Case Studies of Successful Women Entrepreneurs in the ICT Industry in 21 APEC Economies

APEC Policy Partnership on Women and the Economy

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Executive Summary

This report presents findings of case studies of successful women entrepreneurs engaged in ICT business or actively integrating ICTs into their business. A total of 24 women entrepreneurs from 21 APEC Economies participated in the research study¹. This study is part of APEC-funded project titled ‘Women’s Economic Empowerment and ICT: Capacity Building for APEC Women Entrepreneurs in the Age of the 4th Industrial Revolution’ undertaken by Asia Pacific Women’s Information Network Center (APWINC) of Sookmyung Women’s University under the supervision of the Ministry of Gender Equality and Family of Republic of Korea. The purposes of the current study are 1) to identify success factors that contributed to business success of the women entrepreneurs, 2) to understand main challenges or obstacles that these women entrepreneurs faced, 3) to highlight policy recommendations that the successful women entrepreneurs offered as enablers for facilitating women’s entrepreneurship, and 4) to identify advice that the women entrepreneurs would like to give to other women entrepreneurs or women who wish to start up their business in the future.

21 researchers from the APEC Economies conducted their case study of one or two women entrepreneurs. The researchers collected data through face-to-face interviews or skype interviews with the selected women entrepreneurs one to four times. They analyzed the data and, based on the analysis results, completed a case study report. APWINC then conducted cross-case analyses and identified recurrent and salient themes across cases with regard to the four aspects – success factors, challenges, policy recommendations, and advice for other women entrepreneurs.

As regards success factors, cross-case analysis identified multiple factors including government ICT policies, government initiatives for women entrepreneurship, support from entrepreneur networks and ecosystem, active use of ICTs, customer-centered approach, and passion for entrepreneurship. Challenges that the women entrepreneurs frequently cited include limited access to finance, gender discrimination, lack of mentors and coaching networks, lack of skills and experiences, and fear of failure. Regarding policy recommendations, this research study identified several common recommendations, such as ‘build gender-responsive entrepreneurial ecosystem,’ ‘increase mentoring and networking opportunities,’ ‘increase funding opportunities,’ ‘provide ICT and entrepreneurship trainings for women,’ and ‘promote women’s welfare.’ The women entrepreneurs offered advice, including ‘seek for mentoring and networking opportunities,’ ‘take risks and learn from failures,’ ‘form a solid team,’ and ‘do not let gender biases overwhelm you.’

¹ In case of three APEC members (Canada, Hong Kong, China, and the USA), two women entrepreneurs were selected for each case study.

It is expected that findings of this research project focused on best practices of women entrepreneurs in the ICT sector will help to inform women in the APEC region of key features of the current ICT business environments and to promote their economic empowerment. To promote women entrepreneurship in the ICT industry or to lead more women entrepreneurs to actively leverage ICTs for their current business, it is necessary to keep exploring best practices of women entrepreneurs in the relevant fields and disseminate their success stories around the APEC region and also the whole world in many possible ways.

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List of Acronyms

AP	Asia-Pacific
APCICT	Asian and Pacific Training Centre for Information and Communication Technology for Development
APEC	Asia-Pacific Economic Cooperation
APWINC	Asia Pacific Women's Information Network Center
ASBANC	Banks Association in Peru
ASEAN	Association of South East Asian Nations
AWEN	ASEAN Women Entrepreneurs Network
B2B	Business to Business
B2C	Business to Consumer
BEA	Bureau of Economic Analysis
CCL	Chamber of Commerce of Lima
CEDAW	Committee on the Elimination of Discrimination against Women
CEF	Continuing Education Fund
CHQ	Corporate headquarters
CIA	Central Intelligence Agency
CODESI	Multi - Sectoral Commission for the Development of the Information Society
CONCYTEC	National Council of Science, Technology and Technological Innovation
CONICYT	National Commission for Scientific and Technological Research
COO	Chief Operations Officer
CORFO	Economic Development Agency
CTLCS	Community Technology Learning Centers
CTO	Chief Technology Officer
DICT	Department of Information and Communications Technology
DOST	Department of Science and Technology
DOTC	Department of Transportation and Communications
DTI	Department of Trade and Industry
EAP	Economically Active Population
ECLAC / CEPAL	Economic Commission of Latin America and the Caribbean
ENAHQ	National Household Survey
FDI	foreign direct investment
FEI	Female Entrepreneurship Index
FEW	Female Entrepreneurs Worldwide
FITEL	Telecommunications Investment Fund
GDP	Gross Domestic Product
GEDÍ	Global Entrepreneurship & Development Index
GEI	Global Entrepreneurship Index
GEM	Global Entrepreneurship Monitor
GNP	Gross National Product
GTE	General Telephone & Electronics Corporation
HKC	Hong Kong, China
HKTDC	Hong Kong Trade Development Council
HW	Hardware

IBM	International Business Machines Corporation
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
IDI	ICT Development Index
IMF	International Monetary Fund
IMS	Inventory Management System
INEI	National Statistics Institute and Information
IoT	Internet of Things
IP	Intellectual property
IPO	Intellectual Property Office
ISP	Internet service provider
IT	Information Technology
ITC	Innovation and Technology Commission
ITU	International Telecommunication Union
LOC	Line of credit
LTE	Long Term Evaluation
MBA	Master of Business Administration
MDG	Millennium Development Goals
MEF	Ministry of Economy and Finance
MIDEPLAN	Planning Ministry
MIMP	Ministry of Women and Vulnerable Population
MINEDU	Ministry of Education
MOOC	Massive Open Online Course
MSME	Micro, Small, and Medium Enterprises
MTC	Ministry of Transport and Communications
MTICT	Ministry of Information and Communication Technology
NBI	National Bureau of Investigation
NGO	Non-Governmental Organization
NRI	Networked Readiness Index
NSO	National Statistics Office
OECD	Organization for Economic Cooperation and Development
PPP	Purchasing Power Parity
PR	Public relations
PRODUCE	Ministry of Production
PROINVERSION	Agency for the Promotion of Private Investment
PSA	Philippine Statistics Office
PSTN	Public Switched Telephone Network
PUCP	Pontifical Catholic University of Peru
R & D	Research and Development
RDNFO	National Optical Fiber Backbone Network
REDMEP	Network of Women Entrepreneurs of Peru
RSBI	The Russian Small Business Index
S&T Basic Plan	Science and Technology Basic Plan
S&T+i	Science, Technology and Innovation
SBA	Small Business Administration
SBDC	Small Business Development Centers

SDG	Sustainable Development Goals 2030
SEC	Securities and Exchange Commission
SINACYT	National System of Science and Technology
SME	Small to Medium-sized Enterprise
STAR Program	Sari-Sari Store Training and Access to Resources Program
STEM	Science, technology, engineering, and mathematics
STI	Science, Technology and Technological Innovation
SUNAT	National Customs and Tax Administration Superintendent
SW	Software
TEA	Total Early-stage Entrepreneurial Activity
TESDA	Technical Education and Skills Development Authority
UK	United Kingdom
UL	University of Lima
UN	United Nations
US	United States
USA	United States of America
USITC	United States International Trade Commission
WB	World Bank
WBI	Women Business Index
WEF	World Economic Forum
WIFI	Women ICT Frontier Initiative
WINK	Women in Kind

Chapter 1. Introduction²

1.1 Background of the Study

Promoting women's economic empowerment is critical to achieving stronger, sustainable, inclusive growth. Women's participation in economy can boost productivity, bring diversity into the labor force, and eventually contribute to building a more harmonious society. In consideration of the characteristics of the current age including population aging and sluggish economic growth, it is increasingly necessary to mobilize female talents, which constitute most underutilized resources.

Asia Pacific Economic Cooperation (APEC) has long been embracing 'women's economic empowerment' as one of the most significant agendas and implementing a variety of projects. Partly due to such endeavors, APEC witnessed a significant increase in the rate of APEC women's participation in the labor market. Despite the progress, however, women are still facing various types of inequality in the business sector, such as lower chances of employment, limited access to quality jobs, and lower salary than men. Moreover, most of the women-owned businesses are micro-, small-, and medium-sized enterprises (MSMEs), which are generally of smaller scale than men-owned businesses. Those women entrepreneurs run their business usually at the micro level in the informal sector, and their enterprises received lower expectations of growth. Overall, women-owned businesses have more limitations than men-owned ones in terms of size, scope, productivity, and profitability.

Against this background, it is claimed that leveraging information and communication technologies (ICTs) is one of the most effective ways to promote women's economic empowerment. Accumulating documents report on the potential of ICTs for women to start up a new business in that ICTs can free women from time and physical constraints, which have traditionally impeded women from economic activities, and reduce cost for starting a business in online environments. Furthermore, it is reported that in case ICTs are integrated into business management, it can enhance productivity and efficiency.

Now that the world is transitioning towards a digital economy, ICTs are playing an ever more important role than before. In order to perform successfully in the current digital economy, women entrepreneurs are expected to be equipped with appropriate ICT skills and knowledge. In particular,

² The head researcher of the current research project is Myonghee Kim, Director, Asia Pacific Women's Information Network Center, Sookmyung Women's University, Republic of Korea.

the 4th industrial revolution has started to make tremendous impacts on the world. The 4th industrial revolution is defined as a range of technologies that are fusing physical, cyber, and digital worlds, and create fundamental changes in the ways that human beings live, work, and relate to each other. Worth noting is that ICTs play a central role in making the 4th industrial revolution possible. Though there is still a controversy over the presence and, also, key features of the 4th industrial revolution, the world is already experiencing dramatic changes coming from the 4th industrial revolution in most aspects of life, including business, politics, sociocultural practices, and human relationships. This global trend further highlights an ever-urgent need for women entrepreneurs to develop a sound understanding of new business practices in the 4th industrial revolution and actively leverage ICT skills and knowledge for their business. APEC, specifically APEC Women and Economy (WEF), is well aware of such urgent needs and promotes the importance of digital literacy capacity building among the APEC women.

1.2 Purpose of the Study

In this context, it is necessary to identify best practices of women-owned ICT enterprises and to disseminate the information to the APEC women in order to help them get better prepared for the digital economy or the 4th industrial revolution. The current report is a collection of 21 case studies of successful women entrepreneurs from 21 APEC Economies, who are running an ICT-related business or actively integrating ICTs into their business.

The purposes of the current research study are 1) to understand success factors of women entrepreneurs doing ICT businesses or actively mobilizing ICT tools for their businesses; 2) to understand the main challenges or obstacles that these women entrepreneurs faced; 3) to identify policy recommendations that these successful women entrepreneurs offer as enablers for facilitating women's entrepreneurship; and 4) to identify advice that these women would like to give to other women start-ups or women considering starting up their businesses in the future.

1.3 Research Procedure

The current research study was designed and implemented by Asia Pacific Women's Information Network Center (APWINC) of Sookmyung Women's University of the Republic of Korea under the supervision of the Korean Ministry of Gender Equality and Family (MoGEF) and APEC Women and Economy Forum (WEF). This study is part of a larger project titled 'Women's Economic Empowerment and ICT: Capacity Building for APEC Women Entrepreneurs in the Age of the 4th Industrial Revolution,' which was approved and financially supported by the APEC

Secretariat.

The current research study was implemented in three stages. In the first stage, APWINC recruited six researchers for case studies of six APEC members (i.e., Chinese Taipei, Indonesia, Korea, Malaysia, Thailand, and Viet Nam). Six economies were selected in such a way to reflect differentiated levels of ICT development across the APEC Economies: two members are highly advanced ICT economies; two medium-level economies; two lower-level economies. Through video conferencing, APWINC and the researchers had discussions on research purposes, research procedure, methods of data collection and analysis, interview questions and many others. In order to secure consistency and comparability across case studies, APWINC tried to ensure that all researchers could develop a shared understanding of the overall research scheme. Any confusions or misunderstandings were further resolved through subsequent email correspondences. Several weeks later, the six researchers submitted interim reports of their case studies according to the research schedule.

Three out of the six researchers (Indonesia, Korea, Malaysia) and three successful women entrepreneurs who were the research participants (Chinese Taipei, Thailand, Viet Nam) participated in the seminar titled ‘Smart Technology and APEC Women’s Economic Empowerment in the 4th Industrial Revolution.’ This seminar took place as part of the 2017 APEC WEF Seminar in Viet Nam in September 2017. The six people made presentations on initial findings of their case studies or success stories to share best practices of women entrepreneurs in the field of ICT business with the seminar participants.

In the second stage, APWINC recruited 14 more researchers who would conduct case studies of the remaining 15 APEC members³. As with the first group of researchers, APWINC informed this second group of researchers of overall research scheme and its details through either through videoconferencing or emails. APWINC sought to ensure, again, that all these participating researchers could develop a common understanding of the research scheme.

The researchers – the first group of six researchers and the second group of 14 researchers – conducted case studies separately, and submitted final reports to APWINC in time. Before that, each researcher went through the revision process a couple of times based on the feedbacks from APWINC. It should be noted that each report consists of two parts: 1) economy information on the ICT business and women entrepreneurship, and 2) case study results.

³ Two researchers conducted three case studies together.

In the third stage, APWINC separated two parts of the reports mentioned above and dealt with them differently. All the first parts from 21 case studies (i.e., economy information on the ICT business and women entrepreneurship) were simply put together in one economy information report with slight modification⁴. The second parts (i.e., case study results) went through a rigorous analysis process. Specifically, APWINC conducted cross-analyses of 21 case studies in order to identify salient, recurrent themes across cases relevant to the research focuses, and completed a final case study report. These two reports – economy information report and case study report – were then reviewed by the Korean MoGEF and also by the other APEC Economies. It should be noted that the present report is the case study report.

⁴ The title of the economy information report is *Profiles of ICT Business and Women Entrepreneurs of the APEC Economies*.

Chapter 2. Methodology

As aforementioned, the present research study is part of a larger APEC-funded project endorsed by the APEC Secretariat. The overall purposes of the project are to promote APEC women's economic empowerment by exploring best practices of successful APEC women entrepreneurs in the ICT sector through case studies and disseminating them through seminars and online platforms, and to thereby prepare women for digital economy in the 4th industrial revolution.

This section describes information on 24 research participants from APEC Economies as successful women entrepreneurs, and case study methodology with particular focus on methods of data collection and analysis.

2.1 Participants – Successful Women Entrepreneurs of 21 APEC Economies

A total of 24 women entrepreneurs participated in this research study. In case of Canada, Hong Kong, China, and the U.S., two women participated in the study while in case of the other 18 economies, one woman participated each.

All these women entrepreneurs heavily relied on ICTs for their business in that many of the women entrepreneurs were engaged in ICT business, and those who were not actively leveraged ICTs for running and managing their business. In terms of industry, 13 women entrepreneurs run ICT-related industries, for example, online platforms, computer software development, and online education. 11 are engaged in several industries, including financial investment, electronic technology, and social enterprise. Table 1 presents information on research participants.

Table 1. Information on Research Participants

Economies	Name	Organization	Industry
Australia	Sonja Bernhardt	ThoughtWare (Parent company for 'I.On My')	Computer Software Development
Brunei Darussalam	Aimi Ramlee	Tyne Solutions	Computer Software Development
Canada	Eva Wong	Borrowell	Financial Investment
	Alison Loat	Ai-Media	Technological Social Enterprise for Education
Chile	Carmen Gloria Aracena Alvarez	TECNOCAL	Electronic Technology

People's Republic of China	Leody Fu	AppMagics	IT (Virtual Reality)
Hong Kong, China	Michelle Lai	MISCHA	Fashion Retail
	Ines Gafsi	FEW	Platform for Female Founders
Indonesia	Angkie Yudistia	Thisable	Social Enterprise
Japan	Rika Yajima	aeru	Online Retail Store
Republic of Korea	Jayoung Yoon	Style Share	Online Fashion Platform
Malaysia	Nur Asyikin Binti Ismadi	Alysa & Soo Company	Food
Mexico	Guillermina Cabral	IntraNetsLab de México	Computer Software Development
New Zealand	Frances Valentine	The Mind Lab	IT-based Education
Papua New Guinea	Winifred Kula Amini	Win-IT Consultancy Ltd	IT Consulting
Peru	Nory del Rocío Rodríguez Vergara	Beat Company	Mobile Transportation Platform
The Philippines	Kim Lato	Kimstore Enterprise Corporation	Online Gadget Store
Russia	Marina Druzhnets	Cardberry	Card Service
Singapore	Sun Ho	LittleLives Inc	EduTech
Chinese Taipei	Wei-Shuan Chang	Womany	Social Media Platform for Female
Thailand	Sirinut Chimplee	Sirinut betta farm	Thai Fish
The United States	Krista Morgan	P2Binvestor	Financial Investment
	Virginia Santy	Women in Kind	Business Mentoring Platform for Female
Viet Nam	Dang Thi Thanh Van	Savvycom Software	Computer Software Development

2.2 Data Collection

Three different sets of data were collected: 1) economy information on the ICT business and women entrepreneurship, 2) information on the companies that the women entrepreneurs were running, and 3) data on the successful women entrepreneurs.

The researchers collected economy information through online search or literature review, and collected information about the women-led companies through either online search or contacts with the company. The researchers collected data on women entrepreneurs mainly through interviews. As these interview data constitute the primary data of this study, it is necessary to delineate how the data were collected in depth. Each researcher selected one or two women entrepreneurs for her case study according to the selection criteria that APWINC and the

researchers had agreed on. The selection criteria include:

- A female CEO or entrepreneur who runs an ICT/smart technology-related business in an APEC member or actively leverages ICTs for running her business
- The business should be successful or being recognized for its potential for growth.
- The company has been in business for at least five years.

Upon identifying women entrepreneurs, the researchers conducted semi-structured interviews with the entrepreneurs in person once to four times in convenient places, such as interviewees' offices or coffee shops, or through skype. The interviews lasted for one to four hours. Some researchers conducted subsequent interviews through emails whenever they felt it necessary. A list of interview questions that the researchers initially used include:

- What made you start your business?
- What are the success factors of your business?
- What are the characteristics or methods of managing your business? (e.g., securing human and material resources, operating organization, publicity, inducing investment, etc.)
- What are the challenges you faced in starting or running your business?
- How did you overcome those challenges and what kinds of support did you get?
- Based on your experiences, what policy recommendations would you like to make?
- What advice would you like to give to other women startups or women who would like to start their business?

In addition to these interview questions, the researchers asked any follow-up questions when necessary.

2.3 Data Analysis

The researchers categorized their interview data into four sectors - success factors, challenges, policy recommendations, and advice for women startups and entrepreneurs – and identified salient themes related to each sector. The researchers labeled each theme and identified direct quotes from the interviewee, which are relevant to each theme.

Finally, APWINC conducted cross-case analyses in relation to the four sectors - success factors, challenges, policy recommendations, and advice for women startups and entrepreneurs. In this

cross-analyses stage, APWINC sought to identify recurrent, salient themes that are relevant to each sector and commonly occur across the 21 case studies. APWINC then identified the most representative, appropriate quotes from the women entrepreneurs to illustrate points in question.

Chapter 3. Case Studies

3.1 Case Study of Australia⁵

3.1.1 Profile of a Woman Entrepreneur

Ms. Sonja Bernhardt OAM⁶ is Chief Executive Officer of the multiple award winning software development firm ThoughtWare Australia (www.thoughtware.com.au), the parent company for 'i.on my', a fully integrated software solution for the healthcare industry (www.ionmycare.com). The software is an evidence-based governance, risk and compliance platform that incorporates accreditation and human resources (HR) capability with embedded continuous improvement.



Source: www.sonjabernhardt.com

Ms. Bernhardt was born in Tasmania in 1959, the eldest daughter and middle child of a German immigrant who migrated to Australia after World War II where he built a successful life for himself, his wife and five children.

⁵ This case study was conducted by Patrice Braun, Adjunct Professor, Research & Innovation Portfolio, Federation University Australia, Australia.

⁶ To compile this case study, two one-hour telephone interviews were conducted with CEO Sonja Bernhardt, company websites were researched, and a series of emails were exchanged with Ms. Bernhardt and members of the ThoughtWare team.

Ms. Bernhardt holds three management and information technology related degrees including an MBA. She did not set out to have a career in IT. Rather, she fell into it sideways when a Human Resources job she took turned out to be an HR software support position. Ms. Bernhardt had always been good at math and the combination of interests made the job a good fit for me. In 1999 she was made redundant from a large technology company. *“I knew that I was good at what I did and that I had no control over the redundancy situation so I decided that I never wanted that to happen to me again”*, recalls this dynamic CEO. Within a few days she had set up her own company.

As the business owner and CEO of ThoughtWare Australia, a Gold Coast-based software and services company, Ms. Bernhardt contributes to the development of Queensland businesses in the health care industry. A technology industry identity in her home economy of Australia, she is passionate about her industry and for over a decade, has consistently encouraged others to either take up a career in technology or adopt technology in their daily lives through a multitude of career, role model, mentoring and board readiness programs that she has been primarily responsible for designing and managing.

Ms. Bernhardt is one of the highest profiled women in the Australian IT industry. Her peers recognize her as an action-oriented, results-achieving role model who consistently delivers benefits through her innovation, pioneering achievement and collaborative contribution to the development of the technology industries. Recognized in ‘Who's Who’ of Australian Women and in Who's Who in Queensland Business, it is about making a difference and that is what Ms. Bernhardt does with a strong values-driven philosophy that is evident in her continual strength of passion, energy and motivation. She has always been passionate about working to increase the number of women in technology and having her own company has let her act on that passion. Ms. Bernhardt has long known that women want to learn, adapt, change, and be inspired; that is one of the reasons she was the founder and inaugural president of Women in Technology (WIT, www.wit.org.au) in 1997.

WIT has been encouraging women to choose IT as a career since its inception. The association strives to raise the status of women in Australian business, particularly within the IT industry. By initiating dialogue with leaders in the IT industry, WIT promotes diversity directly from the top. WIT especially advocates women and men work together and organisations build an inclusive workplace culture that fosters opportunities for both men and women; success in cultivating such an environment will only happen if senior management embody those values. The creation of the WIT network has provided a structured framework now reaching a greater breadth of women in IT. The not-for-profit organisation hosts events based in Melbourne where both women and men can extend their network, expand their knowledge and engage in open conversation and debate.

Each networking lunch is based around a trending topic in IT and/or business. Membership is free; you only pay for event tickets. Ms. Bernhardt's enthusiasm is infectious, and many a young female students who had breakfast with this dynamic CEO at one of the WIT events went into IT.

Ms. Bernhardt is also the inaugural chair of AWISE - Australian Women in IT and Science Entity (awise.org.au). The driving force behind results-oriented women in science and technology groups across Australia, Sonja Bernhardt has championed wide-scale programs creating professional and academic development opportunities, thus helping thousands of school students and hundreds of professionals. Sonja's tireless efforts in mentorship have facilitated and created programs that motivate young women to choose careers in science and technology, while enabling scientific and technical women to advance in their careers. Bernhardt's volunteer work in IT especially for increasing the career uptake and profile of women in technology has been widely recognised through a number of awards. In 2011, Ms. Bernhardt was bestowed the Order of Australia Medal (OAM) for her contribution to the IT industry.



Source: www.sonjabernhardt.com

3.1.2 Profile of a Company

Ms. Bernhardt is not only the CEO of ThoughWare, the parent company for 'i.on my' software, she is also the brainchild behind this fully integrated healthcare solution.

The 'medtech' solution provides fully integrated workflows and monitors critical issues in health care such as care services and incidents. For example, the software allows users to automatically import, analyse, trend and report data from a range of different departments and functions, including data from finance, payroll, HR, rostering, insurance, clinical, web forms and industry-specific applications.



Source: www.ionmycare.com

Company Product

Where i.on my truly comes into its own are its smart workflow features, allowing organisations to capture meeting activities, create an audit trail of actions and outcome. The platform also has a collaborative space for internal management of projects, sharing of communications, timelines that can link planning to improvements. The system can track professional development of staff, managing, tracking and reporting on training and education, attendance and sharing the learning. The platform also allows for the management of records of those in the wider community involved in some way in client care, such as relatives, visitors, doctors, pharmacies, suppliers, government agencies and health and lifestyle activities providers. Below provides an at-a-glance overview of the capabilities of the software:



Aged Care Community Care Retirement Villages

Indigenous Services Disability Services Hospitals

- ✓ Create custom forms and automate functions and escalation.
- ✓ Dynamic, powerful checklist and action capability that ensures your “To Do” Items are managed.
- ✓ Alerts for what you need to know, when you need to know it.
- ✓ Staff can remotely access client, care or service assessments.

- **GOVERNANCE**
Knowing what to do – understanding, documenting and managing organisational processes and controls.
- **RISK MANAGEMENT**
Standardising processes; mapping to ISO31000 compliance.
- **COMPLIANCE**
Doing what you say – Monitoring Policies & Procedures, Incidents, Accidents, Infections.
- **ACCREDITATION**
- Saying what you know – addressing auditor needs and reporting as required.
- **QUALITY**
Embedding continuous quality improvement into key processes.
- **HR WORKFORCE**
Managing your most valuable asset – your staff.
- **HR COMMUNITY**
Caring for members of your community

The first aged care client was signed in February 2008 and initial clients were micro and single site users. Today, as a testament to the quality of the solution and organisation’s capability, the company is an important player in the Medtech sector, which sports more than 500 companies in Australia and combined employ some 20,000 workers with a combined annual turnover of more than \$10 billion. More than 65,000 people in 100 sites across Australia are under the care of i.on my software. At present, i.on my clients include multi enterprises – including residential community, retirement, family care and childcare services and multi residential facility groups. The platform is also used by hospitals, retirement, community care, disability, aged care and indigenous service organisations.

Charles Slade – Host of Channel 9 Show ‘Your Business Success’:

“A quality niche product that has been embraced by all who have seen it”.

Quality Customer Service and Frequent Communications

What sets ThoughtWare apart from other e-health platforms is its personalized way of catering to customer needs. In-depth platform knowledge starting from its leadership to its employees transcends quality service to customers.

It typically takes less than three days to connect systems and aggregate data into the platform and take control of the system’s powerful capabilities. Service organisations benefit from the fact they can automatically import, analyse, generate, trend and report on key data from finance, payroll, HR, rostering, insurance, clinical, web forms or an industry-specific application.

More than 350,000 transactions are managed by i.on my in any one day and approximately 500,000 alerts and reminders are triggered. The platform provides free online learning materials and 24/7 support via its support site and a toll-free telephone number. An automated traceable support ticket system captures clients’ support needs, which allows the enterprise to continuously improve on its own service delivery. The company maintains a news section on its support website, posting new software versions or patches so clients are always up to date on their i.on.my software. The company also has a knowledge base where they post useful information for general use of their clients. The knowledge base also includes video tutorials.

Quotes from i.on my customers:

“One of the best features and points of difference with i.on my is its ability to capture email responses to actions assigned to people. This helps quickly build a record of milestones in the life cycle of an action without the need for specialist data entry”

“The ability to interface with other vendors is very useful in eliminating duplication of data entry”

“Just a short note to say how much I love the recurring follow up to actions enhancement to i.on. The ability to automatically check how things are going every x days is sooo powerful!”

Core Operations and Team

A particular characteristic of the business is that the only maintains a small on-shore team and outsources/nearshores certain IT processes and human resource needs. Nearshoring is the practice of transferring a particular business operation to a nearby economy, especially in preference to a more distant one where time differences may interfere with delivery of services in real time. Other benefits of nearshoring include geographic proximity, cultural, social, linguistic, economic, political and/or historical linkages with the economy, sometimes even sharing a border.

ThoughtWare is not alone in the nearshoring trend. Over the past five years Australian companies have increasingly been offshoring tasks online, generally a combination of technical and non-technical tasks including such tasks as freelance writing, design, web development, internet marketing and more recently finance and legal. Aside from having technical and non-technical jobs filled by outsourced labour, there is also a very high statistic that Australian enterprises today venture into offshoring services. For example, contact centres are popularly outsourced by Australian businesses just as companies in the United States and the United Kingdom have and continue to do in economies such as the Philippines and India. Thousands of Australian IT and high tech jobs are being shipped across the Tasman to New Zealand as firms chase lower wages and less restrictive labour laws.

ThoughtWare ensures its team feels equally valued as its customers. Since its inception, the company has offered extreme work flexibility providing more opportunity for women employees to join the company. As a result, ThoughtWare has always had an exceptional female to male ratio, ranging from 60 per cent females up to 90 per cent female employees – including across technical aspects of design and coding – driven by the CEO's personal passion for women and technology, where she insures that she practices what she preaches.

“I love having my own firm and being able to offer opportunities to people who seek genuine life flexibility, and more specifically to be able myself to offer jobs to females who are coders”.
“We embed flexibility into not only our software but into our work and ourselves”, explains Bernhardt.

Team members identify their training needs and they are supported (time and financially) on a needs basis. Most training occurs in-house from person to person via knowledge sharing, however external training is also available.

With company team members spread across multiple economies, it is not only important to communicate frequently with clients but also to communicate with each other to maintain a cohesive team. As a result, ThoughtWare heavily relies on communication technologies such as

online chat and meeting rooms. Commercial platforms such as ‘goto meeting’ and Skype are key tools for the company. As a company in the technical support field ThoughtWare uses tools of the trade as part of daily practices – things such as online meeting ‘rooms’, discussion forums and collaborative document sharing are all part of a regular day. This strategy has earned the company several awards.

ThoughtWare Chief Technologist Tiffany Mulholland:

“During my time at ThoughtWare I have advanced through many roles and promotions, which is all thanks to the great working environment and team members who are part of the team. We are extremely lucky with the flexibility that is offered to us. It is that flexibility that I believe makes us work harder and ultimately achieve our goals faster and more efficiently because we do have the freedom to choose our own hours, working location, etc.”

ThoughtWare Client Services Manager Michelle Kruwinnus:

“I have thoroughly enjoyed my ever expanding role within the team. The flexibility is greatly appreciated and, as a mother of three, a benefit to working for ThoughtWare that I call upon quite regularly”.

Quotes from i.on my customers:

“The i.on my team are a wonderful bunch of people, they really are all so individual and gorgeous”;

“i.on my staff are all very helpful, knowledgeable and friendly”.

Company Milestones and Challenges

The table below shows the notable historical highlights of ThoughtWare throughout its 18 years of business operation. The table also denotes the major challenges faced by the company.

Table 2. Business Milestones and Challenges

Milestone	Year	Challenge
<u>The Beginning</u> Establish initial technology consulting business, Including company registration.	1999	Sourcing clients – this was addressed by attending multiple networking events and reaching out to others for consulting assignments.
<u>The i.on my Idea, Planning and Design</u>	2005	A loss of 3 months productivity as 3 people from the business were focused during this time on

Milestone	Year	Challenge
Business expansion beyond reliance on human consulting resources into product development		business planning required to diversify the business, followed by product development.
<u>First Strategic Client</u> Initial product was developed and we went to market to seek clients	2006	Required considerable financial investment in attending multiple trade shows and events to promote the brand (borrowed from own 'war chest').
<u>New Market Expansion</u> Decision to expand into aged care (gained first aged care client in February 2008)	2008	Needed to both expand and go 'back to the drawing board' to enhance the solution to map to real client needs versus own thinking on what the market needed and what was built.
<u>Award Recognition</u> Received three awards in the economy's aged care awards making quite a splash entrance as a new player	2009	Being new to a market of many players in the clinical care space, the company offered a Governance, Risk and Compliance platform that was not yet a key priority for immediate purchase decisions (ahead of its time) - the challenge was capitalizing on the media splash and turning that into sales.
<u>Growth</u> 1 st to market in the aged care space with iPad enabled solution 50% increase in clients signed	2010	Getting the price right was far more of a challenge than expected. Adjusting prices upwards attracted more clients (and revenue) thus proving the old adage: 'if it's too cheap people do not believe it is valuable'. Experimented and failed with a number of partnerships/alliances.
<u>Honours</u> CEO awarded OAM, ThoughtWare debut as the 16 th company in the Business Book of Lists, gained multiple services clients. Began overseas expansion (NZ and Singapore explorations)	2011	Returning to core business versus promotional and PR activity and focus. Chased down 'many rabbit holes' wasting time, money and hope on ideas that were not commercially viable. Balancing the internal need to serve all customer requests vs. managing the scope of functionality.
<u>New Look</u> Launched new look and feel solution Began social media activity	2012	Keeping up with market expectations and technology changes yet maintaining a robust platform challenge meant tight scope control was required. Extra cost and flexibility of team and skills required to support activities (this was resolved by nearshoring some resources).
<u>Continued Success</u> Doubled resources to a team of 20 Added more than 2,000 daily users to the client base	2014	Competing on tenders with larger firms that had significant people and money resources weighed heavily against the enterprise.

Milestone	Year	Challenge
<p>Took out the economy's award for ICT company of the year.</p> <p>Clients continued to win awards for their use of the platform</p>		<p>The >80% female coding team, technical resources and extreme work flexibility – was at times a negative in gaining clients – the company received comments such as 'no men were on the pre sales team', 'the hair styles were not corporate enough'. As a result, the company had to fight harder to prove its credibility.</p>
<p><u>Platform Redevelopment</u></p> <p>Version 4 redesign released (Dec 2016) with Version 5 for Q1 2018</p> <p>Client base now extended across all states and territories of Australia (city and regional based - More than 60,000 people under the care of our platform.</p>	2016	<p>Software development is never complete - it always needs refreshing, redesign and new features. Software updates require significant financial and technical resources for ongoing currency and client activity.</p>
<p><u>Females in IT statistics</u></p> <p>ThoughtWare continues to maintain >80% female team</p> <p>Closed out the year with a sales pipeline that is expected to result in financial growth of at least 200%</p>	2017	<p>The company's unique work flexibility including working from anywhere in the world promotes attraction and retention of female team members. Conversely, it has, at times, led to loss of productivity and a delay in software development for the company.</p>

3.1.3 Findings

3.1.3.1 Success Factors

ThoughtWare commenced as a consulting company in 1999 and then branched out into software development in 2006. The success of the company may be attributed to many factors as shown in the above sections. Clients acknowledge ThoughtWare as one of the pioneers of an integrated e-health solution that reduces risk and enhances decision making through timely processes. In particular, the inter-operability and consistency of the unique software solution provides clients with auditable and searchable trail of documentation across all its programs.

The following section highlights the top four attributable success factors of the company.

Meeting Market Demand

Lon my software began as a business plan. With the popularity of digital devices such as cell phones and tablets, it was crucial that its business plan correctly assessed the implications of digital dependence and the presence of technology in our everyday lives. According to the CEO,

“In recent years, the societal impact of technology cannot be ignored as we become increasingly more connected and are presented with more digital tools and devices. Too many people design technology solutions without having a market.”

In reality this requires adopting an entirely new way of thinking and of course it requires resources.

“Hard work, but in the end it is all worth it when your company can experience the satisfaction that your technology ideas meet market demand”.

Staying Current

The company is particularly alert to the fact that the business environment changes rapidly and their software development plans and marketing strategies need regular reviewing and updating.

“I review (and if necessary recast) our marketing, call center, clients and financial plans and measures annually if not every six months”

Ms. Bernhardt explains to ensure the company stays current. This approach is particularly necessary in the medtech industry in Australia within which there is both a societal and economic imperative to address the fundamental challenges of transforming and innovating in meaningful ways for healthcare providers, clinicians and ultimately the Australian patients they serve⁷.

Managing Nearshoring and Flexibility

Maintaining a small on-shore team and outsourcing/nearshoring certain IT processes and human resource needs has allowed the company to manage its human resource needs. Outsourcing/nearshoring also is a cost control method for ThoughtWare as a way to ensure flexibility to upscale or downscale as needed. The company outsources some of its online service needs to firms and websites that offer specialist skills. This has helped the company manage its growth pattern but also provided its challenges. According to the CEO,

“labour costs and related entitlements are expensive in Australia so nearshoring is an attractive option for us.”

⁷ http://medtechactuator.com/wp-content/uploads/2017/11/MedTech-Paper_When-Australia-Innovates-The-World-of-Healthcare-Changes_.pdf

Value Creation for Clients

In the integrated software business, success relies heavily on creating value to all parts of a client's business ecosystem. Striking the right balance between functionality, reliability and consistency on the one hand and good customer care outcomes and savings is not an easy task.

ThoughtWare has taken the extra step to build in software functionality that does just that. It addresses the need for pathways to older systems, simple programs that require minimal training and business disruption and building tools that allow business staff to focus on providing quality services and care instead of on paperwork and compliance. This has helped create a culture where clients are empowered to act to protect their brand. According to the CEO,

“Delivering this type of value to customers not only positively addresses healthcare organisations’ duty of care, it enhances both their confidence and our reputation”.

3.1.3.2 Challenges

ThoughtWare has experienced major challenges over the 18 years the company has been in business, including multiple global financial and other crises. Some of these challenges brought valuable lessons that made the company stronger. The following section focuses on key business difficulties encountered by the company.

Lack of Resources

Statistics show us that a significant number of enterprises fail in the first five years. I. on my started with two resources and was initially slow to market, however since 2012 has experienced rapid growth, doubling resources in 2013 to a team of 15 and in 2014 to a team of 20, just breaking the SME barrier. Especially at the start-up phase of her business, the firm struggled to get the right resources in place. The CEO took three resources out of her start-up for several months to work on a structured business-planning program with mentors to assist the formulation of the business plan. She used her networks to find the resources she needed and

“Is a firm believer in business planning even if it slows down the development of the enterprise”.

Getting the Product and Pricing Right

ThoughtWare was also conscious that they had to develop a practical product. Sometimes technologists just develop software because they can and because they think it is a good idea. They are problem- rather than solution-focused. Thoughtware started out that way but early on engaged

and listened to its clients to ensure it developed practical software. *“In today’s market inclusive design is imperative for product success”*, explains the CEO.

Another one of its challenges was getting its pricing right. *“I was surprised how difficult it is to get the price right”*, comments Ms. Bernhardt, citing the age-old classic of ‘start your price too low and you are viewed as cheap so the product must be poor quality’ vs. putting your price too high and you struggle to get a sale’.

“We didn’t get it right to start with and then had to do a marketing/PR exercise to adjust the price up to market value”.

Maintaining Quality Customer Service with a Small Team

While a growing customer base may be good for business, it often requires an increase in human resources to deliver efficient and quality customer service and maintain a good business reputation. Delivering quality customer service through rapid response time is a key factor in this and any online business. Thoughtware was and continues to be highly conscious that rapid response time is pivotal to maintaining its customer base and that lagging response time could result in a loss of customers.

Given some 350,000 transactions are managed by i.on my in any one day and 500,000 alerts and reminders are triggered, the small team has to be able to respond in a timely fashion. Although Thoughtware’s unique automated traceable support ticket system adequately captures clients’ support needs and allows the enterprise to continuously improve on its service delivery, there is a constant need to balance human resources and client needs. *“Flexibility is our key strategy to cope with fluctuating client support demand”*, according CEO Sonja Bernhardt.

ThoughtWare’s extreme work flexibility is underpinned by a *non*-belief in work-life balance, which is generally presented as a balancing act and implies that when you are busier with one side of that ‘equation’ the other side suffers. Instead, ThoughtWare’s philosophy and core values are about individuals and thinking, with people accepting adult responsibility for what they do and when they do it. This translates into people deciding their own days of work and hours, including flexible periods of leave. While the company’s unique work flexibility – including working from anywhere in the world – has greatly helped attraction and retention of female team members, the company has, at times, been challenged by this policy, experiencing both loss of productivity and a delay in software development and upgrade rollouts.

3.1.3.3 Policy Recommendations

The first four policy recommendations below pertain to advancing (IT) women's entrepreneurship in general followed by a recommendation for the (med) technology sector in particular: Balance between Control and Support

Bernhardt is generally not in favour of controlled regulatory and policy environments as she believes such regulations restrict creativity and entrepreneurship. In Australia, the industrial relations laws can almost stifle a company and certainly are a burden at a time when quick to market with innovation and creativity are likely to be key to success. A heavy taxation environment can restrict organic growth in the early years. The CEO would prefer 'get out of the way' of entrepreneurs, let the entrepreneurial idea/concept have a few years in the market to test the business case and support start-ups through reduced burden such as high taxes. This type of policy would result in less business failure. To support early stage activities in her own company, Bernhardt did apply for an Australian Government Research & Development tax incentive – this saw some reduction in tax payments and more funds returned to the business to enable growth. It allowed her to diversify her consulting firm and transform it into a medtech software company. A good example of why it is important for policy makers to find the right balance between control and support.

Gender-Responsive Enterprises and Ecosystems

Even in economies with favourable enabling environments such as Australia, there is room for improvement of the entrepreneurship ecosystem firms like ThoughtWare operate within. All ecosystems contain a complex set of actors and interdependencies within a local or regional environment strongly influencing entrepreneurial activity. While women-led enterprises are not inherently less productive, the so-called second glass ceiling – a gender bias that obstructs women-led enterprises from equal access to ecosystem aspects such as finance and markets – prevents women-led (IT and Smart Technology) firms from reaching their full potential, with the cost of this second glass ceiling being borne by the entire economy.

Individual enterprises as well as entrepreneurship ecosystems can be made more gender-responsive by including more women, mapping multi-stakeholder roles within the ecosystem and strengthening those domains that enable a conducive culture to support women entrepreneurs in the digital economy such as availability of appropriate finance, human capital development and other targeted educational and skills support.

Support Internationalisation

Although software in and of itself is not difficult to export, especially cloud based services and platforms, there is a general lack of support for IT women entrepreneurs wishing to reach new markets. Gender-specific business and trade support is generally undervalued and the trade landscape is evolving fast. Facing budgetary constraints, trade officials struggle to meet the increased demand from both male and female entrepreneurs, believing gender neutral trade support can adequately serve all would-be exporters.

What matters to potential exporters such as ThoughtWare is understanding cultures and people and having a presence on the ground. ThoughtWare's position on internationalisation is not unique and contributes to our understanding about IT entrepreneurs and the opportunities they have for global trade, especially what it takes to succeed internationally. Building the confidence of aspirational women exporters to conduct international business is an important component of improving the rate of women-led firm internationalisation. It acknowledges that the business landscape is gendered and that women-led SME are a growth sector (McKinsey, 2015).⁸

Alternatives to Traditional Women in IT and STEM Strategies

There continues to be a general lack of understanding how to nurture and assist IT women entrepreneurs in their start-up and growth efforts. A multitude of interventions have taken place, including ad hoc, systematic, and comprehensive efforts, comprising career days, computer clubs, role modelling, shadowing, mentoring, coaching and more, yet their goal of increasing the number of women in IT has remained elusive. When an approach consistently fails to deliver expected outcomes in business, the attempt is either adjusted or dropped. When it comes to nurturing women in IT, traditional strategies tend to live on.

In Bernhardt's book⁹ on women in IT in the new social era it is explained that women in IT or girls attracted to STEM see themselves as interested, competent, and above all, as people who regard obstacles as a challenge to be met and overcome. It is that strength and uniqueness of the individual core that forms the central thesis of why they are in IT in the first place. Those engaged in women in technology activities—planning, coordinating, or funding—would do well to take notice of the tectonic shift beginning in technology and society and embrace the new approaches the field enables. The fundamental solution to the lack of women in IT is the same as the fundamental cause: women are unique individuals. It is by promoting the idea that it is the individual who matters.

⁸ McKinsey Global Institute (2015). The power of parity: How advancing women's equality can add \$12 trillion to global growth. Retrieved 04/10/15. Source from: http://www.mckinsey.com/insights/growth/how_advancing_womens_equality_can_add_12_trillion_to_global_growth?cid=mckwomen-eml-alt-mgi-mck-oth-1509

⁹ 'Women in IT in the New Social Era: A Critical Evidence-Based Review of Gender Inequality and the Potential for Change', Sonja Bernhardt, 2014, ThoughtWare Australia

Investment in Deep-Tech Start-Ups

Australia has a low risk tolerance for investment in early deep-tech startups. It only tends to support past (rather than future) success and ostracizes failed innovation attempts. A compounding issue is the aggressive nature of capital markets that do not always suit early stage ventures.

Much like other governments, Australia attempts to boost opportunities within the realms of innovation and entrepreneurship, focusing on trialing programs that positions Australia as the next global innovation hub. What may have worked in other economies does not necessarily provide a 'one-size-fits-all' approach for Australian med- and hi-tech industries, which have many unique factors that are misunderstood. As a result, there are significant hurdles for medtech startups trying to enter the regulatory pathways, compounded by a lack of governmental listening to sectoral concerns of players in the medtech ecosystem, leading to the removal of key pieces of innovation architecture that would help boost the industry. An industry with such potential would greatly benefit from tax concessions that will give medtech enterprises a real opportunity to succeed and differentiate themselves on the international innovation stage.

3.1.3.4 Advice for Women Entrepreneurs

CEO Sonja Bernhardt describes the ThoughWare journey as a continuous learning curve with a number of lessons that can universally be adopted and adapted by women entrepreneurs in hi-tech, low-tech and non-tech enterprises.

Know Yourself

Bernhardt's advice for women entrepreneurs is relevant across all career and life choices. She believes it is of the utmost importance to

“Know yourself – know what you like and why you like it, understand why you react and think the way you do”.

Choose Your Career Wisely

Starting and growing an enterprise can be a daunting task. Choose your career path wisely and ensure it is consistent with your philosophy, since you will have to live with your choice.

“Women who choose their career/business consistent with their philosophy will both succeed and be happy”.

Shape Your Future

It is essential to have a vision that helps you shape your future.

“You are in the hot seat and solely responsible for what you want and how you go about it. Only you can shape your future”.

Value Your Mistakes

Being successful in business is about lifelong learning and ‘unlearning’ the things that did not work.

“Learning is a process of change and there is great value in acknowledging our mistakes. Sharing lessons learned and knowledge of past errors leads to innovation”.

Measure Your Success

It is important not to measure one’s success by the perceptions of others.

*“Designer clothes or the classic rise to the top are not everyone’s measure of success. What matters is what is important to **you**. To me being happy and inspired by my work are my success measures”.*

3.1.3.5 Summary and Discussion

This research study on the Women Entrepreneurship in the ICT/Smart Technology industry in Australia has focused on the development and rise of a female-led IT firm in the medical technology sector.

The case study has demonstrated that embracing new technologies is about recognising that the global economy has entered an era of disruptive technologies that will empower individuals and enterprises in ways we cannot predict, resulting in old power bases crumbling and new forces arising. ThoughtWare is one such force. Its CEO bravely entered a field dominated by male-led large firms generally, demonstrating that micro and small enterprises can tap into the shifting technological landscape and actively use its tools and platforms for economic and social advancement.

Women's widespread participation in employment and self-employment is (historically) still a relatively new phenomenon, and while the pace of change may seem slow, the trend is generally an upwards one. In the changing world of work, this case study has confirmed that the use of ICT and Smart Technologies offers the type of flexibility that allows more women to enter and stay in the workforce. With notable differences in participation rates of men and women's in entrepreneurship and the workforce, there is great government, academic and community need to

better understand how a flexible ICT-enabled work environment can increase the attraction and retention of women in the economy and reduce participation differences.

There is no doubt there are numerous opportunities for women entrepreneurs in the IT and IT-related sectors such as the medtech sector. There are, however, still too few women taking advantage of these opportunities, perpetuating the belief that technological invention is beyond women's capabilities. Rather than trying to get large numbers of women interested in IT, the case study advocates the importance of supporting individual women who are genuinely interested in IT/STEM and entering the IT industry or starting their own IT enterprise.

While efforts are being made to address existing barriers to women's economic participation, more can be done to support inclusive development. There are many opportunities to add to the existing knowledge and skill base of women entrepreneurs so they may embrace ICT/smart technologies to fully participate in local, regional and global economic life, achieve continued development and sustainability, and generally improve the quality of life for Australian women, men, families and their communities. As the case study has pointed out, traditional policies all too often make entrepreneurs turn their back and go it alone.

Both the public and private sector would do well to foster innovation by investing in women-led technology ventures and creating inclusive enabling environments. This calls for the adoption of gender-responsive practices in local and regional entrepreneurship ecosystems that address both entitlements (access to resources to enter markets and increase productivity) and capabilities (improving digital economy skills and managerial capacity to deploy resources and increase market access). This, in turn, will encourage inclusive growth, increase the competitiveness of women-led firms, help them build the case for new products, platforms and markets, and augment economic benefits for the APEC region as a whole.

3.2 Case Study of Brunei Darussalam¹⁰

3.2.1 Profile of a Woman Entrepreneur

The woman ICT entrepreneur nominated to be interviewed for this project is Aimi Ramlee of Brunei. Aimi Ramlee is co-founder and creative & business development director of Tyne Solutions.¹¹ Established in 2014, Tyne Solutions is an award winning software development firm dedicated to supporting innovative companies, specializing in bringing ideas to life and is committed to not only building sophisticated software, but to fully understanding clients' needs by capturing the nuance of clients' vision in its design. It focuses on building bespoke complex back-end systems for a range of businesses in APAC, Australia, New Zealand, the USA and soon Scandinavia, with particular expertise in cloud-based mobile and web technologies, VOIP and human-centered design.

Tyne Solutions has won a few major awards, namely a special prize from the Russian Government at the 2016 APEC Best Awards in Peru and a BND\$20,000 grand prize for their modular business management software called Pillars at the 2015 Brunei iGNITE Business Plan competition for tech startups.

To date, the three main projects which Tyne Solutions has worked on for clients beyond Brunei are:

- **Property Management Software**
A mobile and web based application used by a multinational bank in four economies to assign building maintenance tasks to staff remotely as well as manage visitor registration and approval remotely.
- **Staff Welcome App**
a mobile and web-based application used by a multinational bank in 10 economies to support and manage expat staff in each economy, enabling staff to access relevant local information, communicate with local staff and report their status and locations during emergency situations.
- **Order Record Management System**
A desktop record management system for a logistics company in Brunei, enabling staff to enter, view and edit records simultaneously and attach image files of original order forms.

¹⁰ This case study was conducted by Sophiana Chua Abdullah, Researcher, Center for Strategic and Policy Studies, Brunei Darussalam.

¹¹ <http://www.tyne-solutions.com/>

Aimi majored in History and English literacy from Melbourne University, Australia in 2009 and obtained a Master's degree in International Relations from London School of Economics and Political Science, UK in 2011. She was recently nominated to serve as the first YSEALI Women's Leadership Academy Alumni economy lead for Brunei. She represented Brunei at the 2017 ASEAN-Japan Women Entrepreneurs Linkage Program, the 2017 YSEALI Women's Leadership Academy, and the 2015 Global Entrepreneurship Summit in Kenya. She was selected as a 2017 Australia-ASEAN Emerging Leader by DFAT Australia & Asia Link and is one of Lyfe Media's '33 Brunei Women Under 33 to Watch'¹² in 2017.

Her portfolio includes her previous roles as Associate Director of Asia Institute & Asia Trader Forum and Programme Director for Sponsored Conferences in Hong Kong, China as well as a short stint as an English Literature teacher at a government secondary school in Brunei.

Aimi is also the founder and managing director of ANR Management Services¹³, a Brunei consulting firm which utilizes local perspectives to help international businesses take root and specializes in facilitating business relations between foreign multinationals with local governmental bodies and corporations.

As a side project, Aimi is currently developing a prototype mosquito net with modular features which can take up any size and be used for outdoors while being robust enough for emergency situations. The raw materials are derived from plastics recycled from the sea. For this project, she teams up with a partner currently working in Brunei who deals with various social enterprises in Singapore. This idea came about in 2016 and Aimi has been prototyping it in 2017 with the aim to apply for Intellectual Property in 2018.

3.2.2 Profile of a Company

The interview with Aimi Ramlee took place on 3 January 2018. It was centered on the following topics:

- Starting the business with Tyne Solutions
- Characteristics of Tyne Solutions
- Success factors of Tyne Solutions
- Challenges faced by Tyne Solutions and possible solutions
- Policy recommendations for women entrepreneurs or startups

¹² <http://www.muslyfe.com/2017/04/11/women-watch-brunei-2017-33-part-2/>

¹³ <http://www.anr-management.com>

- Advice for woman startups/entrepreneurs

Starting the Business with Tyne Solutions

Aimi wanted a specific dream job, one with purpose, independence, flexibility and control over what she worked on, where and when. She could not find it so she decided to carve one out for herself.

“To be honest, I’d love to work for the UN or a big multinational NGO but if I can’t get my dream job, I am going to make the closest alternative and if it means having my own company to get to work with them as clients on projects that are equally rewarding, then I will do it. I believe I am far more likely to get it through this than I am to work for a local company and expect that to happen.”

While she enjoyed her job in Hong Kong, China dealing with hedge funds and organizing networking and conferences, it was to her, still a traditional type of job. When she came back to Brunei in 2013, she intentionally did not look for work. She decided that if she was to try to have a business, that would be probably the best time to do so when she had no debt or children and could risk as much as possible. So she decided to give it a try, to become an entrepreneur and start a business.

The three main things that propelled her to become an entrepreneur was the independence to design her work, the choice over what projects to work on and the ability to design her own work schedule. Having worked in Hong Kong, China and remotely in Brunei, she knew she could do work anytime and anywhere.

“Sitting in an office 9 to 5 is not a prerequisite to production or a key to success. I didn’t want to spend a vast majority of my life sitting behind a desk somewhere else. I wanted to have the flexibility to work on projects I like and have the ability to travel and meet with people around the world. No one else was going to give me that kind of job”.

Another major reason why Aimi started her business was to have the flexibility to spend time with her family and she felt that by being an entrepreneur, it was one way she would have full control over that.

Although her company, Tyne Solutions, which she built with her husband, is classified as an IT company, she added that she believes that technology is not a specific industry.

“Virtually any industry now will require technology. One can be a writer, philosopher, and archaeologist and still require technology.”

Aimi and her husband saw a gap in software development in Brunei. They observed that many of the systems created in Brunei were based on customized software, with very few systems created from scratch which incorporated the local environment and nuances into the design. Also, the ones currently available are mainly marketing platforms as opposed to systems which support internal management processes.

They set up Tyne Solutions to bring about a more human-centered design into system development, with her husband drawing from his IT and programming expertise and Aimi primarily focusing on the design and development of the user interface (UI) and user experience (UX) aspects. Her husband has over 10 years of experience in software development which he drew from his time working with Logica, a multinational IT and management consultancy company headquartered in the UK and from working with a team to help set up Galileo, a global navigation satellite system (GNSS) created by the European Union (EU) through the European Space Agency (ESA).

When they first started, they had a conflict – to be a product-based company with one specific product like Twitter or Facebook which dictates what one does, or to be a service-based company jumping from project to project as opposed to building on one business. They started with Squarefeet.asia, a marketing platform for real estate and property management with a full-fledged internal management system for estate agents to manage their portfolios, and started to look around for ideas on what proprietary software to use. They wanted to continue to bootstrap to be independent and to grow organically. While they were looking for ideas on what proprietary software to build, they started doing services and projects for other companies and found that it was a good niche for them. Their reputation grew as a service-based company and as they received more and more recommendations from clients, they gradually refined it further, making it the core of their business.

Today, Tyne Solutions is essentially a service-based company based on human-centric design and technology with a focus towards social enterprises beyond Brunei. With this shift towards more socially-conscious projects, Tyne Solutions is looking towards working with social enterprises in New Zealand and Australia, and is now working to acquire a project with National Geographic on creating an online database for animal researchers worldwide.

“It wasn’t so much we moved into technology when we started but we tried to provide technical solutions to any industry that we were interested in. This year, we will focus on social enterprises and see if we can create a niche in that area and provide services that way”.

Tyne Solutions drew inspiration from a social enterprise they had previously worked with called MilkCrate¹⁴ in Pennsylvania. MilkCrate aims to instill positive behavior and if it is part of one's organization, one can get points from doing good deeds like recycling or volunteering. Over time, those points can be exchanged for other things. It is a way to instill behavioral change as opposed to just directly rewarding an item. While Tyne Solutions did not design the whole framework of Milkcrate, it helped build software to develop certain features of the platform.

“We found that we are good at accessible technology and dealing with English-speaking multinationals or startups. We are good at refining very fluid visions of founders and over time, we realize that this is what we do. Now that we have a better grasp of that, we have the ability to dictate where that goes. Now that we know what we are good at, we can also focus on where we want to point that direction. We are not going to shut out businesses but we are going to make more concerted effort to reach out to social enterprises and say look, we can build this for you and we can be part of your journey to changing the world. That is how we are going to brand ourselves from this year onwards.”

Tyne Solutions is characterized by the following:

Lean Approach

By lean methodology, this means to recognize and use the resources that one already has in order to achieve what one needs to do. This helps keep the costs down. While lean methodology implies not having any credit or debt, it also means not having office space or a receptionist. Aimi advised against being dictated by what is conventional. She works from home, albeit amidst some social stigma, but strongly believes that convention should not dictate one's operating procedures.

“To stay lean, use only what you need when you need to. Fully use what you have. Keep your costs low. Only do what needs done with the resources that you already have.”

Tyne Solutions started with a lean capital of BND10,000 drawn mainly from savings. As a husband and wife team, they worked 18 hours a day for three months to launch Tyne Solutions and had enough paying customers within the first week that they were profitable. Tyne Solutions now runs itself and has more than paid itself.

The lean methodology is applied to human resources too. For example, Tyne Solutions does not have full time staff of developers as their projects change in size and fluctuate depending on the

¹⁴ <http://mymilkcrate.com/>

time of the year. A rotating pool of about three to four contract staffs is maintained, drawn from a pool of professionals with full-time jobs in Brunei. This helps keep costs down where they pay only for what services are needed.

With this lean approach and being a virtual company, coupled with the fact that there is no income tax in Brunei but with subsidies to enjoy, Tyne Solutions is able to roll out projects at a competitive rate.

High Touch Relationship Building

Tyne Solutions does not use social media much apart from LinkedIn in order to build the network. Tyne Solutions publicizes their company through high touch relationship building, which is human to human contact.

“Deals are made through relationships. We never do sales by going up to people and asking them upfront to buy our product. We make as many friends as possible and let them know that if they ever need any software development, just to call us. Then I get a call. It is about ensuring a pipeline of relationships. It is usually through word of mouth, through recommendations by friends. By the time you meet with them, they already need what you have and only the people who need what you have come to you. So we are not wasting time chasing people who don’t need us. But this means we have to maintain a lot of relationships.”

3.2.3 Findings

3.2.3.1 Success Factors of Tyne Solutions

Aimi attributed the success of their company to these factors:

Human-Centered Design¹⁵

Tyne Solutions designs and develops everything in house and they believe that one of their key success factors is that they dedicate far more time to the design process than most companies do. Many turnkey systems suffer from the lack of design-thinking from the users’ perspective while systems can be made more intuitive for users. These systems are usually designed by engineers and while how the systems operate makes sense to engineers who build them, that is usually not how human beings operate.

¹⁵ <https://www.ideo.org/approach>

Tyne Solutions believes in building systems that are inclusive and accessible which have passed the Mom Test:

“If you think of SAP or Excel, how many times have you heard people say you can do a three-day course in Excel and get certification? You never have to do that with any of your apps on your phone. Not everyone is a young tech-savvy person who works in a company. We want it to be inclusive and accessible. Not like, oh you are old, don’t bother to learn. It is not fair. A lot of tech out there is English-centric. If we can design something that is intuitive, that is human-centric, this means less time is wasted on training people and less investment made in that. The Mom Test: if your mum can use an iPad or app with no issues, why can’t they do that at work?”

There are usually two options when it comes to developing a system. One can either buy existing software and customize or shoe-horn it in to fit the local environment, or one can take the time to learn more about the local environment and incorporate it into the design and development. Their main differentiator is that Tyne Solutions does not customize any software but leans towards the latter with human centered design as their main niche, by putting their users at the centre of how their systems and processes work, not the person building the systems. Aimi added that,

“It makes sense to the engineer and developer but if you don’t have that level of empathy, you cannot understand how your users will react to it. This is where my background in English Literature actually helped because English Literature is the best subject to learn if you want to improve empathy because you really have to use your imagination to think about how different characters think. So that’s how all things tie together. In the end, you have a product or system which is more useful and sustainable.”

Location & Proximity

Tyne Solutions believes that it is also their location in Brunei and proximity that help bring their operation costs down and make them competitive.

“People forget that there are advantages which we hold – like where we are. If you are a company and something goes wrong, you have to wait say 5 hours for the time difference. Imagine you are in Australia and you outsource to India, and something goes wrong, what are you going to do? Our niche is proximity.”

Also, as Tyne Solutions develops their systems in-house, they take control of the coding and when their customers need any changes or modifications, they can carry out these changes relatively faster than their counterparts who would have outsourced to third party software houses overseas.

Communication through English

English is one of the most widely spoken languages in Brunei. Tyne Solutions holds the belief that this is by far one of the biggest differentiators for them as they can communicate very well with clients in the US and Australia. They target English-speaking multinationals or startups globally who require bespoke software and presence in the region, mainly Asia Pacific.

“Let’s say you have an idea, product or app, and you list the features and scope and hand these over for someone to develop for you. They will make it but they won’t have a more nuance idea of how your business works, what your vision is, what you are trying to achieve. If you come to us and you want an app that lets people park easier and you want this and this, we know, because of our design process, that people won’t use this as people need both hands when driving, so it has to be voice activated. We incorporate things like that into the design. Sometimes you have an idea, but you don’t know what technology can do for you. That is the reason why we get a lot of recommendations. Almost all our businesses are referrals. We haven’t really done any marketing. Most of it is just clients referring us to each other. That is the reason why they come to us in the region, especially with English speaking multinationals. They can’t really get the development skills for this price regionally with the language capabilities that we have.”

Aimi advised against underestimating the quality of our English language in Brunei.

“There is English and there is cultural nuance. I went to a few ASEAN events last year and at every single event, Bruneians were smart out as to how well they spoke English. That is common in Brunei with different accents of English, different levels of English obviously, but most people will understand you and respond to you. They will not have an issue expressing themselves. If someone has a less-than-structured way of expressing themselves, Bruneians have a knack of understanding them. We understand the nuances. This is a marketable asset. We have enough educated people in Brunei that we can actually export a lot of service-based industries from Brunei in a very competitive way”.

Experience

The husband-wife team of Tyne Solutions had the advantage of working overseas previously so they knew what international companies were expecting and what work environment or culture was necessary in order to be competitive. Their international experience, coupled with their complementary educational and professional backgrounds, meant that they could approach international businesses with a unique proposition. Almost all of their businesses are with clients outside of Brunei, mainly from Australia, Hong Kong, China and Laos.

“We deal with projects that are too small for the big companies and too big for one person to do. In those economies, they will have one or two persons who can do it but they won’t have the range of expertise that we have. Our bit of the ocean is very small but it is big enough for us and the ignored market for the really big companies who will target tenders.”

3.2.3.2 Challenges

The main challenges faced by Tyne Solutions and how some of these were overcome are:

Access to Capital

Getting access to capital was a real challenge for Tyne Solutions. They had initially opted for government grant schemes but with the many conditions and requirements that were needed, they decided to start the business by themselves using past savings. One way was to stay lean by harnessing fully on technology and becoming a virtual company.

“By taking advantage of the internet which is the most democratizing force and committing to cloud-based software, anyone can be a business and can be competitive to anyone outside of Brunei, with no limitations.”

Market Size

There was also a lack of critical mass which forced the company to look beyond Brunei. They started to reassess their business in a more brutal way and found that they had to be more open to non-conventional sources of business while fully utilizing their past experiences.

They found they had a few advantages over other local businesses in that they had previously worked overseas and had built a good network of relationships outside Brunei. They believe that they knew the market outside Brunei better than their local counterparts and decided to take advantage of that asset that they had.

Social Stigma

When they first started their business and became entrepreneurs, they were faced with a lot of negative connotations from family and friends. They were especially pressured by family to get a ‘real’ job and there was the common belief that education or a degree is a waste on entrepreneurs. However, once they realized that their market base was not just Brunei, they changed their perspective. Their family and friends also became more supportive and understanding.

Online Payment Gateways

They found that a main barrier to entry for many businesses in Brunei is the online payment gateways. For example, one can make, but not receive, payments via Paypal which has not prioritized this facility for Brunei due to its small market size. There is also the challenge to work with banks to bring down the costs of online payments. To date, there is still a lack of infrastructure in place to overcome such a barrier.

3.2.3.3 Policy Recommendations

There is no evidence of any gender divide for entrepreneurs in Brunei. One can be a man or woman, and still be an entrepreneur. Aimi also observed that some of the more successful entrepreneurs in the economy are in fact women. However, Aimi suggested that it would be beneficial to have policies for startups in general, regardless of gender.

Lower Barriers to Entry

It is also useful to have more competitive policies that enable startups to have low barriers to entry. For example, there should be policies in place to ensure the success of grant schemes and micro loan facilities. For example, there must be a policy to ensure that micro loan facilities are not limited to certain types of businesses only. There should be more focus on improving the infrastructure for online businesses. For example, to have a policy in place to keep internet costs down for businesses.

“In general, startups are good in finding their own opportunities, for example, utilizing social media such as Facebook and Instagram to start their businesses. However, there are certain challenges which would require government help, such as to address the high costs of online payment gateway when it comes to selling online in bulk.”

Utilizing Brunei’s Trade Delegations

Another area which is underutilized is Brunei’s trade delegations around the world. While there is a good resource in embassies and consulates, these are not being utilized to build branding about Brunei as a service or an export economy as opposed to just a destination.

Aimi suggested having as part of the policies of Brunei Ministry of Foreign Affairs and Trade, for Brunei embassies and consulates to use their presence overseas to help develop business networks and help improve Brunei’s branding as a business counterpart, emphasizing the need for Bruneians to get exposure. A suggestion is for Brunei embassies and consulates abroad to host a meeting at least once a year for Brunei businesses to meet and build relationships with entrepreneurs and industry heads of economies overseas. For instance, a Brunei embassy or high commission in

another economy could host a networking dinner for Brunei businesses to meet with local businesses of that economy. They could use that leverage that they have in that economy based on their knowledge about the associations in those local environments.

“Serendipity sometimes happens and it happens sometimes when people meet. That is one of the values of gatherings. My job in Hong Kong, China, part of it was to bring trade delegations to New York during the UN General Assembly and we would host India investment forum where we brought heads of like industry from India to New York to during the UN General Assembly, bring the Minister of Finance from India, get all the industry heads from the US to sit in a room for a conference and that is how deals are made. I was doing that at 26. Why can’t our Ministry of Foreign Affairs and Trade do that now with the resources that they have? I have done the same thing in Indonesia with business heads in region and also mainly locally as well to work with the investment banks. We can do it by ourselves but it is a hundred times harder as we don’t have that leverage.”

“This is what I mean by high touch relationships – big contracts don’t get signed because of any email. It is because you met somebody that you trusted. So give us an opportunity to meet more people and represent Brunei. There is sort of bad image like how Brunei like if it doesn’t exist, it has nothing to offer. This story has been reiterated so much that Bruneians have believed that we don’t have anything to offer. We need to change that story and the best way to do that is to get more people to meet more Bruneians. So we need more of our people out there too. There aren’t enough of us to do it ourselves so if the government can help with that, which would be great.”

Exposing Our Young Bruneians

There should also be a policy in place to expose our young Bruneians to working overseas in other economies. This would greatly help them get exposed to working in an environment that is so different from Brunei but demands far more and will make them realize what it takes to really compete. It can complement the i-RDY apprenticeship programme set up in 2017 which aims at enhance the employability and marketability of unemployed graduates in the economy.

“We are an island, but not an island. There are many talented Bruneians who have a lot to offer but if they have only ever known Brunei, and the way we do things here, they would never even try.”

Aimi recounted the long hours she and her team had to put in for a whole year for one of their clients called Sparknet based in Pennsylvania, USA. Sparknet is a software development company that outsourced some of their work to Tyne Solutions. From that, they received recommendation

after recommendation. For example, they got recommended to work with GlobalTech for nearly a year to help develop translation software. It is a software that allows them to funnel translators to emergency call centers in hospitals in the US. One of the things their software helped with was Hurricane Erma and Harvey and helped about 6000 hours of translation in a day for the Hispanic calls mainly for Hispanic to English for emergency services. The whole city of Philadelphia now uses GlobalTech software to funnel all their 911 calls if they need translation.

Mentorship

Aimi believes that young entrepreneurs or startups would greatly benefit from good mentorship. Being a strong advocate of women empowerment, Aimi herself invests her time in mentoring young women entrepreneurs within and beyond Brunei.

“One always forgets those places or spaces which are more valuable than buying an ad. Be more generous with your time. It will come back in folds. I do a lot of mentoring and I myself have a mentor. I try to give back through entrepreneurship networks or organizations, anything that helps with women empowerment. The more networks that I have, the easier it is for me to expand my reach.”

There is a lot of support in the recent years given to female tech entrepreneurs. Aimi tries to help promote anything that can help elevate gender equality. Compared to South East Asia in general, Aimi believes that,

“We are really good when it comes to gender equality. We are way ahead, top for Muslim countries for gender equality and also quite way ahead in terms of economies in the Asia Pacific. We have a long way to go but we need to take advantage of those gains and that is where we hope to be able to do.”

In 2016, she was selected to represent Brunei for the YSEALI (Young SEAsia Leadership Initiative) Women Leadership Academy¹⁶, run by the US state department. This Women Academy is run every year and is represented by about four women from each economy. It is a workshop to build leadership skills but also an alumni network has emerged out of this. Aimi has just been recently nominated and elected as Brunei economy lead for the Women Leadership Academy Alumni Network.

¹⁶ <https://asean.usmission.gov/education-culture/woman/>

Aimi has also volunteered to mentor women entrepreneurs through the UK Queen's Young Leaders' Programme and the Wedu¹⁷ Rising Stars of Thailand where mentors are matched with mentees from India and IndoChina.

“When I mentor them, it is mainly for female entrepreneurs not necessarily linked to ICT. Essentially, mentorship is not about giving them something specific but it is about being there for what they need. For example, they need sounding board for what they want to achieve. I am dedicated to doing that with the real scope to helping women to know that they can be entrepreneurs. In fact they have advantages to being a woman. Relationship building is a lot easier for most women and women networks are actually very good to help you to develop your business and your network.”

Through the Women Leadership Academy, Aimi also plans to put together a Lean In Circle¹⁸ in Brunei and she hopes to learn the ropes from a counterpart in Malaysia who already has a Lean In Circle for young professionals.

Other economies have different challenges when it comes to gender inequality, for example, women are not allowed to go to school, or face the issue of sex traffickers, while in Brunei, there is a very specific glass ceiling that women work with.

“We don't have the problem about women not allowed to go to school. In fact, we have more women in schools and at work. Women are not afraid to achieve things because we achieve far more. But the problem is we do not have women ministers or as many women CEOs or Board Directors as we should have. Those are the decision making levels that we need to achieve.”

Aimi hopes to launch the Lean In Circle in Brunei by the first quarter of 2018. Lean In Circle is essentially an informal circle of women being able to meet to talk about how they are in their respective industries. It is a useful non-structured way to allow women to get together to get more proactive on a small scale.

“We are not looking to put a new law in place but we understand that there is a lot of nuance on how gender politics happen in Brunei. To be honest, Brunei is very good at supporting women. We get celebrated a lot. Through that, we do lose sight of where we are not well represented. A lot of it is legacy and that there are not enough women who are of a certain age and who are as old or have been working as long because for the longest time, women

¹⁷ <http://www.weduglobal.org/about-us/>

¹⁸ Based on a book 'Lean in' by Sheryl Sandberg

could not be full-time employees. These are the things that these Lean In circles are meant to work towards.”

3.2.3.4 Advice for Women Entrepreneurs

Aimi had the following advice for women entrepreneurs especially startups:

Start with What You Have

This means assessing all your assets or resources in terms of money/capital, technical and soft skills, friends and even acquaintances:

“Assess all your resources which are not just money. It could be anything from what skills you have, or whether you can speak a second language? Do you have free time in the evening? Do you know how to knit? Anything can be an asset. Who do you know? Who are your classmates at school? Also, do not take the education and benefits in Brunei for granted. They are assets.”

Be Flexible but Always Keep Moving

Once women have identified all their assets and have fully investigated the problem they want to solve, start! One can make mistakes but one can always pivot and be flexible.

“For example, you may say you are just going to only sell scarves and you find out that there are many people who are already selling scarves. You can pivot by selling a different type of scarves, or you can sell scarves to only a certain type of people, or you can sell scarves packaged with something else.”

One must also understand when one hits a problem like low sales, supply problem, distribution problem, or lack of capital, there are always ways around it. One would have to stop and assess what opportunities are available before moving onto the next step. The point is to keep moving and not to be afraid to admit that one has made a mistake and would have to stop doing that.

“I have seen people who still have a shop even though they sell nothing and pay rent for 2-3 years straight because they won’t give up the idea that they own a shop. Those are the things. There are always ways to pivot and just start. Don’t wait for capital. If you don’t need an office, don’t use an office. If you don’t need a receptionist, don’t use a receptionist even though everyone has one. Just be ready to test the idea.”

Look beyond Brunei

One should always look beyond Brunei and not be held back by thinking that there is no market in Brunei.

Do Not Let Other People's Definition of Success Dictate What You Do.

An entrepreneur in Brunei does not fall clearly into the definition as one holding a stable job. One of the key issues faced by entrepreneurs in general is that people couldn't fit them into a box to figure out if they are successful or not. In Brunei, the conventional idea of success still is whether one holds a government job or a good job in the private sector, like a banker.

"The idea is to define your own notion of success, keep your head down and do your thing."

3.2.3.5 Summary and Discussion

The interview with Aimi Ramlee led to many insights into how a Brunei woman ICT entrepreneur in the ICT field worked and flourished in Brunei. She attributed the success of her company, Tyne Solutions, to several factors, such as lean methodology in terms of capital, human and physical resources, high touch relationships, experiences drawn from working overseas, proximity to their customers and the ability to understand and incorporate the cultural nuances of customers into the design of systems.

The three main things that propelled her to become an entrepreneur were the independence to design her work, the choice over what projects to work on and the ability to design her own work schedule. Today, Tyne Solutions is a virtual service-based company based on human-centric design and technology with a strong focus towards social enterprises beyond Brunei. A husband and wife team, they believe in building systems that are inclusive and accessible and have passed the Mom Test.

The main challenges she faced were getting access to capital, small local market size, social stigma attached to entrepreneurs and the high costs of online payment gateways. Several recommendations were made such as utilizing Brunei's trade delegations overseas to promote Brunei products and services, exposing young Bruneians to working for short stints overseas, and providing mentorship for young entrepreneurs.

Today, the world population is around 7.4 billion where women and girls comprise nearly half of the world's population¹⁹ and yet there are some 250 million fewer women online than men²⁰ and the gap is widening, from 11% in 2013 to 12% in 2016²¹. As Hillary Clinton²² once quoted,

"Women are the largest untapped reservoir of talent in the world. It is past time for women to take their rightful place, side by side with men, in the rooms where the fates of peoples, where their children's and grandchildren's fates, are decided."

With the advent of the fourth industrial revolution bringing about advanced robotics, autonomous transport, AI and machine learning, this will have a major impact on the future labor market and it is estimated that 90% of future jobs will require ICT skills²⁰. Much can be done to harness technology in order to promote gender equality and women empowerment.

In comparison, women and girls comprise nearly half of the population of Brunei. There is no evidence of gender disparities in terms of internet accessibility in Brunei. In terms of income disparities, females in fact earn more than males in the ICT industry, unlike many of the other industries in Brunei.

Aimi does not sense a gender gap in ICT entrepreneurship in Brunei. It is in finding her niche in the ICT market that has provided her the platform to compete at a level beyond Brunei. In her capacity as a woman ICT entrepreneur and mentor, she has started on a right footing, but has still a way to go to empower herself as well as women ICT entrepreneurs near and far.

¹⁹ <http://www.un.org/en/development/desa/population/publications/database/index.shtml>

²⁰ <http://www.unwomen.org/en/news/stories/2017/7/reshaping-the-future-icts-and-the-sdgs>

²¹ <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf>

²² <http://www.elle.com/culture/career-politics/interviews/a12529/at-the-pinnacle-of-hillary-clintons-career-654140/>

3.3 Case Study of Canada²³

3.3.1 Profile of a Woman Entrepreneur and Company #1

For the purposes of this Canadian Case Study on female entrepreneurs in ICT, two interviews were conducted over Skype. Each interview lasted between 30-45 minutes. During each interview, topics of discussion included the background of the female entrepreneur and her business, her thoughts on the current Canadian landscape with regards to female leaders in ICT, and her opinions on how the Canadian society can improve this situation for the next generations. Two interviewees were chosen for this case study due to the variety of differences that female entrepreneurs face in Canada. These two women entered into the ICT sector as female entrepreneurs through different processes and, as a result, they are able to provide a more holistic look at the Canadian context.

The first female Canadian entrepreneur chosen for interview was Eva Wong, co-founder and Chief Operations Officer (COO) at Borrowell. A second interview was conducted with Alison Loat, Chair of the Board at Ai-Media Canada. Together these two women have over 30 years experiences in entrepreneurship and Canadian policy-making; and were both able to provide useful insights into women's economic empowerment and ICT in Canada.

Eva Wong and Borrowell

Borrowell is a debt financing company based in Toronto, Ontario, which offers free credit scores, personal loans, and product recommendations to Canadians. Borrowell was the first company in Canada to offer free credit scores to their clients. They work to help empower users to improve their financial well-being and make better decisions about their credit. Borrowell offers quick and simple service; in approximately 3 minutes, a user is able to set up an account and receive a free credit score. Their services are secure; they use the same level of encryption as large banks to ensure user information stays safe. Borrowell updates user scores regularly, provide tips to users to improve scores, and recommend the best products for users.

Borrowell offers free services therefore must make money through product referrals and personal loans. If users accept the product recommendations, Borrowell will receive a referral fee from that company. In addition, Borrowell offers low-interest personal loans to clients, with the main purposes of aiding people to pay off higher-interest loans, such as credit card debt. Borrowell also has a partnership with the Canadian Imperial Bank of Commerce (CIBC) to provide their bank patrons with credit scores via their mobile app and powers their one-click personal loan services.

²³ This case study was conducted by Veronika Moulton, Research Consultant, Institute of Education, University College London, Canada.

Diversity and inclusion are among Borrowell's key values. They strive to ensure their workplace and their roles within the community are working towards these values. For example, the CEO of Borrowell, Andrew Graham, only participates in panel discussions where a diverse and gender equal representation is visible. Borrowell also publishes diversity statistics on their website and believes this has helped them become stronger as a company as they are able to recruit a more compelling and diverse set of people.

Eva Wong is the co-founder and COO of Borrowell. In this position, Eva oversees the loan business, free credit score business, marketing, and credit operations. Eva holds degrees from Harvard University and Queen's School of Business. She has over 15 years experience in the business and not-for-profit sectors; and has studied or worked in the USA, Caribbean, Africa, Asia, Europe and Canada. Previously, she has leadership roles for both Maple Leaf Foods and the United Nations Development Programme. Eva was listed in the 2017 Women in FinTech Powerlist and was a finalist for 'Fintech Women of the Year' at Lendit. She was also featured as one of '9 Canadian Women Changing the Game' by Elle Canada and one of '30 Women in Canadian Tech worth Following' by Betakit.

Eva is very proud of the early success of Borrowell, especially owing to the fact that Borrowell is a debt-financing enterprise, therefore, raising enough capital in early stages of the venture was a big challenge that was successfully overcome. "Being the first to do something, like offer credit scores in mass market with no-strings-attached was a real game changer in the Canadian market" (Wong, 2017). Eva was attracted to starting this business, as it would be a necessary service that had not been available yet in the Canadian market; and one that could have a very influential impact on the Canadian society, as many Canadians carry huge levels of consumer debt, which worsens each year. From a personal point of view, Eva was interested in becoming an entrepreneur because "it felt like a great learning opportunity, and a great way to develop a whole bunch of skills and do something that is really meaningful" (Wong, 2017). Having ICT involved in the business was an integral part of the business plan, as they wanted Borrowell's services to be easily accessible by all Canadians. Eva is excited about Borrowell's future in 2018, as they have a number of product developments that will be launched this year. Borrowell is working to have a larger impact on even more Canadians by giving them more tools to become financially literate and to continue to grow the business and further their mission. "For myself, I think that [my plans are] tied into making Borrowell really successful and continuing to make sure that I am developing in a way that keeps pace with the business" (Wong, 2017). Eva also hopes to have a larger impact on female empowerment within the ICT community in Ontario. "I want to get more involved in making sure that women have a place at the table and seen as a key part of the tech ecosystem in Toronto, and not just women but more diversity is represented" (Wong, 2017). Diversity and inclusion will continue to be a key value in Eva's career and the future of Borrowell.

3.3.2 Profile of a Woman Entrepreneur and Company #2

Alison Loat and Ai-Media

Ai-Media is a technological social enterprise offering closed captioning services with a mission dedicated to ending the experience of social, educational and vocational exclusion for those living with disabilities. Ai-Media offers services through caption (for live and pre-recorded videos), transcriptions (converting media into text accurately and quickly), audio descriptions (recording spoken word descriptions of the visual elements of video content for those who are blind or have low vision), and visible classrooms (using live captioning to increase engagement with students). Ai-Media works closely within the accessibility movement to help to ensure that no one is unable to participate within media and educational settings. Approximately one-fifth of all people are hard of hearing and many more people whose first language is not English and therefore may benefit from closed captioning services. Ai-Media's global technology platform is also very close to allowing next and on-demand captioning services in real time with near perfect accuracy. With this technology, the company is collaborating with Facebook in order to provide captioning to the Facebook Live videos offered in their site.

Originally founded fourteen years ago in Australia, Ai-Media has recently been expanding into the United States of America and Canada. Alison Loat has assisted with the creation of the USA office and is now Chair of the Board for the Canadian office. Alison is working to ensure that Ai-Media is equally successful in Canada by aligning their strategy to fit and help drive the accessibility movement further in Canada. Alison has always been an advocate for the accessibility movement and ensuring there are no, or limited, barriers to participation for those with disabilities. She is assisting in any way she can to ensure that the Canadian office is supported by facilitating introductions with necessary partners and collaborating to develop an effective strategy for Ai-Media in the Canadian context and within the global organisational mission.

Previously, Alison has been an executive, management consultant and an entrepreneur with experience working in senior leadership positions in the private, non-profit and university sectors. She has degrees from Queen's University and Harvard Kennedy School. Alison is also the co-founder and was the first executive director of Samara Canada, a non-partisan charity that works to build better politics, improve democratic participation, and improve the quality of democracy. She was part of the founding team of MaRS, a biotechnology commercialisation centre in Toronto. She is also the co-author of the #1 best-selling book 'Tragedy in the Commons: Former Members of Parliament Speak Out About Canada's Failing Democracy'.

Alison has received several awards for her public service leadership, including the Public Policy Forum Young Leaders Award and the Queen's Gold and Diamond Jubilee Medals. She is a World

Economic Forum Young Leader and was named one of the WXN 100 Most Powerful Women in Canada.

Alison believes we are at an important stage in Canada for female empowerment. “In the time we are in right now of course in North America and Western press, we are at the precipice of an important revolution, which is exciting and very painful and a long time coming” (Loat, 2017). Alison feels lucky to have been born in a time where she has been sensitised enough to hopefully be in a position where she can help to lead real change in this industry. Prior to her role at Ai-Media, Alison worked in public policy and remembers meeting a relatively senior and well-established woman in politics; “I told her that I hadn’t felt that my gender has been a terrible barrier, and she said ‘good because that’s what we’ve been fighting for you for three years’” (Loat, 2017). Alison recognises the need to be vigilant with this movement but also understands that she is lucky to have benefitted from the impressive efforts of the women before her that have tried to build a more inclusive environment for women in these male-centric industries.

3.3.3 Findings

Based on a literature review conducted on current Canadian trends that support and inhibit female entrepreneurs and the interviews with both Eva Wong and Alison Loat, many key themes and issues can be discussed. In order to gain a more holistic understanding of the female empowerment in ICT movement, this paper will discuss each five theme separately on how these issues may act as success and/or inhibiting factors for female entrepreneurs in ICT in Canada.

Five different themes or issues are discussed in this section. These issues include the success factors of, social and political movements related to female entrepreneurs and empowerment; federal government involvement; female entrepreneur networks; and the inhibiting factors of, financing for female entrepreneurs; and female owned business industries.

3.3.3.1 Success Factors

Social and Political Movements Related to Female Entrepreneurs and Empowerment

Social and political movements to improve the situation for female entrepreneurs in Canada have existed for over a decade, with several taskforces publishing recommendations on how to work towards gender equality within the Canadian economy. In 2003, the Prime Minister’s Task Force on Women Entrepreneurs was assembled to support this fastest-growing sector of the Canadian economy and the unique obstacles they were facing (International Trade Centre, 2003). This taskforce called on the federal government to create a new office of women’s business ownership;

expand programs for female entrepreneurs; improve access to financial support, government procurement and export opportunities; grant maternity benefits to entrepreneurs; and support research on female entrepreneurs. From this call to action, the Canadian government expanded a number of regional initiatives to support female entrepreneurs, organised the member economy' economic forum for women, expanded research and publication programmes in this field, and worked to integrate female entrepreneur issues more systematically in meeting between different levels of government (International Trade Centre, 2003). Following this, came the Task Force for Women's Business Growth, which published a report in 2011. This report called for the government to implement the economy's female-focused economic development strategy that would help female entrepreneurs develop into new markets, leverage supplier diversity, increase access to commercial capital, increase adoption of technology, and ensure organisation are reporting statistics and being held accountable (The Canadian Taskforce for Women's Business Growth, 2011). In 2014, the Expert Panel on Championing and Mentorship for Women Entrepreneurs encouraged further strategic development to aid female entrepreneurs. Including recommending the development of a mentorship programs and online information platform, in addition to many of the same action areas the previous task forces had recommended ("Report of the Expert Panel on Championing and Mentorship for Women Entrepreneurs," 2015). Some provincial task forces have also been established, including the Women Entrepreneur Ontario Collective, which published a report in 2016. This report again advised towards many of the same recommendations as the economy's task forces; however, they also called for more collaboration with provincial organisations and non-government organisations that had already been well established in support local female entrepreneurs (WEOC, 2017).

Based on all these previous movements to help support female entrepreneurs in Canada, it is easy to understand the issue of additional and unique support to help female entrepreneurs is not a new issue in Canada. However, this does mean that Canada has already made some significant strides to support females in this industry and will continue to work towards closing the gap even further. According to the Global Entrepreneurship Monitor, entrepreneurial initiatives among women has increased by 30% in North America, largely due to the Canadian female population (Galang, 2017).

A relatively new and important movement from Toronto Canada entitled #movethedial is working to increase the participation and advancement of women in technology ("Move The Dial," 2017). Created by Jobi Kovitz, this important movement works to build connection, celebrate success stories, build partnerships, and identify opportunities for growth through high-impact programming. They are working to increase the representation of females in ICT on company boards, executive positions, foundation teams, and graduates in STEM fields. A recent report was published by Move the Dial in order to establish baseline statistics on the current status of female entrepreneurs (Move the Dial et al., 2017). From this report, they found in Canada only 15% of

CEOs in an ICT company are females, 28-30% of ICT ventures have at least one woman founder and only 8% of directors on boards are female (Move the Dial et al., 2017). Several new and exciting impacts have already been recorded since the onset of this movement. Firstly, the Elevate Toronto tech festival in September 2017 hosted over 3000 attendees and features 40% female speakers on their panels. Secondly, the Mayor of Toronto, John Tory, was inspired by this movement and has pledged to only attend event which feature a diverse panel of speakers (Move the Dial et al., 2017).

Another important initiative that should be considered in female entrepreneur movements is ensuring that female entrepreneurs' successes are celebrated publically. The news is full of quotes, stories and perspectives from male entrepreneurs, and therefore are ignoring the stories from sustainable, successful, and thriving business run by females (Saunders, 2015). "If [the media and organisations] take the easy routes and take the CEOs from the top five companies they have heard of, generally speaking they will probably all be men, and I think they need to be very cognisant of what they are doing and that they [should be] representing a diverse tech community" (Wong, 2017). Increasing the participation of female entrepreneurs in media, panels, and speaking appearances will also have a consequential effect on presenting strong female role models for young Canadian girls looking for a future career in the ICT and entrepreneurship.

Federal Government Involvement

As stated earlier in this report, the federal government of Canada is investing additional funds into female owned businesses and the advancement of girls into STEM fields (Government of Canada, 2017). "This particular federal government... has staked a large part of its 'brand' on women and equality of women. So I would say certainly from an intention perspective they are doing lots of good things" (Loat, 2017). It has been evident to the Canadian public, that since Prime Minister Justin Trudeau was elected into office, that there would be a stronger focus on the inclusion of women and taking necessary steps to reach gender parity. However, the intention of change does not necessarily mean that change will occur or occur in a timely manner. "I think what remains to be seen... is whether the programmatic and policy decisions... the funding decisions... efforts, policies and financing that are put into the tech industry, whether they result in more participation of women and [more] female leadership roles" (Loat, 2017).

One of the main methods that the Canadian government utilises to lend out money to entrepreneurs is through the Business Development Bank of Canada (BDC). The BDC invests about \$4 billion a year; however, only 6% of this funding goes to female-owned businesses (Saunders, 2017). The Canadian federal government should be making more of an effort at investing public funding in an equal manner that is representative of Canadian taxpayers to ensure the inclusion and advancement of female owned businesses. Although this would be an impressive achievement for

female entrepreneur social movements, it is important to consider that the vast majority of business development funding comes from private venture capitalists (Saunders, 2017), which the government cannot force to be released in an equal manner. However, the government could force venture capitalists to publish diversity statistics in order to further the discussion and evidence that female entrepreneurs are disproportionately financed.

In order to support the representation of women in executive positions and to ensure female-led enterprises are being equally supported as those led by men, the federal government and BDC announced in November 2017 that they will be committing \$70 million over five years to financing women-led technology firms (Silcoff, 2017a). This will be the largest funding envelope to support females in ICT of its kind in North America. This additional funding will be used to help ensure female entrepreneurs are funded in the early stage financing but also supported through later development stages in order to fuel their growth (Silcoff, 2017a).

As of December 2017, the Ministry of Innovation, Science and Economic Development also issued a condition on their \$400 million funding program, in which applicants must demonstrate how their strategies address the improvement of gender balance among Canadian venture capitalist fund managers (Silcoff, 2017b). Innovation Minister, Navdeep Bains, stated that “the goal... is to support the growth and scaling up of our best start-ups and turn them into global champions... [he is] proud of the fact that this is putting forward concrete steps to promote diversity and gender equality in the innovation ecosystem. An open society that values a diversity of ideas and perspectives is good for business”(Silcoff, 2017b, p. 1). In addition founder of the #movethedial movement, Jodi Kovitz, noted that “this is a great way to have the private and public sector partnering to advance diversity (Silcoff, 2017b, p. 1). This is an important outlook for the federal government to be taking, as it is a strong signal that they believe diversity is an important issue within the public and private sectors and can in itself lead to better returns.

In addition, many researchers agree that in order to increase participation of females in ICT and STEM fields, it is important to start young and ensure that Canadian girls have the necessary skills to be successful in these fields. Therefore, the Canadian government and non-governmental organisations are working to fund and support programs that attract and support young females in several of these fields. Research shows that females and males have the same aptitude for STEM subjects, through performance in grade point averages and university acceptances (Move the Dial et al., 2017). Females in Canada made up 56% of university graduates in 2010; however, when solely looking at STEM degrees, females only made up 29.6% of graduates. Therefore it is important to not only start young by encouraging participation into STEM fields, but to also ensure girls understand that they have the right to pursue careers in tech if that is their passion (Move the Dial et al., 2017).

Additional funding and support for the federal government is important and necessary to ensure progression to gender parity. However, what remains to be seen is how the government will be monitoring and evaluating the businesses that receive grant funding in order to specifically ensure that the female entrepreneurs are participating and growing to improve gender diversity in these fields. Quotas for female representation only goes so far and therefore are not the solution, an organisation must ensure there is a culture of diversity within their company and ensure programs are in place to bring on diverse talent sets (Move the Dial et al., 2017). The government needs to ensure that organisations competing for these diversity funds are not using females as ‘tokens’ in order to receive the funds. The government should ensure that a meaningful representation of females is represented in the businesses with which they collaborate. This will not only ensure that the allocated funds are benefiting female businesses and the future of female leaderships, but will also have a meaningful impact on innovation levels in Canada and subsequent profit levels and rise in total GDP (MakePossible, 2017).

Female Entrepreneur Networks

Female entrepreneur networks offer an important platform to collaborate, connect, seek information, support, and celebrate females across Canada. Several specific, governmental, and informal networks currently exist across Canada, and are all working to assist female entrepreneurs in new and beneficial ways. As mentioned above, many social movements and task forces have already been established in order to drive the successes of female entrepreneurs; however, these networks missions are different as they work directly with the females to support and advise them to make the best decisions that fit their business and personal goals.

The Women’s Enterprise Centre was the first organisation for female entrepreneurs specifically in Canada. This centre provides gender-specific services to advise, finance, and train female entrepreneurs in Manitoba (“Women’s Enterprise Centre,” 2017). Women of Influence is a corporation dedicated to the advancement of professional women. They serve to help women connect to different mentors and also have annual awards to celebrate extraordinary female entrepreneurs (“Women of Influence,” 2017). Additionally, several organisation and accelerators across Canada exist to provide learning opportunities to female entrepreneurs and more personalised support to female entrepreneurs; including Fierce Founders and Cisco Women Entrepreneurs’ Circle (Cisco, 2017; “Fierce Founders,” 2017). Other organisations include the Women’s Enterprise Organisation of Canada, Women in Communication and Technology and their WeForShe campaign, Women on the Move, Shecosystem, Boardlist, and many more.

The Society for Canadian Women in Science and Technology (SCWIST) is another network that is funded by the government and works to promote, encourage and empower women and girls in STEM fields. They work to inspire girls to consider a future in science (SCWIST, 2017). SCWIST

has also developed the online platform ‘Make Possible’, which works to connect women to find mentors, exchange skills and shared expertise (MakePossible, 2017). Make Possible is also working to publicize more research related to female entrepreneurs and the benefits of having females in leadership positions.

Eva and Alison have both had experience working with different mentors and mentorship programs along with supporting many mentees. However, both women noted that the relationships they have had with mentors and mentees have been more informal in nature. “I think most of my work is done through informal relationships, mentorships and friendships. I have certainly always tried to contribute that way. I have been a mentor to different mentorship programs, I have a lot of women who have become friends who I have tried to support and help” (Loat, 2017). Eva agreed that she also contributed to mentorship in a more informal basis and added that “the community has been real great, and I have benefitted from meeting different people, and you can come into contact with pretty much anybody and they will make time for a chat” (Wong, 2017). Having an open and supportive community in Canada has helped both of these female entrepreneurs be more successful and be more open to helping the future generations of female entrepreneurs.

3.3.3.2 Challenges

Financing for Female Entrepreneurs

Unsurprisingly, financing is one of the biggest and most important themes when discussing entrepreneurship, especially for female entrepreneurs. Several studies from around the world have looked into the relationships that female entrepreneurs have with venture capitalists and financing institutions. In addition, many researchers have looked into the correlated theme of risk, as risk is thought to be an integral part of financing for new business enterprises. Female entrepreneurs are thought to be less bold, less confident and do not take enough risks. Due to these preconceptions, research has found that only 4% of funding from venture capitalists goes to female owned SMEs (Saunders, 2015). Therefore the majority of female entrepreneurs invest their personal finances into their business (Beckton & McDonald, 2016).

Female entrepreneurs are ambitious and the majority are looking for ways to expand and grow their businesses. However, the method of which they hope to grow and try to expand may be different than traditional male methods; which in turn has labeled female entrepreneurs as being more risk adverse (Beckton & McDonald, 2016). However, research conducted at Carleton University suggests that female entrepreneurs are not actually risk adverse but instead consider a number of different factors before making a decision involving risk; including motivation, context, education, adaptability, and self-perception (Beckton & McDonald, 2016). In addition, female entrepreneurs view success differently than males and therefore success may be more difficult to

quantify. Male entrepreneurs generally conceive success based on earnings, where women understand earnings are an important factor but also look at a balance in life. Therefore, the 'Fail Fast' or 'Go Big or Go Home' mentality that many venture capitalists look for are not traditional ways females look to operate their business. Female entrepreneurs tend to only promise what they can actually deliver and do not ask for investments when they are unsure if they can pay them back ("SheEO," 2017).

Additionally, female entrepreneurs have been found to have a more difficult time working directly with banks as they face greater obstacle accessing loans and have generally not been satisfied with their experiences with financial institutions (Beckton & McDonald, 2016). Many female entrepreneurs have stated a lack of knowledge of funding opportunities for business development, and once discovered note a lack of understanding on how to complete applications for funding (Saifuddin & Beckton, 2015). Based on this discovery, many networking groups and government institutions have been working to make information more accessible to female entrepreneurs, which will be discussed further in the female entrepreneur networks section of this report. Although these institutions have been working to decrease the funding gap between male and female entrepreneurs, significant movement has not been observed. The general hope was that more female owned businesses would get funding, as more women became venture capitalists. However, research has proven that over the past several years the number of female venture capitalist has risen from 3% to 7% but the funding gap has only widened (Kanze, Huang, Conley, & Higgins, 2017). This research, conducted at Harvard University, and primarily on USA venture capitalists, also found that the questions posed to entrepreneurs in meetings were different when the entrepreneur was male versus female. For example, men were asked more questions about the potential gains of their business when women were asked more about losses and preparations for loss (Kanze et al., 2017). This was observed in interactions with both male and female venture capitalists. They found that 67% of questions posed to males were promotion-oriented where 66% of questions to females were prevention-oriented (Kanze et al., 2017). The answer to these questions thereby went on to have a significant impact on the funding allocations. Examining comparable companies, these researchers found that the companies who were asked prevention based questions raised \$2.3 million, which was seven times less than the \$16.8 million raised by companies who were asked promotion questions (Kanze et al., 2017). Entrepreneurs that were asked prevention questions but answered with a promotion response were found to raise \$7.9 million in funding. Malmstrom, Johansson, & Wincent, (2017) found similar research when analysing conversations with venture capitalists in Sweden. These researchers also found that venture capitalists described female and male entrepreneurs remarkably different even though they had similar characteristics. For example, a new female entrepreneur was described as young and inexperienced where their male counterparts were thought of as young and promising (Malmstrom et al., 2017).

Similar experiences would not be hard to find in Canada, however, longitudinal studies have not been conducted in this area. Anecdotal evidence can be found to support this argument. Eva Wong mentioned in her interview that female founders that she knows “have made up other names if they only have female co-founders because they found that emails weren’t being responded to, and if they sent the email under a male name then they actually did get a response, even though it was the same email” (Wong, 2017). Eva found that Borrowell had never, to her knowledge, experienced discrimination for having a female co-founder; but Eva did theorise that if she had been on her own she would have run into more challenges raising capital. Eva did mention that having a female as part of their leadership team actually supported their partnership for one investor. “One of our investors... had been looking at a lot of different deals in Fintech, and of all the meetings he took, we were the only company that had a women as a co-founder, and he said that was very important to him, that there was a women involved” (Wong, 2017).

Although there are some investors that are exceptions to their treatment of female entrepreneur, there remains a significant need to change the way we finance female businesses and entrepreneurs. Working with this outlook is another notable female Canadian entrepreneur, Vicki Saunders, creator of SheEO World. SheEO launched two years ago and is working to transform how we finance, support and celebrate women-led ventures (“SheEO,” 2017). In order to accomplish this goal, Saunders developed a new way to invest in female businesses that shifts from the male-centric ‘winner takes all, go big or go home’ mentality. Instead, this model of investment works as a collective economy. The model is supported by over 500 women who contribute \$1100 each as an ‘Act of Radical Generosity’, this money is not returned but instead used as a pay-it-forward relationship. The money is pooled together as a low-interest loan to five female business leaders. The collective group chooses five women and their companies to supported and invested in; which the company then pays back over five years. Once the loan is paid back to SheEO, the money is then loaned out again to a new entrepreneur (“SheEO,” 2017). Therefore, a trusting environment is created through a bottom-up approach to financial investing.

This model for financial investment in female owned businesses is different from the standard model, as it has been specifically designed to tackle the challenges female entrepreneurs face. Women are known to run their businesses differently than men and therefore will require a less-traditional model for financing as women are thought to only promise what they can deliver and will not ask for money that they will not be able to pay back (Saunders, 2015). Continued innovation in the way venture capitalists and governments lend money to female entrepreneurs could help to support them more holistically and allow female owned businesses to thrive in male-centric industries.

Female Owned Business Industries

As previously stated in this report, the majority of female owned businesses are concentrated in the retail and service industry (RBC Economics, 2013a; Statistics Canada et al., 2016). These industries are considered to be smaller in both size and income generation, thereby affecting both growth and impact of female owned businesses in the Canadian economy. Several different factors may have a sizeable impact on why female entrepreneurs are concentrated into these industries. Firstly, and most uncontrollable are external factors; including women running their business as a side business from home due to other work and familial factors (RBC Economics, 2013a). This in turn has affects on their ability to grow their business in size and finances. A second important factor to consider is the social determinants that contribute to females, and particularly young girls, entering into the technology and business industries. In the 1980s approximately 40% of computer science graduates were women; however, today females make up less than 18% of graduating students (Sprague, 2015). Although the Canadian government and some social movements are working to encourage more involvement of girls into STEM fields, there remains a disconnect with their advancement in the field; including acceptance into university STEM programs and incubator/accelerator acceptance. In the best incubators in Canada, less that 25% of the ventures are led by women (Saunders, 2017).

Another problem with the limited range of industries of which female owned businesses operate is that they tend to not operate in international or export-oriented markets (Industry Canada, 2015; Statistics Canada et al., 2016). According to Industry Canada (2015), only 5% of female SMEs export goods, compared to 11.8% of male SMEs and 10% of female and male owned SMEs. This has significant impacts on their ability to expand their business and substantially increase their capital. Companies that export are also in more competitive markets and therefore invest more in innovation and tend to have higher rates of job creation (Beckton & McDonald, 2016). In order for female entrepreneurs to get more recognition and expand into international markets, there must be entrepreneur networks to help support, advise, and train female entrepreneurs in exporting opportunities (International Trade Centre, 2003). WeConnect International has been active in Canada since 2008 and works as a global network that connects female-owned businesses to qualified buyers around the world (WeConnect, 2017). WeConnect works to education female entrepreneurs, train corporations on how to source, assess female businesses readiness to enter new markets, and breaks down barriers that prevent female entrepreneurs from connecting to new local and multinational market opportunities (WeConnect, 2017). Programs like WeConnect International should continue to be supported by the Canadian government and promoted withinfemale entrepreneurial networks to ensure that they are being utilised by female owned businesses that are looking to expand into new markets.

Currently, the majority of the programs and policies that have been implemented to support female owned businesses are aimed at supporting them through early stage development (The Canadian Taskforce for Women's Business Growth, 2011). Although this is an integral and difficult part of business development, there remains a need for programs and support for those female owned business that are looking to grow past the start-up phase. One potential recommendation could be for more support for women looking to grow their business into new markets (International Trade Centre, 2003). Additionally, the #movethedial movement mentioned earlier, has plans to address some of these obstacles and ensure that females in ICT are continuing to progress in the industry. However, due to the originality of this movement, significant research and recommendations have not yet been developed to support these unique female business obstacles.

3.3.3.3 Policy Recommendations

Diversity in Government, Panel Discussions, Speakers and in the Media

Ensuring that there is visible diversity for the public shows that not only males can be experts in any particular field. This also helps provide role models for younger generations looking for a future in a male-centric industry. Women and men alike should stand-up against organisations that do not show a diverse representation of experts; in terms of not only gender equality but also ensuring that a range of cultures, ethnicities and disabilities are visible. This will go a long way to instill more confidence in females and allow them to be more prosperous in the industry.

Increased Transparency on Diversity Statistics and Funding Allocations

The government at all levels in Canada should be more transparent about where they are spending their money and the diversity of these organisations. The government should also make the economy's mandate for all organisations to publish diversity statistics on their websites and annual reports. It is important that the Canadian public is able to understand how diversity is represented in each organisation they may want to work in or with. This includes diversity statistics for companies, incubators and accelerators, and university students and graduates. This will help the Canadian public get a better understanding of which organisation are attempting to be more diverse and help organisations reflect upon themselves so they can build a strategy to improve their own statistics.

Understanding That Female Entrepreneurs are Not a Homogenous Group

A common misconception in much of the literature on female entrepreneurs is that they are a homogeneous group that requires a similar set of strategies for the entire subpopulation to be successful. However, there is a huge variation among female entrepreneurs with regards to their goals, decision-making and planning, which is manifested itself in the nature of their businesses, their economic outcomes and successes (Beckton & McDonald, 2016). The government and

researchers should conduct further research into which subsections of female entrepreneurs are most and least supported, in order to get a full understanding of what strategies work for different populations of female entrepreneurs.

3.3.3.4 Advice for Female Entrepreneurs

Eva Wong and Alison Loat both had encouraging advice for females that are looking to enter into the ICT industry as entrepreneurs in Canada. Eva warned females not to doubt themselves on whether or not they are the most qualified to enter this field or start a business. “If you are passionate about something, that makes you the most qualified... if they have got something they are excited about and something they want to pursue, just do the research, meet with the people and give it a try” (Wong, 2017).

Eva and Alison both agreed that the barriers to enter into this field have been dramatically reduced over the past decade. It is much easier to “get things off the ground, the cost of coordination are less, you can get websites and communication vehicles up quickly” (Loat, 2017). This in turn makes it much easier to begin operations and decreases some risks of starting your own business, as there are fewer requirements of personal investments. “I think it has the potential to be really game changing both on a personal level on a career perspective and in terms of what you can do for society as a whole” (Wong, 2017).

However, Alison, who has been a member of three founding teams, warns new entrepreneurs that “you have to be very ready to play the long game... seeing things through those first five to seven years is what you have to have the appetite for” (Loat, 2017). She understands that there is often the mentality to go out there and test, and the ‘fail fast’ outlook of business planning, which is often good and can lead to an early burst of success for companies. However, she advises new entrepreneurs to begin planning long-term business strategies from the start. “How you build and sustain [success] over time, how you think about scaling your work, how you think about building your organisation; that sort of nuts and bolts stuff that you need, you’ve got to be ready to think that through from the very beginning” (Loat, 2017).

3.3.3.5 Summary and Discussion

Canada remains at an important and exciting time with regards to gender equality and subsequent effects to the Canadian society and economy. Now, more than ever before, Canadians of all genders are taking the initiative to start their own businesses, build new technologies, and developing new strategies for solving problems. The Canadian government and the Canadian society need to continue to ensure that the investments they are making in these new businesses

and the entrepreneurs behind them are being chosen fairly and without discrimination. Canada needs to continue to support research in this field and that business and strategic development strategies are being formulated to ensure females are being equally represented and able to participate in any industry. It is easy to see that Canada is moving in the right direction, little by little, when it comes to gender equality; however, without a significant collective movement, progress will continue to be incremental.

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3.4 Case Study of Chile²⁴

3.4.1 Profile of a Woman Entrepreneur

Mrs. Carmen Gloria Aracena Alvarez is an Electronic Engineer by profession; she graduated from the Chilean Federico Santa Maria University. She also holds a Postgraduate Degree on Human Resources Management awarded by the Chilean Catholic University, and coupled with another Degree on Innovation and Technology Management she obtained from the Alberto Hurtado University and an MBA from IEDE, the European University in Madrid.



Mrs. Aracena started her working life as a Telecommunications Engineer and performed a number of positions over a period of 18 years within the financial industry. Her specific performance areas were Telecommunications, Operations and Human Resources. Her senior position was as the Training Area Manager of one of the largest and leading Chilean bank.

Mrs. Aracena joined TECNOCAL in year 2001 as a full-time Business Manager while also doubling as Financial Manager. Her specific remit in year 2004 was to bolster an internal reshuffling of all processes with a view to conforming with and securing the company a certified status to the ISO 9001:2000 standards. It was in year 2010 when she became the Company's CEO. Her specific remit here was strongly advocate innovation; chiefly by means of the management of all intangible assets generated by the company.

²⁴ This case study was conducted by Ansonia Lillo Tor, President, University Santo Tomás, Campus Arica, Chile.

Figure 1. Awards for Carmen Aracena



2014:

Carmen Gloria Aracena, TECNOCAL's CEO, has been recognized with the 100 WOMEN LEADERS AWARD 2014 as Outstanding Entrepreneur in the category Technology that delivers "Mujeres Empresarias" and "El Mercurio"



2008:

The Chilean Federico Santa María Technical University (U.T.F.S.M.) awarded its recognition to TECNOCAL on account of our Company's contribution within the innovation and technology fields. This award also encompasses the award granted to our BLINGER product as the Best Technology Development for year 2008.

3.4.2 Profile of a Company

TECNOCAL²⁵ Passion for Electronics Historical Background

TECNOCAL has an extensive track record endorsed by multiple products and projects undertaken on behalf of their customers as well as when it comes to developing their own products. For them, the key issue is fully gauge the design needs of their customers; chiefly by defining the scope of the problem(s) the customers wish them to sort out on their behalf. Thereafter they must suggest the sundry solution alternatives - all which are based on their experience secured after many years of company development - plus the wealth of technological *knowhow* they have access to.

This dual approach allows them to develop creative and innovative solutions that add value to their customers' business and represents a permanent challenge in their daily work endeavors. While bearing in mind that most requirements are subject to constant changes, their highly qualified professional team ensures they are kept abreast of most technology innovations and breakthroughs. When confronted with the myriad of new trends that the electronic industry is bringing to their doorstep, TECNOCAL in turn has been able to carry out significant projects, and whose everyday contribution is reflected in their steady generation of technology developments. This state of affairs gets boosted with every customer requirement. The latter, in turn, allows them to claim that they have become specialists in all matters pertaining the design, development, manufacture and integration of technology-based goods; as well as suppliers of tailor-made electronic solutions.

²⁵ www.tecnocal.cl, innova@tecnocal.cl, cgaracena@tecnocal.cl, Av. Bilbao # 3771 Office 309 Providencia in Santiago of Chile, Phones: Mobile +56 9 98175243



TECNOCAL's setting up is based on their declared interest and passion for developing electronic technology. The company was formally set up in 1992 with its main asset at the time being the great technical capacity of its founder; particularly when it comes to electronics design and development. On the same token his aim was the development of innovative products; all intended to push further the borders of the electronic science and concepts.

During its early stages, the Company operated within the confines of a small workshop; with its main functions being associated to the supply of maintenance services to sundry machinery items owned by a number of end-user entities. In turn with the foregoing, the company kicked off with the development of engineering requirements on behalf of third parties. It is fair to say that, at this stage, the Company was lacking a precise focusing as to which industrial sectors were to be eventually aimed and tackled.

TECNOCAL has focused its experience in critical areas. Their noteworthy expertise areas are retail, logistics, transportation, traffic and telecommunications.

The Retail Industry

One of the highest priorities within TECNOCAL is the constant generation of the widest range of innovative ideas allowing them to satisfy their customers' expectations. Due to this, their experience within the retail industry has enabled them to challenge the problems prevailing in a specific area by resorting to a different viewpoint; and chiefly aimed at the design and development of products and solutions based on cutting-edge technology. Such approach, in turn, allows them to focus their best attention at the highest market level in a timely and quality-based fashion. TECNOCAL has developed first-class products such as the "Autómata" rack, a device that caters for commercial transactions being performed at the Point of Sale (POS) indeed meet the highest operational quality ratings. The increasing advance of technology has made them pay special attention to the preferences, inclinations and needs of their customers.

The Logistics Market

TECNOCAL has focused its expertise and technical knowledge in supplying active companies in this area. With high standard quality products for generating a set of resources and methods deemed necessary and ideally suited to the specific manufacturing and distribution processes; and whose logistics is crucial for carrying out key processes when it comes to the internal management of a company. They deliver solutions which address several logistics activities, all aimed at creating optimal links between the production stage and the end-destination markets, with very specific products such as the Optical Portal for courier companies. The Optical Portal allows the operator to visualize any specific parcel dimensions while it is moving along a conveyor belt, thus supplying specific details such as the parcel's profile; even if such is irregularly- sharpened.

The Transport Industry

TECNOCAL is fully aware of the significant challenges and new needs posed by the transport industry. To this end, they have taken the necessary steps for developing a range of products, which cater for innovative solutions for this specific industry. Indeed, they have been involved in each process of the *TranSantiago* project, chiefly by developing key products such as the Payment Validators, which have become a payment means fitted and used on the buses and whose BIP cards use every day. Another noteworthy item here is the Reloading Totem Pole which is a system allowing for the physical replenishing of the above "*BIP cards*".

Furthermore, TECNOCAL has participated in the design and production of solutions for the Santiago underground transport system. Here they have developed equipment items such as the Cell Equipment. These items are fitted on every underground train coach and which are capable of transmitting information from the trains onto a Centralized Command Post (PCC); thus allowing for a constant supervision of this massive transport system.

The Telecommunications Industry

TECNOCAL is interested in generating the best options and innovative services in the telecommunications area. They have developed systems such as the Data Portable Concentrators that capture and transmit all the data referred to the bus operational transactions whenever the bus enters a parking bay.

One noteworthy development for TECNOCAL has been the creation of the Drivers' Assistant kit. This device with audio messages aimed at alerting the driver that he is coming close to a restricted speed zone. This and many other significant products have positioned the company as a specialist concern when it comes to the design and development of tailor-made electronic solutions. Such achievement has allowed the company to generate a remarkable degree of trust for their product range, which, it have been developed based on high quality.

The traffic market needs, nowadays, are much more demanding than ever before. Due to this fact, TECNOCAL is undergoing a constant innovation process, mainly by implementing new product development techniques. Such approach has allowed the company to produce a range of suitable products catering for the best performance within very specific areas such as the traffic market area.

The technical specification of projects of this kind with a unique industry scope has led the customers to gain a higher degree of trust in TECNOCAL's specific capabilities. This is due to their Company's relentless energy for bringing a suitable answer to the problems experienced in very critical areas within this type of industry. Illustrations of this assertion are the Traffic cards and traffic lights, specially manufactured for their customers concerned with their product's safety, trust and efficiency ratings.



ECNOCAL is part of the Associative Committee @Internet of Things@ of the Innovation Center UC Anacleto Angelini (Santiago of Chile, August 2016)

With great commitment, TECNOCAL participated in the first session and is part of the Associative Committee *IoT* of the Innovation Center UC *Anacleto Angelini*, whose purpose is to strengthen and promote the generation of networking and business between companies associated with the Center.

Mrs. Carmen Gloria Aracena, TECNOCAL's CEO, participated in this first meeting on June 2016. Along with the other members of the Committee; TELEFONICA, ENTEL, SONDA and Google,

whose central theme was Internet of Things in Chile, allowing -in the first instance support the generation of IoT projects and businesses in Chile with a unique platform as filed by the Innovation Center UC.

Among the activities to highlight the Committee, they can point access to a guest book where researchers, academics, entrepreneurs, customers and other relevant companies will participate, also there will be talks about *IoT* in Chile; challenges and goals, in addition to deepen the value of this opportunity pioneer in the economy.

Meanwhile, Mrs. Carmen Gloria Aracena, tells her perception of this Committee, in addition to her contribution to the group.

"It's important that for the first time a group of partner companies of the Center are working collaboratively, discussing about Internet of Things, which will allow in the near future to solve many problems in our economy, and that for ignorance or distrust, many industrial sectors, still do not get the benefits of it."

"Both, corporate companies, as well as the world entrepreneurship is called to resolve pains in different areas such as mining, agro-business, health, smart cities, etc., with IoT. The contribution of our company in the committee is the vision of a company that designs and develops and has HW platforms that allows capturing data from sensors and transmits them to the cloud for analysis and then process control, depending on the value of the measured variables", she concluded.

More than 50 companies attended the Fourth Forum for Entrepreneurship and Innovation of the Pacific Alliance - LAB 4+ 2016, developed at the Jockey Club in Lima, on June 2016, where TECNOCAL had the opportunity to participate along with other buyers and exporters from Latin America. LAB 4+ 2016, organized by PROCHILE, PROCOLOMBIA, PROMÉXICO and PROMPERÚ. It was visited by more than 1500 participants and was one of the most watched programs -through streaming- during the two days of the event.

This year, the Forum had great international exhibitors who feasted on various topics pointing strongly to the "Digital Entrepreneurship", "The New Innovative Cities", "The Future in the Digital Education", and "How to deal with Innovation through the Pacific Alliance." Among the featured speakers, Mrs. Aracena found the founder of the famous Waze application, Uri Levine, who addressed issues on Large Scale Digital Entrepreneurship; plus representatives from Israel, England and Chile.



TECNOCAL participated in the IV Forum for Entrepreneurship and innovation of the Pacific Alliance / LAB 4 + 2016 (Santiago of Chile, August 2016)

During the two-day event, the CEO, Carmen Gloria Aracena, representing TECNOCAL's company, participated in various activities such as the Workshop # 2; "Competitiveness in Innovation Centers" whose speaker was the Director of Innovation from the Coastal Bend Business Innovation Center (TAMMUC, TEXAS) - US, David Fonseca, and other panels conversation. However, the key point of the event were the business matchmaking, where Mrs. Carmen Gloria Aracena, could meet different representatives (exporters and buyers) from economies like Peru, Colombia and Mexico, where she made herself an excellent impression, both from people who represent them, as from the event in general.

"Concentrate entrepreneurs and technology companies from different economies of the Pacific Alliance participate in this type of event, has great value. Since in many cases companies we can find potential partners, with complementary skills, as happened with SW companies, requiring HW developer partners such as TECNOCAL, where the IOT Box device, developed by our company, caught the attention of several companies developing WEB platforms and mobile applications, for Internet of Things", said Mrs. Aracena.

TECNOCAL, in turn, participated actively with other state-owned companies who demonstrated various projects, developments and innovations to the more than 250 French Chilean visitors.



TECNOCAL participated at the first ITC Digital Fair 2017 (Santiago of Chile, 2017)

The Chilean Technological Innovation ITC Digital Fair 2017 was held in last May 2017 at Foundation Telefonica Building and where TECNOCAL presented a great number of innovative projects and developments, which have demonstrated over the years, the experience and solidity of this company in the development of innovative technologies.

Among the developments presented by TECNOCAL, they can highlight IoT Box, Technological platform (hardware HW and firmware FW). That will help other developers to create their own solutions in the Industrial Internet of things environment, Payment Validators, Totems, Traffic lights for public transportation, Driver Assistant for mining trucks, Tracking Mail for mail and logistics, Pre - Recorded Message System for Metro, Fiscal Control Cards, among other products. In addition, high quality productions, mainly made for industries such as; Mining, transportation, transit, retail, logistics and agriculture.

On the other hand, the fair was a great opportunity to perform matchmaking, an instance that allows meetings between companies of the sector, both to schedule and create future and possible contacts and to demonstrate and boost the projects that each company currently owns.

"The experience in this fair was very positive, since the alliance that Inria Chile²⁶ has with multiple actors, managed to bring together excellent exhibitors, added to a central location, allowed a greater number of people could attend the event and learn about many of the innovations which companies showed. Additionally, the meetings were very positive and with good projections", said Mrs. Carmen Gloria Aracena, TECNOCAL's CEO.

²⁶ <http://inria.cl/inria-chile/>

3.4.3 Findings

3.4.3.1 Success Factors

Mrs. Aracena believes there are several important factors in her business: Passion for entrepreneurship, the Internationalize services, be aware of the trends, and networking.

Passion for Entrepreneurship

Mrs. Aracena believes that:

“For example, prior to the company inception, the passion for operating as an entrepreneur was already showing up when tackling the first challenge, namely the design and development of cardiorespiratory monitor suitable for the detection of the sudden infant death syndrome (SIDS).

This development challenge encompassed a complex product that was going to become a significant milestone and point of attraction; all this while displaying the technical capabilities likely to be achieved under the “Made in Chile” development approach”.

Be Aware of the Trends

Mrs. Aracena says that:

“TECNOCAL made the decision to persevere and to hard work, because we wished to develop and produce electronic items in Chile, and internationalize services. The products and the services must be the high quality. That why TECNOCAL is certified in ISO 9001:2015.

I think that I am an enterprising woman by nature; I have been actively involved in several missions and business journeys with a view to acquiring the trends and innovations prevailing throughout the United States, Asia and Europe alike”.

“Likewise, I have participated in several activities related to the local business world and the new trends prevailing throughout the technology industry. The method of managing the business is following an exhaustive analysis of the customer needs - whereby TECNOCAL has invariably developed a unique and comprehensive approach based on the highest quality standards - next step is the development and supply of the required goods or services. Professional experts in each technology area concerned undertake such a task.

To achieve the final objective, TECNOCAL resorts to the Design Thinking methodology. The latter is specifically aimed at the development of a product or service in line with the specific requirements put forward by the customer”.

Networking

Mrs. Aracena remembered that:

“Five years ago, I realized that we needed to attract young engineers with new ideas to our business. Therefore, I decided to establish networking with Santa Maria University, and I joined at 3IE International Institute for Business Innovation at Santa Maria University²⁷ as Mentor.

Currently, I do mentoring (ad honorem) in 3IE only for students of Electronic Engineering²⁸. I realize that this activity is a way of giving back knowledge and experience to the Society. The interaction between academia and industry must be promoted and supported. In addition, my family is a very important support. I work with my husband, who is an electronic engineer too”.

3.4.3.2 Challenges

Throughout her professional life, Mrs. Aracena has had to overcome a series of obstacles. Undoubtedly, this whole process has served to acquire more experience. The following section focused on the three business difficulties identified by a company that requires inserting on ICT market.

Lack of an Innovative Environment

Mrs. Aracena says that:

“In Chile in the last 5 years, the promotion of technological entrepreneurship has been developed more intensively. In addition, the Government Institutions, as CONICYT and CORFO, have implemented a series of contests and funds that promote the interaction and the clusters creation of technological entrepreneurs.

Innovation has begun to be a process more widely known and recognized by the industrial sectors. It generates a work environment that facilitates the participation and development of our collaborators.

²⁷ <http://www.3ie.cl/>

²⁸ <http://www.3ie.cl/mentor/carmen-gloria-arace>

However, this scenario has been changing in recent years. Universities and technological incubators have played an important role with state funding, increasing and improving the technological and innovative environment²⁹.

Lake of Advanced Human Capital in Technology^{30,31,32,33,34,35}

Mrs. Aracena believes that:

“Chile is not recognized as a technologically innovative economy, so positioning itself abroad with products and services is more difficult. Lack of critical mass of advanced human capital in technology also affects the innovation.

The Ministries of Education and Economy have a leading role in the Committee of Ministers for Innovation, and their participation is channeled through the two main public institutions devoted to the development of S&T+i: the National Commission for Scientific and Technological Research (CONICYT), and the Economic Development Agency (CORFO). CONICYT, as an agency of the Ministry of Education, is responsible for promoting the formation of human capital and strengthening the member economy’s scientific and technological base. Additionally, CORFO is in charge of increasing competitiveness of companies through innovation, entrepreneurship and technological transfer”

Mrs. Aracena adds that:

“The Project of ‘Formation of Advanced Human Capital’ was created in 1989. The main objective of this initiative is to increase the number of researchers and professionals of excellence highly skilled in all areas of knowledge, thus promoting Chile’s economic and social competitiveness and its active participation in a globalized world. Through this project, CONICYT has become the main governmental agency in charge of managing postgraduate scholarships.

²⁹ <https://cl.universianews.net/tag/incubadoras-tecnologicas/>

³⁰ <http://bibliotecadigital.academia.cl/jspui/bitstream/123456789/3505/1/TADPU%20227.pdf>

³¹ <http://www.umag.cl/investigacion/web/wp-content/uploads/2015/05/EBitrán.pdf>

³² <http://www.biobiochile.cl/noticias/ciencia-y-tecnologia/ciencia/2017/08/01/mas-de-5-mil-profesionales-tech-se-necesitan-en-nuestro-pais.shtml>

³³ <http://www.conicyt.cl/becasconicyt/formation-of-advanced-human-capital-program/>

³⁴ <http://www.conicyt.cl/wp-content/uploads/2012/07/Brochure-Institucional-2011-Ing1%C3%A9s.pdf>

³⁵ <https://investchile.gob.cl/wp-content/uploads/2017/05/chile-a-place-to-build-your-future.pdf>

The Project currently administers calls that grant scholarships for master's and Ph.D. studies in Chile and abroad, master's studies for education professionals in Chile and abroad, master's studies in Chile for public officers, Ph.D. studies, medical sub-specialties abroad, doctoral research stays abroad and supplementary scholarships for Ph.D. students of state universities".

3.4.3.3 Policy Recommendations

Mrs. Aracena thinks that there are about three policy recommendations that can be deduced from this research project that could help advance to improve women position in ICT market in Chile.

Motivate the Entry of Young People into the ICT World

Mrs. Aracena says that:

"In Chile, there is a problem of critical mass in research groups and a lack of them in emergent IT methodologies. Attracting young and talented people to graduate studies, academia and research is the most difficult challenge. It is a priority to create funds for scholarships, including talented undergraduate students and foreign graduate students.

Most of research is done at universities, with industry playing a minor role. It is crucial to involve industry in research. The interaction of academia and industry has to be promoted and supported. The government has to play a fundamental role by making attractive to industry to carry out, support research, and hire young scientists to develop creative activities inside their organizations."

Create Motivating Environment for Women on the Use of ICT

Mrs. Aracena believes that:

"It is fundamental encourage more women to enter the field on the use of ICT by providing training and empowerment, generating the requisite knowledge and seeking opportunities for job, legal and professional betterment.

The objective is for women to increasingly participate in technology, in increasingly relevant roles. It is especially important to encourage women to participate in this area, using as many communications tools and professional networks. When a woman is educated, she becomes a natural replicator in her immediate environment.

Increase initiatives to do with the implementation of innovation contests opened to all audiences. The idea here is to use this initiative for encouraging the surge of novelty projects and ideas with a distinct market potential”.

Promote the Existence of Networking on ICT between Women Entrepreneurship

Mrs. Aracena says that:

“Empowerment can come through inspiration and through work to change the female imaginary concerning how difficult it is to incorporate women into ICT. As I do as a Mentor, other entrepreneurs can also guide those who are just starting out and show them the way. My experience shows me the importance of bellowing to a network, to an association or participate in an incubator. It is necessary to be connected with other entrepreneurships. It is remarkable that exists a very good information through the Website, in government or private Institutions, so most of the information is available and the way works for contacting them”.

3.4.3.4 Advise to Women Entrepreneurs

Mrs. Aracena remarks that the three followings aspects are important.

Believe in Entrepreneurship as a Process with Customers

The experience of Mrs. Aracena indicates that:

“TECNOCAL rates it as crucial the development of long-term relationships with our customers. To this end, we focus our entire knowledge and professionalism to fulfilling their expectations while also generating the electronic solutions that our customers need.

It undertakes to develop value to our customers, suppliers, collaborators and shareholders in a collective way, based on trust and respect for our own and third party intellectual assets.

I strive to achieve sustainable growth and profitability in the long term through the efficient use of our resources, based on continuous innovation and continuous improvement of our Quality Management System”.

Have a Great Passion, Commitment and Professionalism

Mrs. Aracena says:

“Staffed with passion for your entrepreneur and committed with the customers and the quality of solutions. I constantly challenge myself while aiming to incorporating and developing the highest technology levels”.

Be Keenly Prepared to Incorporate Worldwide Trends

Mrs. Aracena thinks that:

“At TECNOCAL we work looking towards the future. We firmly believe that good ideas and learning originate from the availability of good reference sources and support. This line of thinking has allowed us to become involved in several educational projects links with tertiary technical education institutions and specifically focused in areas such as electric, electronic and automation engineering disciplines”.

“To go beyond all borders and secure a good status recognition in our target markets - mainly on account of our development and the good quality standing of our technological solutions - all which are to be placed against an innovative prism background”.

3.4.3.5 Summary and Discussion

In Chile, there exists a low valuation of science, research and innovation. The State should promote the diffusion of the economy’s research in various scenarios, through educational programs in schools. Additionally, they should review the programs and educational content to improve science education in Chile, and encourage the creation of libraries and laboratories at a school level. Efforts are still insufficient. Our Institutions are firmly convinced of the vital importance of having a commitment at a economy level over diffusion, not only of science but also of Chilean science and the contribution of our scientists and researchers in knowledge, development, and entrepreneur of the economy, and, particularly nowadays, also with a built-in gender perspective.

About Chile, it was not easy collecting sex disaggregated data on the use of ICT and women’s participation in entrepreneurship. There is a lack of indicators to track the progress of women’s and girl’s access to the benefits of ICT.

It is important to raise the profile of women in the technology industry in Chile. Focusing on these areas: ICT; e-technologies (hardware and firmware); technologies in the fields of medicine, odontology, nutrition, ophthalmology, kinesiology, engineering, and food; biotechnology; genetic technology; technology for graphic and industrial design; greentechnologies (ecotechnologies);

technologies for industry, agriculture, aquaculture, mining, construction, aeronautics, forestry, and veterinary medicine, as well as naval technology and technology support services.

It should be noted that in 2017, Chile approved the creation of Minister of Science and Technology, which is good news for the regions, out of Santiago³⁶.

Mrs. Aracena is a great contribution to open the vision towards the academy and the industry. It is possible to realize the lack of an organization advocating the incorporation and dynamic involvement of women in all levels of the technology business

Nonetheless, it is also remarkable to have a significant number of women entrepreneurs who are developing interesting initiatives in the design and development of technological products. Unfortunately, most projects are centralized in the Capital, in Santiago of Chile.

Finally, to promote enhancing democracy and women's participation through entrepreneurship on ICT market will mark the difference.

³⁶ <http://www.gob.cl/2016/01/18/ministerio-de-ciencia-y-tecnologia-los-aspectos-clave-del-proyecto-de-ley/>

3.5 Case Study of People's Republic of China³⁷

3.5.1 Profile of a Woman Entrepreneur

Leody Fu is a serial entrepreneur with a major in Software Engineering and Artificial Intelligence at the University of Chinese Academy of Sciences, Institute for Software Research, and is an EMBA at Peking / Royal Canadian University. She has led a number of AI and computer vision product development projects, including Chinese / Japanese intelligent translation, Mahjong / Go / Chess man game algorithm, optical time domain reflectometer simulation system based on browser HTML5 3D virtual reality roaming and other projects.

In 2004, Leody left Sony-Ericsson and founded “MoGenesis”, a startup focusing on mobile application development. Within 3 years, “MoGenesis” quickly became an innovative growth company in mobile application development with nearly ten million annual revenues. In 2007, “MoGenesis” was merged and acquired by Symbian (Nokia), and after that, Leody Fu was responsible for building and leading the engineering teams at Nokia.

After a three-year binding period, in 2010, Leody joined Microsoft Corporation as senior leader for Microsoft US & GCR, responsible for new technology evangelism in China, and was assigned internationally to Corp for WP Asia strategy, programs and developers ecosystem in 2011.

Then, Leody Fu went back to China to start a business on VR/AR smart devices development and research on natural interface solution.

What People Think of Leody?

When many people describe Leody, they choose the same words such as warm and sunny. Most of her friends say that Leody smiles and laughs a lot. Her smile has a strong influence on others. She is passionate and energetic. At the same time, she is an easy-to-remember person, as evidenced given by interviews with her former colleague, Tracy Sun.

Tracy said that at the time when she was still working for Nokia as a Snr. HRD consultant, her first meeting with Leody occurred in one of her coaching sessions. After the class, when everyone was gone, only Leody stayed to discuss with her and to learn how to use the coaching skills in the daily work. After that Tracy received a phone call from Leody saying that she wanted to invite Tracy to go through a team coaching for her team. Leody wished that the team coaching could

³⁷ This case study was conducted by Xu Li, Founder of Beijing Oriental HG, Founding Secretary General of China Female, VC Alumni Association, Beijing Oriental HG Venture Capital Co., Ltd, China.

help her to solve the problems encountered in the practical work. “It impressed me so I remembered her when she called me again ten years later. I could recall her appearance immediately, and I can still remember her smile and the warm feeling.”

3.5.2 Profile of a Company

The Rise of Live Broadcasting Industry

In the year 2016 China's live broadcast industry was broken out. Live broadcast industry has a large size which can reach roughly 15 billion and there will be a 2-4 years of sustained growth. Some reports show that the number of Chinese netizens has reached 731 million, equivalent to the total population of Europe. The number of live webcast users has reached about 344 million, which accounts for 47.1% of the total number of Internet users.

There are four major driving forces affecting the progress of the live broadcast industry.

- The popularization of smartphones has produced a huge number of new potential users for the live broadcast industry. The proliferation of mobile Internet traffic creates a huge space for the rapid growth and broad development of the mobile Internet entertainment industry.
- The convenience of mobile payments and increased user revenue reinforces the profitability of the live broadcast industry. Reward will continue to increase the intensity of income as the continuous improvement.
- The cost of network charges will be reduced and the live hardware facilities will be enriched. China's network has been constantly speeding up; costs have been dropped, and the broadcast equipment and software are constantly optimized. The threshold for generating live content is reduced.
- The intensive investment of capital generates the financing advantage for the development of live broadcasting industry. Integrated video sites and Internet companies have laid out live broadcast business. The layout includes the acquisition or holding live broadcast platform, and self-built live broadcast platform also includes the existing business system embedded in live module and other means.

The Policy Environment

In March 2015 The concept of "Internet plus" was first written into the government work report. On Jun 24th 2015, the State Council released the Guiding Opinions on “Internet Plus” Action putting forward the development goals of promoting key areas such as entrepreneurship and innovation, collaborative manufacturing, modern agriculture, smart energy, inclusive finance,

public services, efficient logistics, e-commerce, convenient transportation, green ecology and artificial intelligence to form a new industrial model. Related support measures have also been identified.

On Aug 31th, 2015, the State Council issued the Action Plan for Promoting Big Data Development, the Opinions on Certain Policies and Measures for Mass Innovation for All People" and the "Guiding Opinion on Actively Promoting the Internet plus Action.

Beijing also gradually promulgated the related policies, such as the Opinions on Vigorously Promoting the Cultural Development of the Capital Function Core Area, the Measures for Beijing Film and Television Animation Industry Trial Implementation, the Measures for the Administration of Special Funds for the Development of Beijing Cultural and Creative Industries Trial Implementation, and so on. Such policies encourage the use of emerging technologies like mobile Internet, cloud computing, big data and the Internet of Things to transform and upgrade traditional industries and to promote a further economic development in a rapid speed.

The Maturity of Virtual Reality and Leody's Choice

Virtual reality technology has always been attracting great interest from tech enthusiasts. After the CES, MWC, and GDC, the time has come when Oculus Rift, HTC Vive, Samsung Gear VR and Sony PS VR had been strongly introduced to the market, and then the world is facing the first round of a high value for contend in VR field. The VR technology tends to enter the mainstream consumer market in 2016, extending from game market to other sectors. Some reports predict that the market scale of VR industry is expected to exceed \$10 trillion in 10 to 15 years.

The key indicators for VR technology include screen refresh rate, resolution, delay, computing power, etc. At present, Chinese leading manufacturers in this field have reached the standards in four areas and are making more progress. Supports from the technological development in other aspects have also been given constantly. Continuous improvements of input devices have been made in terms of attitude correction, reset function, accuracy, delay, and so on. Transmission equipment achieved the acceleration of the speed and wirelessness. Run time became longer and storage capacity became larger while the hardware turned smaller. Supporting systems and middleware development have made progress as well.

Based on the above background, Leody chose the mixed reality technology of computer vision as the starting point and the optimizing tool of live shows as the current product, combining her own technological advantages with profits.

Company's Foothold

AppMagics is positioned to “Connect Reality with Virtuality”, and lead the trend by specializing in image processing, detection, including advanced facial expression tracking, Avatar controlling and rendering.

AppMagics is a company engaged in the computer vision technology of mixed reality; it provides both service and products. The company, which focuses on computer vision and 3D mixed reality, is the first startup that uses deep learning into CG areas, committed to providing solution for simulation, fusion and interaction between virtuality and reality. The company has the world's leading 3D face recognition technology and real-time tracking technology, which allow users to realize the real-time interaction between the real world and the virtual one only based on the face real-time tracking ability from an ordinary mobile phone RGB camera. At the same time, users can control the virtual person through their action expressions. The technology has an important breakthrough between AR and VR and also in the interaction between AR and the real world. In addition to the live broadcast scene, this technology has a wide range of applications in the field of virtual reality mixed social, animation production, education, and pan-entertainment frontier.

In the long run, the company is committed to create the next generation of content communities and social platforms. They want to provide their users with an image-based, visual, immersive, and more realistic three-dimensional social experience. From a commercial point of view, AppMagics products are creating a new type of interactive advertising platform that is fully integrated into the user's social media. AppMagics's advertising platform is based on the user's daily use and sharing behavior, making the camera an input device that helps to make the entire network environment more elegant and clean.

AppMagics expects that in the future they will not only concentrate on their old skilled area, but also expand its applications to education and other related fields. Through this technology, the interaction between teachers and students will be enhanced through animation. Technically, AppMagics said they would continue to optimize and upgrade their technology in the field of computer vision and graphics, and will not exclude opportunities for content such as video and animation.

Some of the Core Product Introduction

The company's early core products are:

- FaceMagic SDK, April 2016, Released at GMIC
- FaceMagic Avatar, August 2016, Released at Xiamen Comic-Con
- FaceMagic SDK provides mixed-reality capabilities for other apps.

The product has established a deep cooperation with direct broadcast platform, and creates a new mode of IP realization through technological innovation. It has reached an agreement with a certain two-dimensional space broadcast platform which uses two-dimension image to carry live and interactive video and audio content that can be generated and interacted in real time. Rewarding users and real-time interactive advertising can help well-known IP to open up new ways of interaction and realization, but also can help a new start IP to grow up from the beginning.

The product is able to simulate the composition of real-time mixed reality based on facial keys, and they can offer their partners standardized SDK or customized APIs. They build up the magic stores as content props, and they empower their cross-platform partners in areas as live, social contact, education, fashion App and mobile phone cameras. The product has been gradually improved, and the core technology accumulation and algorithm engine on the client-side can support the rapid fission of the products.

The main function of FaceMagic Avatar is to achieve the real-time capture of facial expressions with the camera of a mobile phone and to present in the cartoon images on the screen in real time through mixed reality technology of computer graphics. Currently, it can carry out the real-time display of the glasses/eyeballs, mouth, eyebrows, human facial expressions and the overall direction and movement of the head. This technology provides content production and interactive solutions for cooperative partners, mainly applied in animation, movies, intellectual property of games and other fields.

At present, other similar products in the market can mainly deal with the “face recognition” issue through data accumulation and computer vision technology. However, AppMagics eventually presents the results after the facial expression recognition to show on the 3D avatars and displays the real-time visual effect, realizing the tracking and expression of human expressions and emotions through technology.

In the future, the company will build a mixed reality smart social platform based on its core functions to form a social network of raising dimension modes in a multi-parallel universe with real world + virtual world, in which users can not only get the unprecedented social experience but also build their own virtual world. The company hopes to change the way people socialize with and entertain this product in the future.

AppMagics is a fast-growing start-up that bridges the gap between smartphone users and virtual reality (VR) content and devices. Based on the idea that AR and VR will soon blend seamlessly to mixed reality (MR), AppMagics is positioned to “Connect Reality with Virtuality” and to lead the trend by specializing in image processing, detection, including advanced facial expression tracking,

Avatar controlling and rendering. By licensing FaceMagic SDK & AVATAR to existing mobile devices, social and live steaming platforms, IP owners and other partners, AppMagics offers billions of people a chance to render their faces in real-time MR and interact with others via the 3D avatar of their choice.

Some Landmark Event

- December 2013, a Photo-processing, Augmented Reality product came to meet its users
- May 2014, AppMagics completes its Angel Wheel financing
- December 2014, AppMagics Technology (Beijing) Co., Ltd. was established
- August 2015, AppMagics wins the 4th China Innovation and Entrepreneurship Competition Winner,
- July 2016, AppMagics finishes Series A financing and releases new FaceMagics SDK 1.0
- August 2016, AppMagics changes face to two dimensions, AppMagics mixed reality changes live commercial activities
- August 2016, won second place in Beijing Cultural Creativity Innovation and Entrepreneurship Competition
- November 2016, Leody had been selected for Zhongguancun leading-talent
- February 2017, FaceMagic SDK and Avatar Two New Products, had been selected for the Fifth Batch of Beijing New Technologies and New Products (Services)
- May 2017, AppMagics finishes its A + round of financing
- September 2017, AppMagics had been selected for the "Venture Pioneer 2017" list.

Germination of the Creation

Leody has shown her interest in computers since her childhood. She is a science-thinking student who is open-minded and forward-looking.

But the idea that AppMagics was germinated is still a fantastic thing for her. As many entrepreneurs may have had a similar experience that the emergence of the idea is the accidental necessity, it seems that the idea came to her all of a sudden, but in another way it seems that she began to wait for it since long time ago. When the idea appears in your mind, you have the feeling that it is the one, you can recognize it at your first glance, why not?

It was a magic moment for Leody, at that time she was playing in the Harry Potter theme park in the United States, then the idea come to her mind why not creates a magic world in the real one through the power of technology? She was so excited, it seems so interesting and promising. It seems that at that moment Leody could already see the future of this magical world. In her later career we can always see her foresight ability.

Her idea has been matured over time. She thinks the world of animation today is dominated by the United States and Japan. Why not creating our own animation world with the support of our own AI technology? So her whimsy, her enthusiasm for innovation and her love for hometown, all these continued to be accumulated, superimposed, and interaction. Eventually it prompted her to make a decision to start a business again.

Leody had a dream that she can give others a magical world just through simple electric products which you can easily reach, she wants to bring adorable cartoon characters vividly appear in front of everyone with the help of an ordinary phone screen or camera as well. They help the virtual elements, scenes, props, image come into the real world. One day you can not only see them, but you can control them as you like, the virtual elements will become an extension of your body.

This is the magic world that Leody wants to show you, and this is the magic she wants to bring to everyone. As she always likes to say, “*Black Technology is nothing else than magic.*”

Goals and Vision

Every entrepreneur has a big goal, behind which is the powerful driving force. Generally speaking, “They want to change the world.”

The difference is when searching for the joint point between the goal and the reality, someone find out while someone don’t; when seeking for solutions and implementation strategies, someone are patient and persevering enough while others fail to do so.

Leody’s vision of the future is far greater and broader than the current situation of the company. Leody and her team have the expectation that one day AppMagics will become a rapid expanding company that thrives on the driving force of technology, taking the company as the technological carrier to promote and spread the achievable effects of AppMagics. AppMagics is going to be a technological innovation company born in China with the characteristics of Silicon Valley.

In the future, AppMagics will apply technology into a wider field with faster speed, penetrating into industries including culture, education, entertainment, games and so on. As the source of making technology as an explosion point of innovation AppMagics will guide the revolution of related product forms and workflows. In addition, as a power of innovation, it will empower correlative industries and change the ecological environment of the industry.

Black Technology is like magic. When it becomes mature, it will combine with peripheral industries spontaneously to promote new forms. With the self-driving force of technological development, it will continuously create new links.

The constant collision of new technologies and ideas leads to new things, tools, underlying technologies, business models, logical frameworks and even new cognitive models, while the future is built in these new links. We live in such an era with AppMagics. The future is coming all the way to us and we are also running all the way to the future.

3.5.3 Findings

3.5.3.1 Success Factors

The success of a person is influenced by many factors, and it is the consequence of a combination of external environment, personal traits and personal choices. We will see many similar traits from entrepreneurs and common ground in the path of growth and development of entrepreneurs.

As a female entrepreneur in smart technology, the success of Leody is strongly supported by the following factors.

Look at the Future

Entrepreneurs in the field of intelligent technology are those who bring the world in their own eyes to the real world. They have extraordinary imagination in the field of technology; they are not only dreamers but also practitioners and creators. Leody said:

“Most times I know exactly what I want. In some ways I can see the future that I pursue. Based on the understanding of intelligent technology and exploration, I am constantly looking for ways to change life with science and technology. I always say that technology is like magic. And I am really obsessed by it. I believe the future exists in a special way and it comes when it actually comes.”

Power of Continuous Entrepreneurship

Leody had a passion to change lives, and this passion persists in her.

“When I am interested in an idea, I make intense discussions and judgment of its feasibility, and when the conditions are ripe, I try. So when I decide to do something, it is not easy for me to give up.”

This led to her success, coupled with her ability to solve problems. Leody is energetic, and her outstanding performance as a science student at an early age reflects her interest in overcoming difficulties and self-escalation.

Vision

During the company's development, Leody showed her vision. At each stage of the company's development, she clearly knew the situation of herself and her team, and the core issues to be solved.

“I know where I am going, and I know what I do and what I want to achieve. I’m always looking for a better way to build a path between results and reality.”

Optimistic Attitude

Leody’s optimistic attitudes allowed her not to retreat in the face of difficulties, but she could still see the hope behind the difficulties when others felt "so difficult" or even like a mountain. She did not have just blind optimism. Rather, she continued to find ways to support her optimism. She was driven by optimism to do things, and she could thus make her followers see the real hope.

Macro Strategic Capabilities

Leody developed and maintained a global perspective from which she could see the company's internal and external environment for development, whether in the present or in the future. When she needed to think about the company's R & D direction, team building, marketing, business cooperation, brand building and financing progress and many other issues, she tried to hold a large perspective to analyze and judge situations. So, she was able to exert decisive business decision-making power.

Team Building Ability

Founding team, executives and core technical staff of AppMagics primarily came from information technology management positions of the United States Silicon Valley, Internet-related industries. High consensus, self-motivation and collaboration capabilities laid the foundation for the stability and professional quality of the company's core. The co-founder of the company joined Microsoft's US headquarters in 2009 as a Senior Algorithm Engineer at Microsoft Research Institute, specializing in computational geometry and 3D related technologies. Company focuses on product development, has a wealth of technical reserves and project experiences. At the same time, the company highly promotes Google's business management, with an emphasis on internal cultural development and strong cohesion among employees. As a result, senior management and core technical staff remained stable, and the overall employee turnover rates in the industry are at a low level.

The Advantages of Female Entrepreneurs

Women tend to show better tolerance than men. On the other hand, they are naturally soft and physically smaller than men, less powerful than men and weaker in physical performance. However, the physiological characteristics of women seem to have cultivated the tenacity of the female character. Leody is not an exception in those aspects.

Balanced Thinking

Most female entrepreneurs and start-ups possess more logical and framing thinking skills and, in a certain sense, people regard them as male traits. So some studies show that female entrepreneurs are more likely to have two kinds of gender traits: they can simultaneously have and coordinate the strengths of both genders in thinking and acting. This trait gives people the feeling that they have many common topics with both men and women. Both from the investor perspective or its own chain of up and down the industry, female entrepreneurs can extensive exchanges. This is conducive to opening up a new situation.

Female Perspectives

In the male-dominated industry, having a female perspective has unique advantages. Based on her experiences as a women, Leody could understand the framework of the problems, feel the products, experience the services, and analyze the entire business process in a special way. This frequently resulted in new opportunities. Feminine thinking itself is more delicate, soft and emotional, and helped Leody to understand the users' demands better and more accurately.

The Basis of Character

Leody is a simple, honest person. She is also confident, optimistic, and not afraid of failure. She is very contagious with her simple, pure core personality traits. At the same time, she has a strong responsibility for improving present and looking to the future. It is worth mentioning that she has great trust in others, which is consistent with her simplicity and sincerity. Because of this decent character, she is easily supported and trusted in her career development.

Learning Ability and Way of Thinking

Leody has a keen sense of smell and professional intuition. She responded to and judged situations quickly. In the face of work and life, she continuously tried to find shortest paths to solve problems. This way of solving the problem helped her to be prepared to deal with the problems during her start-up and keep thinking about the current situation. Her habit is thinking, which helped her to learn and solve problems in the process of gaining happiness. Her curiosity made it easy for her to have fun and excitement in the process of problem solving.

Professional Growth

As a technology-based entrepreneur, she had her own grasp and understanding of industry dynamics, technology core and technology development. From an early age, she showed a great interest in computer science, so when she was in elementary and secondary school, she started programming himself. She gradually accumulated knowledge and skills in the related fields, which led her to start and grow her business. In the company's development process, due to her professional skills, she had better decision-making skills in terms of technology.

Leody was good at learning, concentrating, getting information easily, and also integrating knowledge into business management. She was full of curiosity, good at practice and liked to solve problems by herself. She was also good at summing up what the team had achieved and constantly portraying future pictures to team members. Leody tried to motivate her team members while boosting their energy and strengths.

Finally, Leody always kept faith in the target. Her ideal is unobtrusive and divorced from reality, so sometimes her goals looked blurry and distant in the eyes of some team members, but most of the time Leody knew that her ideals are clear and weighty.

3.5.3.2 Challenges

Life sometimes shows a picture which has a profound meaning. Many things are building from nothing, and towering trees have their tiny looks in their early days. Similarly, entrepreneurs tend to go through uncertain times in which their innovative concepts are not that clear. Usually it takes time for them to dig into the problem and let the dense fog drift away, and the fuzziness will be replaced by a distinct composition. Then the clearness will help them to carry onto the next stage, their team to grow into a bigger size, and they often receive more money support.

For AppMagics, things have been running in the similar groove; after 5 years of practice, summary and reflection, they have formed a strong R&D team which has more than 40 people in an independent department. Leody said that she remembered everything from the beginning till now.

2C or 2B?

At the very beginning the company choose the individual consumer as its service object, at that time the company achieved a good development. By focusing on an isolated mobile application, the company had accumulated over 1 million users in a very short period of time. At first their APP could be launched only from the Android version, then it grewed into a Universal App which can be used in all-platforms. The cumulative downloads reached almost 10 million times without deliberating advertising and promotions, it was a completely natural involuntary result.

At that point of time, many people felt that they should continue focus on the App, to do the technology upgrading and innovation, to satisfy core users, they believed that was a relatively safe option. Most team members accepted the existing development patterns, and it showed a fine growth tendency which was not only meeting the general development expectations, but also could withstand the cost of market cultivation, market development, branding and so on. They could stand the necessary waiting time in the early stages of development of the company. So there was no general demand for a development mode shift.

To compare with those who faces survival problems, or there got some undesirable feedback from the markets, AppMagics was in the different case, there was no external force to compel them to make a change. We can say it was an initiative selection, and a proactive choice. It isn't hard to imagine that in the beginning, when Leody choose to change their track from 2C to 2B, she was failed to get the support from most of the team members. She stuck to the idea but she could not persuade them all, after some days argue it even made the departure of some team members. It was a hard time for Leody during the decision-making and persuasion.

This kind of decision is not a simple matter, as the company has an open atmosphere, there got sufficient communication between team members, then it leaves enough space for dissidence. Still that certain choice triggered indetermination which made some of the follower hesitated. Leody choose to lead and facilitate the shift in strategy, there was intense discussion and she showed her dedication and persistence to predicting future trends. The forerunners will always face such a situation, you cannot let everyone see what you see, believe what you believe. Most people hold a skeptical attitude and feel insecure about the future until they can see the hope and certainty, which is what differentiates Trail Blazers and followers.

Leody demonstrated her assertion and determination all the time. She said:

“The 2C market is more conducive to shaping the direct image of the brand image which is can be closer to consumers and users. However, the speed and scope of APP promotion is relatively limited. Getting an Idea as a Standalone Mobile App Starting with a product that can be bundled with a mobile app, it's no longer a point-to-point spread and can spread as a mesh when AppMagics are combined with other apps. This time AppMagics from the path of 2B to reach the client, it spreads a wider range and faster, a larger market and the user community will respond to and respond to APP in a shorter period of time.”

Leody's initial desire is in line with this choice. She wants to bring magic to this world and not just for some users.

It turns out that her choice is correct. Those who support her get a realistic confirmation. The dramatic part was that some of the former partners who had left the team later chose to return and they decided to keep sticking with her this time. Disagreement is a better understanding of each other is also a clarification and determination of the dream itself.

The company is currently focus on the B-side market, you can develop their own technology through docking to certain technology companies, a greater part of the technical solutions available to partners, on the basis of its own IP to create more contents.

This is also confirmed that Leody has foresight in her career. When she faces others objections, she knows how to deal with it. She has this kind of understanding,

“Sometimes you need to know that you have your team. But at the same time you are alone, you can’t ask for understandings for that much. People can’t be right all the time, I make mistakes but I know that I’m the one who make the decision, and I will take the responsibility. I listen others ideas, and I am collecting perspectives, to that certain kind of choice you know that you need to lead your group to the future you see. Don’t be so strict to yourself but also be strong, time will see.”

Formation and Management of a Team

Recruitment of start-up companies is always a challenge. Entrepreneurs need to face the gap between expectation and reality, and those who choose to do business need to make judgements and choices between ideal and reality. In the actual recruitment process, obviously more people choose a better reality, rather than a better future, and thus the ideal of uncertainty on the job candidates is a huge challenge. In the process, the startup team may need to spend the appropriate cost to help an unmet expectation so that a team member can grow into a qualified employee. Team members need to grow with the team.

Fortunately, Leody was not a first-time entrepreneur, and she was mentally prepared for any difficulties she might have in starting her business. At the same time, she had her own way of recruiting skilled personnel based on her own professional background and good personality. Though Leody did not have serious problems in setting up a core team due to her technical expertise, she still had to face some problems. For example, in the process of recruiting suitable employees, she encountered a problem of high cost of manpower for the highly qualified employees. Also, she experienced some problems in team management and team building as well as the dismissal of inappropriate employees.

In the stage of the company's growth, formation of the entire team culture was a major challenge. Only reasonable allocation of human resources and full mobilization of members of ability could promote business growth and upgrading.

Leody strived to give the team a superb future and a good enough reality when it comes to team management issues. She was not a pure idealist; rather, she was a rationalist as regards her team members due to her clear focus on reality. Leody says:

“I’m a person who learns fast. I’m always looking for a better way. For this team-building task, I got a cool idea one day. Why not introduce talents as a team to face the business needs? As a team they went through the days together. They reached more agreements and generated certain rules together. It was very efficient.”

Also, she invited outside experts into the team who could provide advice and guidance to the team. To resolve the problem, she behaved more boldly and did not rigidly adhere to the conventional approach.

How Fast Can We Afford

How much do we need? How fast can we afford it? This is a problem the team began to face when AppMagics was on the road to growth and when products began to show market value.

Products were promoted more quickly and the R&D team continued to be heavily involved in the development process. In the meantime, investors' expectations and investment-driven pace started to shape the company's atmosphere. How much money does a business need? Can a company withstand the speed of more pieces? These are the issues that should be balanced in the era of speeding up of technology.

After appMagics self-developed FaceMagic Avatar, this world-leading 3D mixed reality simulation fusion and interactive control technology enables real-time facial real-time mixed reality content production. The output data is either video or VR / AR compatible. FaceMagic Avatar's Black Technology lets virtual cartoons rise from the plane world to become lifelike 3D avatars in the real world. Live broadcast / VR live which interactive with the audience in real time. FaceMagic Avatar is working with intellectual property to work together to open up entirely new ways of IP development and realization in the ACG field.

The company strived to achieve H5 through all third-party live platforms, self-built platforms and distribution channels in order to achieve the direct release of live content via WeChat or Weibo after 2017. This media leap will speed up the company's growth. The future will be based on this

feature to build a hybrid reality smart social platform to form a true plus virtual world multi-parallel universe scene dimensional mode social. Users can not only experience unprecedented social experiences but also build their own virtual world in which new channels are opened.

The development of the enterprise at that time seemed to have been introduced into a high-speed orbit due to the development needs of managers also made great demands. Managers needed calm thinking and a full analysis of the situation to make all nodes quickly and effectively choose. Getting more money and resources in when financing is chosen is like opening a switch to take on bigger challenges.

In this situation, Leody had her own considerations in the choice of capitalists who would not blindly pursue the speed. She showed her attitude clearly in following words:

“The development of the company and the increasing popularity of the company in the industry have brought the company more attention. The company changed from unilaterally seeking capital injection to having certain initiative options. I know that I need to show a better control of the company's growth and speed at this time. I need to decide what the first thing we need to realize, and I need to draw out the border line. I should know when to make technology and products come first, and when I should look for more support from outside.”

3.5.3.3 Policy Recommendations

Understanding and Needs of the Policy Environment

With the guidance of the government and the access to the policy, finance, and evaluation system targeted to female entrepreneurs, a supporting system should be formed for the development of female entrepreneurs.

Entrepreneurs need supports because of the difficulties in starting and growing their business. Currently, China has already had an entrepreneurial support project targeting women, which was initiated and led by different levels of government, social groups, well-known enterprises, and so on. Under the guidance of the government, the project had been gradually attracting the participation of the whole society and promoting women's entrepreneurship through community power.

The community is now forming an important source of strength and members gather around this value point. Women achieve their high growth goals that individual entrepreneurs cannot achieve alone and magnify their creativity and abilities by harnessing the power of the community. In the community activities, women can get funding, build contacts, look for mentors and pioneering

career, and gain an access to emotional support through education and training. As a partner or investor, business leaders can share their successes or failures, support female entrepreneurs, achieve resonance in circles and increase the voice of women in the business community.

To understand her own environment and make full use of existing external forces, Leody mentioned her policy needs.

Provide Funds and Resources

In the process of team formation and management, Leody faced the core problem that many entrepreneurs face in the early stage of their business. There is *"huge talent demand"* in the enterprise, facing difficulties of recruiting people and adapting to difficulties.

Thus, in order to help startups to recruit talented employees, governments should give certain compensation subsidies to startups. Governments also need to formulate appropriate policies for resettling their families and children, and provide appropriate incentives for high-end technical personnel management. These policies will promote the early survival of entrepreneurs in their development stages.

Dock Third Party Agencies

Innovative and entrepreneurial businesses have certain market demands for enterprise services from hardware to software, from sales to internal management support mainly in commercial services. The third party service agencies endorsed by the government will be a relatively credible choice for startups.

Build Entrepreneurial Environment and Entrepreneurial Ecosystem

The demands and expectations of the entrepreneurial environment and entrepreneurial ecosystem are not peculiar to female entrepreneurs. More often, the policy demands in this area are common. In the real world, the policy inclination cannot change the competition rules of the business world. It tends to be tenderer to consider this issue from female's perspectives.

At the startup stage, Leody had to do many basic routine works, such as the relocation of the office and exchange of information on business registration, tax registration and so on. Policy supports from the government for startups could relieve some burdens of the type at the beginning. Giving startups a whole guidance and service function is conducive to building a better innovative and entrepreneurial environment.

3.5.3.4 Advice for Women Entrepreneurs

Avoid Design Outsourcing If You Can

It's really hard to find the good UI/UE designer, especially when startups don't have the background and experience in this area. In May 2014, Leody considered outsourcing the design of the product but the result turned out to be troublesome and different from what she expected. At the very beginning, the outsourced design team might make startups feel that they are heavily involved in the product with infinite passion; they might be willing to communicate with startups, to do brainstorming, and to show their professional skills. During this process, startups begin to trust them, but after startups pay to them, things turn out to be different.

When you raise your questions or advice for modification, they tend to persuade you with a variety of professional reasons and logic by saying "it's really unnecessary to change". Sometimes you even feel "they might be right?" In fact, this is an excuse for them to refuse you politely, because they take your product, the outsourced UI/UE, as their profitable project. They only care about the ROI (return on investment, i.e., how to meet your demand with minimum cost), so it's impossible for them to invest unlimitedly, because they do not pursue the perfect product experience as you do. With regards to this, Leody's advice was to avoid outsourcing design if possible.

It Is Best Not to Find a Startup Team in a Production Business Too Early

During the interview, Leody said that her second unfamiliar sector was operation, so she found an operation director through HRD very early in the hope that the team could have less vulnerable part. However, this decision turned out to be her biggest regret. She came to the conclusion that product-based startup teams should not draw special attention to operation before a clear and mature product model is created unless operation is really an indispensable part of the product.

It was meaningless and even exerted a non-negligible negative effect on the team to have the operating officer who talked about idle stratagems but had no effective and feasible strategies. When dealing with and interpreting the company's current situation, he attributed all the problems to the product, keeping complaining and lacking of self-attribution. Instead, it's better to go all out to polish a product first because a good product will release its own attraction.

Stay Away from "Negative Energy"

One of the consequences of starting a business and leading a team is to unknowingly meet many people and agree with many different people. In this process, Leody learned a lesson, which is to stay away from "negative energy."

There is a kind of person in this world, who always habitually see the deficiencies, thinking it is not good and losing confidence in the future. While sticking to the status quo while complaining, the person never put it into action to try to change. And such people are often good at social contact. Because they need to find a variety of objects to complain and talk about, passing the "negative energy" may allow them to get the pleasure and satisfaction. Leody said:

"At first I did not mind at all because I was optimistic and confident. My passion, vitality and curiosity about unknown things had also affected and infected many people. People often ridicule that I am "the generation after 90s" for the mental age. Unfortunately, I have such a person in the team. At first, I would agree with him and think that there are indeed many problems that our products need to be improved. Mobile Internet products and innovations have always been in constant trials and errors and iteration. We judge and find the style that belongs to us from the user's feedback and product philosophy / persistence. But slowly I found that he always like to keep complaining, while consuming the resources and energy of the team, but without results and performance."

Entrepreneurs need to persist in questioning, especially in the initial stages, and they should be careful about negative energy that may bring disaster. At this point, it is dangerous to tolerate a heterogeneous existence without identity.

Keeping an Open Mind

Entrepreneurship is a breakthrough in social restrictions for women who need to break self-limitation. Compared with men, women may need to pay extra energy to get some male subordinates convinced and prove their ability by time and events.

In the process of starting a business and running, women entrepreneurs need to maintain social networks. Focusing on things is not a disadvantage, but a cheerful and open mind can indeed bring more information to entrepreneurs. Female entrepreneurs need to be open-minded and gain more attention. Entrepreneurial charisma will also be conducive to the formation of corporate communication resources.

Social wealth will never be distributed, and the development of enterprises will not happen naturally. Besides being competent and judging, entrepreneurs need to work with capable and judicious persons to form a concerted effort and promote each other.

3.5.3.5 Summary and Discussion

While investigating the case of Leody and AppMagics, and the relationship between them, we saw a picture of a female entrepreneur's leadership which is supported by the growth of a technology-based innovation company. In the whole process of the company's growth, which include the self-renewal of the company, self-improvement of the whole team, and self-exploration of the leader group, they have faced certain self-breakthrough and self-reflection all the way during their self-practice.

There is a relationship between an entrepreneur and a company like a maternal and her baby, and there's even an uncut umbilical cord between them. The idea of an entrepreneur affects the company by all means, the pace of development, the way forward, and the reaction made during the difficult times. The company is a concrete manifestation of the entrepreneurial will. In the process of creating, polishing and operating a business, entrepreneurs shape technology, a product, an influence, a lifestyle, even the way of producing it and sending it to the user. The excitement created by this process of creation and the persistence that such excitement supports will drive the development of an enterprise. The development of individual enterprises in each other's influence, promotes the development of an industry. Enterprise development bit by bit determines the development momentum of an economy.

Women Entrepreneurs Have Contributed More and More to the Economic Development of an Economy

Through research, we further see that female entrepreneurs have made more and more contributions to the economic development of an economy. This trend exists in the world as well as in China. Female entrepreneurs are engaged in the market, and they are more and more calm. With this gradual expansion of the group, female entrepreneurs do not need a lot of great determination or a lot of preparation to make a decision. In particular, women born in 1990s have simpler ideas about starting a business, less concern about risk and stress, and their parents show less concern about their children's entrepreneurial choices.

In the meantime, female entrepreneurs generally did not show a strong "female" label. Instead, many people saw the positive meaning of the label. Due to the physiological factors of women (eg, the natural connection with the next generation), the pressure on women in career development deserves more attention and consideration. Therefore, under the macro-environmental policy of promoting innovation and entrepreneurship, an economy launching appropriate supporting policies considering the characteristics of women will be conducive to continuing to stimulate the vitality of female entrepreneurs.

Feminine Traits Are of Great Importance in the Management of Enterprises

Compared to the observation point of "Show the relative weakness of female entrepreneurs by choosing the female trait that does not fit the trait of the business manager", we may need to clarify whether the "traits" that managers exhibit in management behavior are personal or gender attributes.

As more and more women enter the job market and undertake management positions, we can see the role played by women in business management and the so-called femininity and masculinity complement each other and promote each other in the process of business operations management. The collision of many ways of thinking helps to strike a balance, and the heart of the problem is not convergence but integration.

In the process of business, persistence and endurance will help enterprises face difficulties, solve difficulties and get a real grow up and reach for the thrive. There is a view that a truly powerful manager who often has both gender-specific thinking characteristics and has built a larger field within the individual. Before an entrepreneur reaches this personal realm, the introduction of a female manager for a team helps the team reach a balance, which giving the team a more comprehensive and diverse mindset.

Success Is a Multifactorial Outcome that Can Be Learned but Not Replicated

In studying the success stories of individual entrepreneurs, we can easily find commonalities in them. After classification and analysis, these common factors seem to be able to draw a portrait of a successful entrepreneur.

Conversely, we may also face another awkward situation. When others want to practice their own success through the alignment of these success factors, they may face a severe reality that success is far-reaching and cannot be replicated. Sometimes, in specific cases, we also find that some successful cases may have exactly the opposite performance in some single-factor cases. Thus, we assume that there are a number of factors that may lead to success, and that for each individual they may need to do a free-form combination of these factors.

In Leody's case, many of her qualities are consistent with our impressions of successful entrepreneurs and entrepreneurs, such as positive thinking, energetic, thoughtful, forward-looking and approachable, with a clear goal. She possesses the professionalism that fits her own goal and is able to deal well with the relationship between reality and her dream. She is a realistic idealist. Besides, adherence and confidence are important traits for many successful entrepreneurs.

From this perspective, the important sharing given to other female entrepreneurs is that the factors and traits that determine success are mostly basic and positive. In these traits, there are innate elements and acquired elements which needs self-guidance and perfection. Because the real one-to-one relationship between the actual behavior and the outcome of the success is "unknown," we just need to maintain our confidence, to do the properly grasp the direction and keep our efforts to explore, holding onto our dream and goal.

A Beautiful Era for Female Entrepreneurs

For the female entrepreneur, we face a good era. Policy environment, business environment, together with the female entrepreneurial community environment are creating an unprecedented time for women. There are more and more industries women's entrepreneurship is involved in. Many women including Leody have entered the previous male-dominated industries and performed well.

The female entrepreneur community is also continuously enriched, forming a gathering force for female entrepreneurs to share industry experience, access to information and build a resource system. So entrepreneurs and startups need to establish a connection with everyone and soak you in this era of the Internet.

We live in it and meet an ever-changing future at a faster pace with the impact of Internet technology on the pace of development throughout the entire age. In this general trend, the connection itself produces strength. Under the general background, the development of individuals may have a greater impact that is seemingly unrelated things may be related to you.

Everyone who chooses to enter the track needs to be excited, awake and open-minded while focusing on his own development and at the same time, remember always to leave an eye for the changes of the world around you.

3.6 Case Study of Hong Kong, China³⁸

3.6.1 Profile of a Woman Entrepreneur

A 60-minute interview (via Skype) was conducted with both female founders, Michelle Lai and Ines Gafsi (separately), in February 2018. Both interviewees were sent interview guides that provided a general overview of questions that would be covered during the interview. Other articles and resources were used to supplement the interview contents and are included as part of the research findings and analysis.

About Michelle Lai



Source: <http://www.baccarat-magazine.com/michelle-lai-mischa/>

Below is a brief overview and background of Michelle Lai:

- Name of Founder: Michelle Lai
- Title: Founder & Creative Director of MISCHA
- Nationality: Canadian
- Languages: Chinese, English, and French
- Age Bracket: 35-40 years old
- Education: Degree in Biomedical Sciences from Kings College London

³⁸ This case study was conducted by Stephen Ham, Researcher & Editor, and Teri Ham, Researcher.

Startup Story



Source: <https://www.mischadesigns.com/pages/story>

Michelle Lai's entry into entrepreneurship began organically after her university years. During university, Lai studied bio-medical science and intended to go into medicine as a career. After graduating from Kings College London (in the United Kingdom), Lai worked as a teacher in an international school for a few years. Around this time, she described going through what she termed a 'quarter life crisis' and began reassessing her life and options. She came to the conclusion that she did not want to go into medical research but was not sure exactly which path she wanted to pursue. She decided to take a few years off to explore the world. During her travels in Japan, she began collecting vintage kimonos and obi belts. These textiles became the foundation and inspiration for her first set of clutch handbags. In a 2012 interview³⁹ with Sassy Hong Kong, she summarized her path into entrepreneurship:

"I think it was a natural progression. It started as a hobby—I was traveling and collecting a lot of textiles and I wanted to do something with them. I got the idea that I wanted to make handbags with them and was very passionate about it. I was staying up late at night to sew pieces. Eventually, more clients were calling me, more ideas flooded in, so it sort of happened naturally. Then the tipping point was when I joined forces with my business partner and that's what gave me the push to go full time."

-Michelle Lai, Founder of MISCHA

Lai shared that, at the beginning when she first decided to start her own brand, it was really 'just as a fun thing', 'a labour of love and a creative outlet' for herself and that she made all of the pieces by hand. Lai further described that the beginning of her journey into entrepreneurship began when she took 30 or so of her handmade bags to a Christmas fair in Hong Kong, China. She sold out at the fair and was even able to procure her first retailer. Lai's success at the market became a turning

³⁹ <https://www.sassyhongkong.com/that-girl-michelle-lai-of-mischa/>

point for her to seriously pursue and officially establish her brand MISCHA (which is incidentally based on her childhood nickname).

About Ines Gafsi



Source: <http://few.community/about/>

Below is a brief overview and background of Ines Gafsi:

- Name of Founder: Ines Gafsi | Co-founder: Anna Wong (from Hong Kong, China)
- Title: Co-founder of FEW
- Nationality: French-Tunisian
- Languages: English, French, and Spanish
- Age: 30 years old
- Education:
 - Executive MBA from Sup de Luxe Paris | Field of Study: Luxury Brand Marketing & International Management
 - Bachelor of Science in International Business from Rouen Business School | Field of Study: International Management
- Previous Work Experience:
 - Marketing and PR Director for French Creations
 - Social Media Marketing Manager for Dining Concepts Limited (HKC)
 - Digital Marketing Manager for Maison de J
 - Project Coordinator for Cannes Lions International Advertising Festival
- Volunteer Experience:
 - Social Media Manager for TEDxHong Kong

Startup Story:



Source: <http://few.community/press/>

Ines Gafsi is originally from France and had worked in a variety of positions before deciding to found FEW. Gafsi met her business partner and co-founder Anna Wong at a TED Talk event in Hong Kong, China—Gafsi was a volunteer and Wong was a guest. In an interview⁴⁰ with EntrepreneurHK, Wong described the birth of their partnership as:

“We hit it off straight away, and quickly discovered that our interests aligned. So we thought, why not form our own network? We had the general idea of what we wanted it to be: a forum to meet similarly minded women to network, learn and grow together.”

“We both always wanted to do something of our own, to have more of an impact. If you work for someone else’s vision, it’s hard to give 100 percent of yourself.”

When the co-founders met, they were both trying to find mentors and other successful businesswomen to connect with, but this proved more difficult than they expected. Therefore, the idea for FEW was borne out of a personal need and interest to more easily connect and engage with like-minded women in their community. Since the launch of FEW, Gafsi and Wong have built an impressive following over the past three years. Part of their success may be attributed to their multi-platform approach, which is one of the ways FEW differs from other on-line female entrepreneurial communities. Gafsi emphasized that FEW is one of the only social enterprises that

⁴⁰ <http://entrepreneurhk.org/introducing-anna-wong-and-innes-gafsi-founders-of-female-entrepreneurs-worldwide/>

provides both on-line and off-line connections & resources to promote ‘*Women connection, inspiration, and [empowerment] for entrepreneurial and personal success*’.

In terms of their startup journey, Gafsi and Wong took a more gradual and step approach to entrepreneurship. This allowed them to, in some ways, reduce the initial risk of launching a startup, and gave them the time and experience to fully develop their idea:

“When we started, I think for the first year...we were doing this [FEW] on the side so we both had a full-time job...though we were growing our community and running different events...and really trying to learn also about women...and what they need...”

Gafsi went on to explain how they made the transition from part-time to full-time entrepreneurs and gain the financial support they needed to fully conceptualize their goal of launching a mobile app:

“...we felt strongly about [our idea]...and we were really encouraged by women who tell us that they really benefit from it. So we decided to...make it a full-time job. So we pitched an investor, because obviously we uh needed to support ourselves but we also needed to...we were looking into building the app...”

3.6.2 Profile of a Company

About MISCHA

- Company Name: MISCHA
- CONTACT: SHOP@MISCHADESIGNS.COM
- Company Founded: 2008
- Company Location: Hong Kong, China
- Store Locations: Currently MISCHA products are available through their direct, on-line store, various on-line retailers (5), and in approximately 20 retail stores spanning 7 economies (including China, Hong Kong, China, Indonesia, Japan, Singapore, Malaysia, and the United States).

Table 3. Stores and Details of MISCHA

STORE	Details ⁴¹
DIRECT ONLINE RETAILERS	https://www.mischadesigns.com AHA Life - www.ahalife.com/mischa Kapok - www.ka-pok.com Lane Crawford - www.lanecrawford.com Soon Lee - www.soonlee.sg Spring - www.shopspring.com
CHINA	Lane Crawford: Shop L302-303 & L401, Chengdu IFS, No.1 Section 3 Hongxing Road, Chengdu
HONG KONG, CHINA	Kapok: 5 St. Francis Yard, Wan Chai Kapok crafted in HK - G/F, Shop HG10-12, 35 Aberdeen Street, Central Kapok Tools: Shop 101, 1/F, K11 Art Mall, 18 Hanoi Road, Tsim Sha Tsui Lane Crawford: 1 Matheson Street, Times Square, Causeway Bay Rue Madame: Shop 3082A, IFC Mall, 8 Finance Street, Central Rue Madame: Shop 117-118, 1/F, Lee Gardens Two, 28 Yun Ping Road, Causeway Bay. Tel: 2972 2021
INDONESIA	Sogo: Plaza Senayan, Jl Asia Afrika No 8, Jakarta Pusat 10270 Pondok Indah Mall, Jl Metro Pondok Indah, Jakarta Selatan 12310 Souq Bali: 10 Jalan Basangkasa, Seminyak, Bali
JAPAN	Middi Japan: 1F 5-16-11 Minamiazabu, Minato-ku Tokyo. Rakuten: Haitсу Shirakawa 1F, 2-2 Nodacho, Ichijoji Sakyoku Kyotoshi, Kyoto SUD et NORD: Sakaechika, 3-4-6, Sakae, Naka-ku, Nagoya-shi, Aichi-pref, 460-0008
MALAYSIA	Robinsons: The Gardens, L1-2, Lingkaran Syed Putra, 59200, Wilayah Persekutuan Kuala Lumpur
SINGAPORE	Kapok: #01-05, 111 Middle Road, National Design Centre, 188969 Isetan Scotts: Level 3, Shaw Centre, 350 Orchard Road, 238868 Robinsons: The Heeren, 260 Orchard Road, 238855 Rue Madame: 391 Orchard Road, #03-13C, Takashimaya Shopping Centre, Ngee Ann City
UNITED STATES	Monograms off Madison - 29 East 93rd Street, New York, NY 10128 Underground Fashion - 6, 316 Gifford Street, Falmouth MA 02540, Tel: 508 I 524 I 1782

⁴¹ <https://www.mischadesigns.com/pages/stockists>

When Michelle Lai first launched MISCHA in 2008, the company started as a handbag company but has since evolved over the years to include a variety of products including: totes, shoulder bags, carryalls, and accessories (clutches, cardholders, wallets, keychains). In a 2015 interview with Post Magazine, Lai shared:

“Started with handbags but I think that’s just the beginning. I want it to become a lifestyle brand encompassing more product categories. Eventually, I want it to incorporate aspects of wellness and education. We’re launching our own scented candles and there’s more to come”(Zhang, 2015, para. 6).

Over the years, MISCHA has become known for its distinct and unique hexagon print. The brand can best be described as timeless, chic, and versatile, and is intended for the on-the-go woman looking for classic, modern pieces that are stylish yet practical. Lai designs for the ‘global citizen’, as she herself is an avid traveler who has lived around the world. Below are some pictures from MISCHA’s lookbook which highlight the company’s signature print and brand image:



Source: <https://www.mischadesigns.com>

Founder and Company Achievements:

- Featured in Forbes's article on 'How Asia's Bag Business is Making it Globally'⁴² as one of Asia's successful global handbag brands.
- Numerous press features from 2009-2018 including in such notable magazines as: Forbes, Vogue, WWD, Harper's Bazaar, ELLE, People, and Marie Claire, to name a few.
- Re-taking full financial ownership and creative control of the company (2015)
- Featured in Star World TV's 'Inspiring Women' special (2014)
- Invited Speaker at TEDxYouth Hong Kong (2013)
- MISCHA's e-commerce store launch (2013)
- MISCHA's launch in Lane Crawford
- MISCHA's launch of the 'Travel Series' featuring their signature hexagon-print and tote bags (2011)

Philanthropy Work

As previously mentioned, before founding MISCHA, Lai worked as an educator at an international school. Despite transitioning into fashion and design, education has remained close to Lai's heart, so much so that she formed a collaborative partnership with a global non-profit called Room to Read⁴³. The organization promotes literacy and reading habits among primary school children and secondary-aged-school girls from low-income economies and hopes to reach their goal of supporting 15 million students/children by the year 2020 (Room to Read, 2018). The below excerpt⁴⁴ is taken from a letter written by Lai on the company's website explaining their partnership with Room to Read:

"Or me, learning is a lifelong goal and this belief has led to our partnership: each MISCHA sold online funds one day of school with Room to Read."

"... With our partnership, our goal is to fund 10,000 days of school in our first year. A heartfelt thank you for helping us continue this virtuous cycle."

Crossover

As Michelle Lai is a female founder in Hong Kong, China, and FEW is a Hong Kong, China based organization supporting female entrepreneurs, it is not surprising that there would be some crossover between the two founders/companies. In fact, Lai is featured in a FEW article⁴⁵

⁴² <https://www.forbes.com/pictures/ehil45hgl/mischa-by-michelle-lai/#d82ecd53c017>

⁴³ <https://www.roomtoread.org/about-us/>

⁴⁴ <https://www.mischadesigns.com/pages/room-to-read>

⁴⁵ <http://few.community/stories/where-few-women-shop-for-stylish-business-clothes-in-hong-kong/>

published on their website titled, ‘How FEW fashion entrepreneurs dress for success’. In our interview with Lai, she also mentioned and praised the contributions of FEW to the entrepreneurial community in Hong Kong, China.

About FEW

- Company Name: Femalentrepreneurs Worldwide (FEW)
- Website: <http://few.community>
- Contact Information: hello@few.community
- Company Founded: 2015
- Company Location: The Hive, 14F, Manning House, 38-48 Queen's Road Central, Hong Kong, China

About the Company:

Female Entrepreneurs Worldwide, or FEW as it is called for short, is a social enterprise that is ‘an international female-founders platform to connect, inspire and empower women for entrepreneurial and personal success’⁴⁶. Community members, or ‘corporate partners’ as FEW refers to them, have access to a myriad of resources aimed at supporting, educating, and connecting female entrepreneurs, leaders, and/or professionals. This includes both on-line and off-line events. Since their inception, FEW has already garnered a following of more than 5,000 registered members.

Although FEW can still be considered a relatively young startup, the founders have covered a lot of ground in the first few years of their launch and have even bigger plans for the future. Currently based in Hong Kong, China, FEW recently expanded into Greater China and hopes to continue to grow globally. Recent milestones mentioned by Gafsi include:

“The first milestone...was building the mobile app. Now...we’ve launched in China... I think next month we will be ready to...[open] in different economies...”

Gafsi further explained that their goal and aspiration is to become a ‘global community’ and platform that can connect women from around the globe.

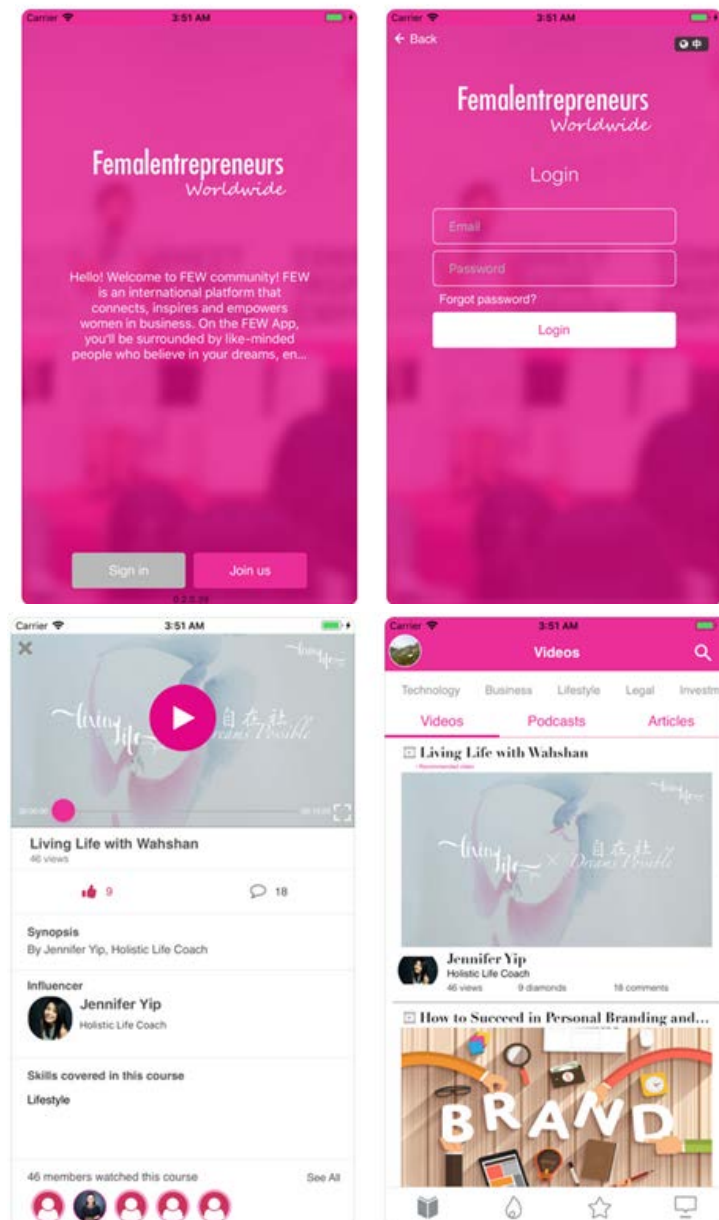
As mentioned by Gafsi, the launch of FEW’s mobile app is notable and a major accomplishment and will further allow the company to reach and support their corporate partners beyond face-to-face events. The two main functions of the app are to: (1) educate and (2) facilitate networking. The content provided includes: curated educational resources, videos, podcasts, articles, and other

⁴⁶ <https://itunes.apple.com/us/app/few-community/id1300620831?mt=8>

inspirational materials. The app is intended to help members easily and quickly access information that they might need to run their business including: marketing & communications guidance, investment advice, financial, legal, & compliance information, as well as access to other technical resources.

Below are a few screenshots of the app that are displayed on iTunes:

iPhone Screenshots



Source: <https://itunes.apple.com/us/app/few-community/id1300620831?mt=8>

General Facts

According to the FEW website, more than 80 percent of their community members/event attendees are: business professionals, investors, entrepreneurs, and business owners, many of whom hold upper level management, executive, or CEOs positions within their organisation. Further statistics on the breakdown of past event attendees include⁴⁷:

- Ranging in age from 25 to 45 years old and coming from a global and diverse background
- 30 percent are founders of startups
- 30 percent are female owners of well-established businesses
- 20 percent are C-suite level executives or senior decision makers of large corporations
- 10 percent are angel or venture capital investors/incubators/accelerators
- 10 percent are social influencers or media

Founder and Company Achievements

- Reaching over 5,000 registered members (as of 2018)
- Named by Hong Kong Tatler as ‘10 Female Entrepreneurs In Hong Kong, China You Need To Know’⁴⁸ (2017)
- Building and launching the FEW mobile app available on iTunes for iOS devices (2017)
- The launch of FEW in Greater China (2017)

3.6.3 Findings

3.6.3.1 Success Factors

Contents from both interviews with the two female founders were analysed to ascertain overarching themes and factors that contributed to the success of both startups. The below six categories explain in further detail how and to what extent these factors played in helping both entrepreneurs achieve their goals and vision.

Leveraging ICT Technologies

As conveyed, one of the main research objectives of this study is to better understand how entrepreneurs are actively using and leveraging ICT technologies to develop and grow their

⁴⁷ <http://few.community/about/>

⁴⁸ <https://hk.asiatatler.com/generation-t/10-female-entrepreneurs-in-hong-kong>

businesses. This sub-section will explore: what technologies both companies use, how they use them, and for what purpose.

MISCHA

Lai described that her previous business model relied more heavily on industry and trade shows to build brand awareness and generate sales. However, in recent years, Lai has kept pace with market changes and has turned to various technologies to help her grow and support her business.

‘I think without technology, we should have shut our doors already...We launched our e-commerce store in 2013. That was kind of the first step. ...2013 is when we kind of started consistently using Facebook and Instagram as a tool to communicate with our customers. And that’s when we launched...an e-commerce store on our website. Previously it was just a website. ...now its unimaginable that a fashion website would not have its own e-commerce site...’

As for MISCHA’s digital strategy, Lai Shared:

‘...[I’ve become] very data driven. So now...the first thing I look at every morning...how many on-line sales did we do...and google analytics, I look at the traffic, I look at where [the customers] are coming from, I look at what they are looking at...’

‘we’re really...being creative in the digital space and social media marketing to reach our customer directly.’

‘we always do a little bit of a makeover on our website every couple of years.’

ICT in general has allowed Lai to be agile and quick to respond to customer needs and trends. Going to a direct model and using social media & other data analytic tools has given Lai ‘direct visibility of what sells well, what doesn’t’ and has allowed MISCHA to ‘service [customers] much better than...most retailers [are able to] do’. While a strong e-commerce and on-line presence is an important and core component of MISCHA’s strategy, Lai still recognizes the importance of physical retail stores because it gives the customer an opportunity to discover, touch, feel, and experience the brand for themselves before they make a purchase.

In terms of internal ICT-related tools, Lai shared that her team leverages the following:

- MONDAY⁴⁹ (AN INTERNAL TEAM, PROJECT MANAGEMENT TOOL)
- EMATIC⁵⁰ (AN ARTIFICIAL INTELLIGENCE TOOL FOR E-MAIL MARKETING)
- XERO⁵¹ (AN ONLINE ACCOUNTING SOFTWARE TOOL FOR SMALL BUSINESSES)
- MailChimp⁵² (for e-mail marketing)
- Shopify⁵³ (an e-commerce platform for online stores)

FEW

In terms of internal communication tools, Gafsi cited that the team leverages WeChat, a mobile application that was initially developed and released by Tencent Inc. (a Chinese company) in 2011⁵⁴. But where FEW really leverages ICT technologies to their advantage is on their business development side.

For FEW, ICT has played a major role in their business platform, development, reach, and influence. As previously mentioned, one of FEW's major accomplishments and milestones has been to launch their mobile app which became available in November 2017. Gafsi explained the rationale behind launching their app:

'Because we were doing so many off-line activities like seminars and conferences, we found that it was quite limiting, and that is why we decided to launch a mobile app...so that we wouldn't have any I guess barrier in terms of the connection. So, all our community now is connected through our app. So women from all around the world can actually get in touch, do potential collaboration, do business together...'

The app is available in English and Chinese, which plays into helping the company achieve their goal of penetrating the greater market in China and establishing themselves as an expansive, global, social enterprise. And even though the app just became available a few months ago, Gafsi and the FEW team are already looking to expand and evolve its functionality:

'The real purpose of the app is also to really focus um on now connecting our community with investors and media friends. So this is really...the two ways we truly help women...is to build these kind of connection that they truly need for their business.'

⁴⁹ www.monday.com

⁵⁰ <https://www.ematicolutions.com/>

⁵¹ <https://www.xero.com/>

⁵² www.mailchimp.com/s

⁵³ www.shopify.com/

⁵⁴ <https://web.wechat.com/>

‘...for our corporate members...corporate partners...we give them access to our database. But in the future, on the app, this is our aim...is to basically have a certain algorithm that will match you [the entrepreneur] with the right investor.’

-Ines Gafsi, Co-Founder of FEW

Choosing the Right Business Partners, at the Right Time

Both entrepreneurs have shared different benefits and aspects of forming the right business partnerships at the right time.

Earlier, it was stated that ‘the tipping point’ for Lai to pursue MISCHA full-time was in part due to joining forces with her then business partner. She also stated that prior to bringing on her angel investor, who was also her friend, she could not scale. But through her partnership, she was able to do her ‘first larger-scale production...and take on a kind of office—a place to work from...and...hire staff...and do commercial activities like tradeshow’ which allowed Lai to scale her business and increase brand awareness.

Gafsi also shared her story of choosing a complementary business partner:

“Anna...started two other businesses before. Anna brought a lot of experience...because she went through already all the hassle of trying to build a platform. Her past business...it was like a social hiring platform...she basically worked with a tech team, she raised funding before. So obviously all that experience that I didn’t have was tremendously helpful for our business. So her background is in PR and my background is more in digital marketing.”

While meeting the right partner is a key lesson for any entrepreneur, another point that can be gleaned from the case study is also acknowledging when it is time to part ways. Lai shared her experience of making the transformative decision to buy out her investor/partner so that she could take sole control over the future and direction of MISCHA:

“...Then I bought out my partner...investor in 2015...I think as you run your own business...you learn to trust yourself...and your decisions...and...acknowledge your mistakes. And so when somebody is no longer in line with you, um, or your business direction, um, and they’re unreconcilable differences, you have to part ways.”

This change also led to a re-brand, where Lai was able to ‘clean things up a bit’ and:

“[pivot] to an on-line...e-commerce...direct to customer brand. Going forward that is the model I will be using.”

Location

Earlier research in the first section has pointed out several benefits that Hong Kong, China possesses as a place to start a new enterprise. Both founders have supported this, and shared their thoughts on the pros of launching in Hong Kong, China.

“Hong Kong, China is actually now getting much much better than it used to be...in 3 years we’ve seen so many coworking space, so many startups events.”

-Ines Gafsi, Co-Founder of FEW

Lai commented that:

“There is...a really big startup scene here. And a lot of the corporates um incubate startups, especially in tech. ...there is the RISE conference here...that happens every year in Hong Kong, China.”

“There is a lot of business that is happening here. ...female entrepreneurs, sure. I don’t think...it has anything to do with whether you are female or not. It’s really a place that people like to do business. ...There is a very low barrier to entry...it doesn’t cost very much to set-up a company, open a bank account, register a business. ...you are kind of in a hub where...you are very close to China or Asia, or India...where you can source things very easily. Logistics is amazing here. It’s a logistics hub. You’re kind of in a place where it’s quite easy to get in touch with people who make decisions. So if you want to get anything done, Hong Kong, China is a great place to be.”

Networking with the Right People

While networking is not a new or groundbreaking concept when it comes to career success, it is a common, recurring, and fundamental component that is often cited by leaders. This case study reaffirms such assumptions as demonstrated by the below quotations.

“We are very good at engaging with the right people. We know how to leverage our network and build various strategic partnerships.”

-Ines Gafsi, Co-Founder of FEW

“People in Hong Kong, China are very transparent in giving tips and advice, including touchier subjects like on how to get funding. There’s solidarity in the community. If you ask questions you can get answers!”⁵⁵

-Ines Gafsi, Co-Founder of FEW

⁵⁵ <http://entrepreneurhk.org/introducing-anna-wong-and-innes-gafsi-founders-of-female-entrepreneurs-worldwide/>

“What I’ve experienced is, that people are mostly um willing to help you and introduce you to the right contacts as long as it doesn’t...conflict with their own interests.”

– Michelle Lai, Founder of MISCHA

In terms of Hong Kong, China’s specific female entrepreneurship climate/community, both female founders had this to say:

“There are incredible women in Hong Kong, China you just need to network and meet someone.” ⁵⁶

-Ines Gafsi, Co-Founder of FEW

“There’s a lot of collaboration and great work done in town to support women.”

“We do a lot of collaborations and we never really experience much reluctance from any of the women in the community, so I would say they’re very open to collaborations”

-Ines Gafsi, Co-Founder of FEW

Know and Listen to Your Customer

Currently the majority of FEW’s corporate partners gear towards a younger demographic. The average age of community members is 30-35 years old, and as such, FEW has chosen to go with a more affordable pricing model as explained by Gafsi:

“Our pricing model is really quite affordable...for the whole year, we’re looking at less than 3000 Hong Kong dollar. We’re obviously not focusing on very young entrepreneurs, more millennials and I think women...a lot of our members are women who want to scale up, they’ve already started their business...that’s also kind of our main target.”

-Ines Gafsi, Co-Founder of FEW

Lai has also been very focused on understanding and connecting with her customers throughout the evolution of her company. At the beginning, Lai responded to feedback from her customers when they told her:

“Look Michelle...we are not going to dinner parties every night, we need something that we can wear everyday...because you know for work, we travel a lot, or we need to go to the gym, or we need to take our kids to school...we need something for everyday... We need something that is different, we need something that is MISCHA, can you design something for us?”

⁵⁶ <http://entrepreneurhk.org/introducing-anna-wong-and-innes-gafsi-founders-of-female-entrepreneurs-worldwide/>

“So I kind of took that to task...”

-Michelle Lai, Founder of MISCHA

In recent years, as explained in the ICT sub-theme section, social media and MISCHA’s on-line store has helped Lai stay in tune with her customers’ needs and preferences and freed her from ‘buyer’s whims and merchandiser’s whims’. Lai pointed out that she speaks ‘directly with [her] customers’ and shared that they often ask:

“Michelle can you do something like this, or this was great, or can you do something more like that...”

As a result, MISCHA has enjoyed a high rate of repeat customer business.

Find Out What Works for Your Brand

In addition to knowing and listening to your customer, Lai has also demonstrated the need for entrepreneurs to find out what works for them as a brand. Lai has placed importance on creating a distinctive brand image that is both unique and appealing:

“...It became kind of my mission to create something that uh was like an Asian heritage brand. I mean a heritage brand with an Asian soul. And it doesn’t exist [elsewhere] still, I don’t think. I’m really into kind of heritage brands...timeless, classic design...I don’t really follow the run-way trends...I think it’s kind of an unsustainable kind of model.”

“I don’t like the cyclical...what’s next, what’s new. And so that is what my brand stands for...a symbol of longevity is what I used as the basis of um this hexagon print that you see now...that is kind of the pillars of my brand.”

-Michelle Lai, Founder of MISCHA

3.6.3.2 Challenges

While the previous section extrapolated on the factors contributing to the leaders’ success, this section will conversely detail some of the major challenges encountered by the founders. The below six themes were seen as major obstacles that the female founders faced during their entrepreneurial journey.

Funding

One area that arose from the interviews as needing more attention and focus is the poor investment climate in Hong Kong, China.

“Fundraising is still a problem...investors here are quite traditional. So they will not necessarily go for a two-concept type of investment yet. I think it’s changing a bit but...it’s still not the best environment.”

-Ines Gafsi, Co-Founder of FEW

In Lai’s case, her venture was initially self-funded—which led to the aforementioned scaling issues and eventually led her to forge a partnership with an angel investor as relayed above.

Hiring

Another common theme that emerged was the issue of hiring. The below quotations provide further insight on some of the challenges entrepreneurs in Hong Kong, China face:

“I think major challenge is always to find a team. You know, the right people to build your business. Especially because...even if...we have a very large network, we don’t necessarily have the budget initially. So we are looking more for a young talent...and this is not always easy to find, especially if you want to invest in someone that will stay.”

-Ines Gafsi, Co-Founder of FEW

Lean budgets and staffing challenges mean that founders must be willing to adapt and be flexible & resourceful:

“You always have to wear kind of...all the hats. So when you have to you know, actually...get the numbers...do the accounting...all the legal side as well...when you start it’s...very new, so you learn along the way.”

-Ines Gafsi, Co-Founder of FEW

Lai also shared that as a startup she made the decision to keep her team ‘very trim’. She also noted that the economic downturn in Hong Kong, China had a ripple effect on her business and caused her team to shrink and grow in accordance with local economic conditions.

Brand Protection, Strategy, and Content Creation

In the early years of MISCHA, Lai shared some issues she encountered with brand protection:

“There was one particular retailer who started copying my bags and selling them in the same store. I was...flattered, but also furious. It was a lot of learning organically along the way.”

“...In fashion and design, trademarking is very tricky.”

-Michelle Lai, Founder of MISCHA

But Lai learned from past difficulties. And when Lai designed her signature hexagon print, the first thing she did was to trademark both it and her brand name.

Gafsi also concisely laid out some of the overarching issues that FEW has faced as it continues to develop their content and business strategy:

“We find it hard to stick with one plan.”

“You have to reinvest yourself constantly to stay up to game, you know?”

‘You have to learn ways to keep engaging and create buzz, really, around your business, constantly.’

-Ines Gafsi, Co-Founder of FEW

While Lai did not expressly state challenges with content creation, she did recognize the need to keep customers interested and engaged.

“...We started shooting our own visual content as well, because Facebook and Instagram demands...constant new content...”

-Michelle Lai, Founder of MISCHA

One of the ways Lai has expanded her brand and digital strategy has been to add a travel, wellness, & entrepreneurial themed blog to MISCHA’s webpage.

“As an e-commerce business...I think you have to function quite differently because you can’t just have an e-commerce site where people come to buy stuff. And I wanted to do more than that. I have interests more than handbags. ...Now we have like a schedule, an editorial schedule, themes and everything...I wanted people to come to my website and use it as a resource...”

-Michelle Lai, Founder of MISCHA

Software Development

Software development needs are seen as a major pain point for many entrepreneurs, including the female founders we interviewed.

While technology can improve efficiency & market reach and positively contribute to business development, the issue is that the development of mobile applications is still not as easy as building

other types of software such as websites. While there are tools like WordPress⁵⁷ and Squarespace⁵⁸ (which FEW used to build their homepage) to help small enterprises build webpages quickly and without a lot of technical expertise, there are not as many comparable tools available to help entrepreneurs develop mobile applications. Gafsi relayed some of the struggles FEW faced in launching their own application:

“The app actually took us a whole year. And most of the investment we had...went for it and obviously building our team.”

“To be honest we’ve seen a lot of different potential vendors. And I think the main problem is always...budget. But also finding someone reliable and someone that really know the technology you’re looking for...is quite difficult. Our app is...designed for China market. It means in terms of coding you need someone to understand this also...the way Chinese developer would do the app. So, there was a lot of criteria we needed that were very difficult to find. So actually, at the end of the day, we decided to...grow our team internally. So even if we outsource, for the phase one um of the app, we now um actually gonna have someone joining our team full-time as CTO who used to be working at Huawei. So, he has complete experience on China market and how to...do everything that we really needed...”

-Ines Gafsi, Co-Founder of FEW

Lai also shared pain points related to software development:

“... We use Shopify...which is the uh first kind of platform that I ever used. Because I had a very bad experience with dealing with web developers. I was much less tech savvy then. So I paid a whole load of money to these developers that took ages to deliver and under-delivered. Another lesson I learned was that if you don’t like it, you need to do it yourself. So um I learned Shopify and...set-up...our first website and I never looked back.”

-Michelle Lai, Founder of MISCHA

Gaps in Business & Technical Skills

While a lack of foundational business skills is not a problem that the FEW founders have faced, Gafsi has seen this as a gap in Hong Kong, China’s female entrepreneurial community. Ironically, this skill gap has actually presented the foundation and business need for an organization like FEW—and is something that the startup intends to address through its model:

⁵⁷ www.wordpress.com

⁵⁸ www.squarespace.com

“They [women entrepreneurs] have a need to learn how to do business in general. We are actually kinda building a school for how do you speak, how do you negotiate, how do you pitch?”

-Ines Gafsi, Co-Founder of FEW

“Women tend to...get a bit shy in negotiations or don’t want to come across as too aggressive”

-Michelle Lai, Founder of MISCHA

It is surprising is that even with the deluge of all of the on-line resources and massive open online courses (MOOCs) available today, Gafsi has still noticed the trend and need among female founders for more content, education, and training.

“...Digitally speaking, a lot of women are lacking training. So they want to learn how to do their social media, how to create content that stick with their audience, how to build a website, all those kind of...skills are very much lacking, and they are very much lacking of that here.”

-Ines Gafsi, Co-Founder of FEW

Such assertions reinforce that in today’s modern landscape, it is essential for entrepreneurs to have access to resources that help them quickly grow their business and technical acumen to do so.

Realities of Entrepreneurship

Neither of the female founders relayed any regrets or negative feelings about being an entrepreneur, and in fact conveyed deep passion and gratitude for the path they have chosen. However, the life of an entrepreneur is not always easy and smooth. In external interviews, both founders were frank about the realities and downsides of running a startup:

*“It’s stressful, you make a lot of sacrifices and you don’t ever switch off. It’s a challenge to balance different aspects of a creative business and life. I don’t want to complain too much because I get to do things on my own terms and meet so many amazing people. If your heart can handle it, it’s a roller-coaster ride every day.”*⁵⁹

-Michelle Lai, Founder of MISCHA

⁵⁹ <http://www.scmp.com/magazines/post-magazine/article/1729171/interview-michelle-lai-mischa-being-fashion-independent>

On their life as entrepreneurs both Wong and Gafsi had this to say:

“Entrepreneurship requires you to work around the clock. There isn’t a time where you clock in or clock out; if that’s something you want, then corporate is much more suited.”⁶⁰

-Ines Gafsi, Co-Founder of FEW

While this specific sub-theme is not a pellucid representation of the challenges of entrepreneurship, the sentiments shared by both leaders do make the realities of life as a founder more compendious.

3.6.3.3 Policy Recommendations

Based on the case study findings and foundational research in ‘Section I’ & ‘Section II’, the below three policy recommendations are recommended for Hong Kong, China leaders as they form strategies and devise programs to better support their female entrepreneurial community.

Increase in Modernization

“We work quite closely with the government. We do big events with them, we do referral, but...I don’t think there’s much effort by the government. It’s just a small group of people dedicated to it. It’s a bit outdated in my opinion, the way they do it. Not modern, and not really efficient. There’s a need for more...as I say, digitalization.”

-Ines Gafsi, Co-Founder of FEW

Lai agreed with Gafsi and stated that government programming is tedious and bureaucratic, which is a roadblock for startups because entrepreneurs ‘don’t have time for that’.

Greater Promotion and Awareness of Generally Supported Programs

While the government does provide such programming like CEF, which was explained earlier in the economy information section, Lai stated that ‘not a lot of people know about it’. Lai herself did not leverage this program and paid for educational expenses out of pocket to learn Adobe Illustrator, Photoshop, and web design.

Lai went on to state that the most valuable and frequent program she has used has been the SME Fund that the member economy government gives to businesses for certain activities like advertising, building a website, tradeshow, etc. However, Lai stated that this program is also ‘not well marketed’ and that most entrepreneurs she knows ‘have no idea about this money that they can have access to’.

⁶⁰ <http://entrepreneurhk.org/introducing-anna-wong-and-innes-gafsi-founders-of-female-entrepreneurs-worldwide/>

Increase in Resources, Including:

Findings from the case studies support the need for the following resources. Given Hong Kong, China's laissez-faire policy stance referenced in Section I & II, the following improvements are suggested:

...more financial support and access to funding for female entrepreneurs. In linking back to the beginning background informational sections, low levels of diversity among the female entrepreneur population may be connected with the general lack of available venture capital funding for female business owners.

“Fundraising is still a problem...investors here are quite traditional. I think it's changing a bit but...it's still not the best environment.”

– Ines Gafsi, Co-Founder of FEW

Lai noted that:

“Rental in Hong Kong, China is very expensive. So it's a huge barrier for many businesses who want to have retail or office space. There are some schemes where the government has provided subsidized office space, or subsidized retail space, but it's still not that affordable.”

–Michelle Lai, founder of MISCHA

...connecting entrepreneurs with developers. From the case study, findings have revealed that finding affordable developers who also have the right knowledge base is a common struggle for entrepreneurs. Gafsi reiterated this by saying:

“It is a struggle for a lot of women [finding the right developers]. There is more and more um support...we found now um...we actually have some partnership with...some organization that help you to find reliable programmers and developers in Southeast Asia...but it's still a struggle though. We actually want to try and solve that part as well because we found many women uh facing this problem.”

–Ines Gafsi, Co-Founder of FEW

While Gafsi did point out that there are resources to address this common problem, the government can help propel such efforts by addressing this gap in future policy plans.

...more educational programming for young women. While programs targeted towards female entrepreneurs is important, education does not need to be limited to established owners but can

also be integrated into secondary and university levels. And hopefully by doing so, this will help girls to become more familiar and eager to pursue careers related to ICT and entrepreneurship. Case study findings do reveal that entrepreneurs are noticing a shift in educational content provided. Gafsi noted the positive trend of universities in providing more education around entrepreneurship:

“This year in universities...a lot of programs now...are on becoming entrepreneur, so I think a lot of universities are trying to educate younger people because they see that there’s rising interest.”

-Ines Gafsi, Co-Founder of FEW

This may be an area that policymakers may want to further focus on to not only address current interest and properly prepare the economy’s next generation of leaders, but also as a means of helping Hong Kong, China to establish itself as Asia’s premier startup hub.

Many of the policy recommendations can be traced back to the laissez-faire policy stance taken by the member economy government as explained in Sections I & II. While numerous positive aspects have been cited regarding the government’s more hands-off attitude, the above areas do warrant concern and are suggested as focus areas in future policy discussions. In summary, where the government can take a more proactive stance to further grow and foster the local entrepreneurial community is through: (1) taking a more modern approach and reducing bureaucracy, (2) expansion and greater promotion & awareness of generally supported programs, and (3) increasing resources and support related to funding, ICT skills/needs, and educational programming. Hong Kong, China does appear to have numerous advantages that make the member economy a ripe backdrop for entrepreneurship. However, these policy recommendations and identified gaps have been suggested to further develop and advance the economy’s female entrepreneurial community and address the concerns & needs cited by the founders interviewed.

3.6.3.4 Advise to Women Entrepreneurs

The below quotations have been shared by both female founders as tips and advice they would offer to other women seeking or struggling with entrepreneurship.

Trust Your Instincts

“My past...has taught me to trust my instincts and also to come up with creative solutions and be very flexible.”⁶¹

-Michelle Lai, Founder of MISCHA

Don't Be Afraid of Making Mistakes

“Don't be afraid of making mistakes, they're the lessons you'll remember most. Also, whatever you do, perseverance is vital.”⁶²

-Michelle Lai, Founder of MISCHA

Learn and Grow from Others

“...become friends with people who are not your age. Hang out with people whose first language isn't yours. Get to know someone who doesn't come from your social class. This is how you see the world. This is how you grow.”

-Ines Gafsi, Co-Founder of FEW

Do Something Different

“...to create a different tomorrow, you must do something different today.”

-Ines Gafsi, Co-Founder of FEW

Stay Focused

“...focus on your goal. Don't look in any direction but ahead.”

-Ines Gafsi, Co-Founder of FEW

Leadership Style Tips

“We listen to ideas. Our team is quite young...and some are even younger than us, so we definitely listen to them because they are the one having the energy...and also the creativity. Someone who is 26 will definitely teach you something.”

-Ines Gafsi, Co-Founder of FEW

“We care to build almost like a family kind of environment for employees. We try to organize learning experience for them...in the maximum of interesting way...for them to grow.”

-Ines Gafsi, Co-Founder of FEW

⁶¹ <http://www.scmp.com/lifestyle/article/1095862/mischa-founder-michelle-lai-dreams-big>

⁶² <http://www.elle.my/life-and-love/Career-and-Money/How-I-do-it-Michelle-Lai-Mischa-bags>

Cultural Implications and Gender

In examining the entrepreneurship climate of an economy, it is important to understand any cultural implications that could affect trends and policies. Gafsi shared her viewpoints as a foreigner who has lived and worked in Hong Kong, China, by explaining:

“It might be on the culture side. It might be sometimes difficult for some women to actually become entrepreneur even if they have a dream. Most people when they graduate, their parents really push them to make money...”

-Ines Gafsi, Co-Founder of FEW

However, Gafsi has observed that this cultural impediment has produced an interesting new trend. Among FEW’s registered users, Gafsi has noticed that previous bankers, lawyers, and corporate professionals are now making the leap into entrepreneurship.

“It’s very fascinating that we see most of our members are actually more ex-bankers, ex-lawyers...because it was the safest, you know.”

-Ines Gafsi, Co-Founder of FEW

She further explained that women from successful, established corporate careers feel more comfortable making the transition into entrepreneurship, even if it comes later in life, because they tend to have more confidence in themselves and have some level of savings—which makes the decision to make a career change seem less risky. This point was also supported by the research included in Section II.

In terms of how culture, gender, and discrimination intersect and play out in Hong Kong, China, Gafsi had this to say:

“Women here are quite strong, although the numbers of...sexual harassment and those kinds of things are quite scary here...in the corporate world. But I don’t think it is a case for entrepreneurs. And I think, women here do not really experience such problem. We don’t really see too much discrimination in that sense. I see Asia is very different from the US or Europe. It is not necessarily in the startup world, it’s much more in the corporate world.”

-Ines Gafsi, Co-Founder of FEW

Lai also stated that she herself has never experienced any gender discrimination as a female entrepreneur but has also heard that gender discrimination is much more prevalent for women working in the financial industry. In the future, policymakers may want to explore and research if there is any substantial correlation between women seeking entrepreneurship as a means of

escaping Hong Kong, China's glass ceiling and the pervasive culture of sexual harassment within the corporate world. Such thoughts and questions could prove valuable and impact the types of policies and programs offered by the government. One interesting point both founders alluded to is that women entrepreneurs tend to undervalue their accomplishments and as Lai states, may in fact effectively 'discriminate against themselves'.

3.6.3.5 Summary and Discussion

The main focus and purpose of this research study has been to ascertain success factors and challenges/obstacles for female founders in Hong Kong, China, while at the same time better understanding the role that ICT has played in helping women to launch and grow their businesses. The intention is that these economy findings can further help policy leaders better understand local strengths and gaps, and use such information to promote integrated ICT and entrepreneurship policies moving forward.

Generally, the case study findings show that even though both female founders come from different nationalities and industries, there are many similarities between them that may have played a factor in their success. Both women are relatively young but are also experienced, well-educated, eloquent, multi-lingual speakers who also happen to be global citizens. In addition, both founders have communicated a deep passion for what they do and displayed an open & flexible approach to their businesses by taking a learn by doing approach. This was coupled with an attitude of always trying to turn challenges into strengths. And finally, both leaders have placed a premium on making sure that their internal practices/infrastructure, business approaches, and marketing strategies are relevant, current, and in sync with the economic and social landscape. This was evident in their appreciation and aptitude of technology to enhance their business, content, and product offerings. Both leaders were quick to adopt & integrate technological tools, and regularly sought out ways to do things better, faster, and cheaper by leveraging various marketplace platforms, programs, apps, and ICT services.

In terms of how the leaders leveraged technology from a business perspective, the case study supports that ICT has enabled both entrepreneurs to more easily & effectively penetrate global markets, increase their coverage & customer base, and strengthen and diversify service/product offerings. In this modern business landscape, more and more tools are becoming available which help entrepreneurs to accomplish business goals in shorter periods of time at lower costs, with less inherent or in-house technical expertise. This is an important point for policymakers, and one that is especially relevant for Hong Kong, China's developed and advanced market, as this reiterates the importance & need to educate and equip both future female leaders and current entrepreneurs in pertinent technologies that they will need to survive and stay competitive. In advanced

economies, especially in terms of ICT, and for economies with large pools of a skilled and educated workforce, it may be easier for policy leaders to assume that less work needs to be done to promote ICT related training and programs for women entrepreneurs. However, it should be noted that both founders are highly educated, in their 30s (therefore at ease with technology), and can be considered technically skilled or digitally savvy, especially given that they come from non-engineering/computer science backgrounds. However, both female founders interviewed expressed learning curves with educating themselves about aspects of ICT to maintain and grow their business. They both spoke about the significant time and financial resources they spent on learning about technical tools and other ICT resources available to help them achieve their business goals. To compound such difficulties, both founders expressed challenges with finding quality, affordable, reliable, and knowledgeable contract developers. The founder of MISCHA became so frustrated in working with external developers that she even took control by buying & learning a tool where she could implement an e-commerce site herself. And in the case of FEW, the company decided to hire a CTO so that they could move their app development operations in-house. It is by no means the job of government or the responsibility of the economy's leaders to remove the technological challenges and/or growth pains of entrepreneurs looking to integrate & implement ICT tools. However, public resources to better help, support, and educate entrepreneurs on basic ICT tools, programs, and platforms could positively impact the success level, efficiency, and the number of female owned businesses. Furthermore, it could help make entrepreneurship more of a possibility for women who may feel that they do not have the necessary skills to launch a startup. As the research & case findings have shown, women entrepreneurs in Hong Kong, China tend to undervalue their worth & skills, lack digital or technical skills, and be risk averse. Therefore, more publically funded entrepreneurial-focused ICT-related classes, programs, and support may give women the extra confidence and foundational skills that they need to move from thinking about entrepreneurship to actually launching an idea. Additionally, such policy changes can help bolster diversity among the female entrepreneurial community (in terms of age, socio-economic status, ethnicity, education level, etc.) and make it a more attractive option for all females—and not just for those who are highly educated with established networks & some level of personal savings.

Even though Hong Kong, China as an economy has minimal barriers to entry when it comes to starting a business, the government could do a better job in identifying and addressing barriers to entry specifically for females. While the government can argue that public programs like CEF and SME are intended for just this purpose of giving entrepreneurs (of all genders and backgrounds) the support they need to launch, Lai in particular mentioned that the awareness of such programming is very low among her network. Given that Lai has been in business for 10 years, is fluent in Chinese and English, and is an active member of the business and entrepreneurial community, this does not speak well for the program's level of community exposure. Therefore, the expansion of such programs and better marketing to increase visibility and awareness of such

resources is suggested. Further improvements around the economy's statistical reporting & analysis of the economy's overall and female entrepreneurial community will allow for the government to make more informed decisions and allow for more targeted resource allocations. And as evidenced by companies like FEW, if the government continues to take too much of a laissez-faire attitude, then the private sector will fill such gaps. And while moves like this from the private sector are beneficial for the community and desirable for economic stimulus, if the public sector does not provide more support and basic programming, the risk is that the economy could alienate marginalized groups, like those coming from lower socio-economic backgrounds, and negatively influence trends among girls wanting to seek careers and opportunities in ICT. This could eventually result in Hong Kong, China falling behind peer economies on a number of different fronts related to ICT and entrepreneurship. The situation in Hong Kong, China when it comes to entrepreneurship, ICT, gender, and policies is certainly not a dire one, but one that could benefit from a more proactive government stance that is more in tune with the pulse and needs of the economy and female entrepreneurial community.

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3.7 Case Study of Indonesia⁶³

3.7.1 Profile of a Woman Entrepreneur



Angkie Yudistia, born in Medan, was able to pursue her dreams without stopping even in the midst of being 'special' since childhood. Ms. Yudistia lost her hearing in her childhood, a disability often seen in children as hearing impairment.

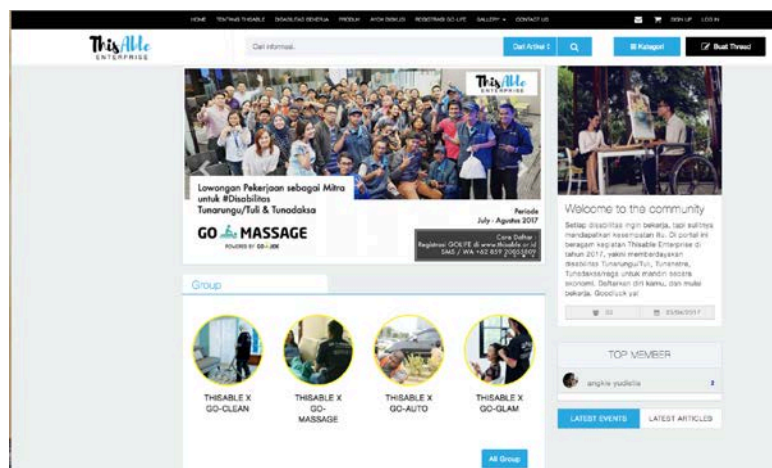
While working for her bachelor's degree in Mass Communication and for her Master's degree in Marketing Communications in the London School of Public Relations, Jakarta, Ms. Yudistia was able to achieve numerous honoraries for her confidence and enthusiasm to try new possibilities - such as being a finalist in the Abang Nene Jakarta Barat 2008, and received the title 'Miss Congeniality' from Natur-e in the same year. She had won the Most Fearless Female of 2008 from Cosmopolitan magazine, and when interviewed about it, she answered that her confidence in dealing with her flaws had made her the winner of the competition.

Participating in contests was not enough. Ms. Yudistia built a business solely intended for the disabled called Thisable Enterprise at the age of only 25, and became the founder and CEO of her company. In 2011, Ms. Yudistia published a book called 'Invaluable Experience to Pursue Dream'. Through her book, she explained that she wanted to motivate the disabled to rise and fight their disability and flaws, and let no one tell them otherwise not to. She was inspired by the late Ibu Kartini in publishing her work. Now Angkie Yudistia is involved in a variety of social charities around the state, and she even has her own personal website: www.angkieyudistia.com.

⁶³ This case study was conducted by Olivia Deliani Hutagaol, Head of Corporate Reputation Department, The London School of Public Relations- Jakarta, Indonesia.

Thisable Enterprise is a social enterprise that started in 2011 and it has a mission to empower Indonesian economic disability in the world of labor. Thisable Enterprise is a social business in the field of Corporate Social Responsibility that is particularly relevant to Indonesia policy's objective. A disability is a condition or function judged to be significantly impaired relative to the usual standard of an individual or a group. The term is used to refer to individual functioning, including physical impairment, sensory impairment, cognitive impairment, intellectual impairment, mental illness, and various types of chronic disease. Angkie Yudistia, a Medan born woman, is able to pursue her dreams without stopping even in the midst of being 'special' since childhood. Growing up, Ms. Yudistia has tunarunggu disease, a disability often seen in children as hearing impairment.

3.7.2 Profile of a Company



Thisable Enterprise is a social enterprise with a vision to empower and to enlighten the disabled in Indonesia. Built in 2011, Thisable Enterprise has several integrated services, from Corporate Social Responsibility, Learning Center, Micro Enterprise, Employment Service, and Marketing Communication Activation. Corporate Responsibility is one form of social activity that is done regularly to build awareness of the disability. Learning Center has created educational programs for PWD's to advance their knowledge and skill to take part in the working world. They will receive on integrated education program with the help of professionals while being assisted by aid workers from the non-PWD's volunteers to ensure effective learning environment. At the end of the program, graduates will be equipped with a certificate that can be utilized for future careers. Thisable has Micro Enterprise which has products that support daily needs and are also created by Indonesia's disability. Thisable offers a per-agency and dropshipping system, which is the sale of products that allow selling of goods with only capital information or photos of the goods. Its

products include: Thisable beauty care, Thisable decoration, Thisable accesories, Thisable dolly, Thisable shoes and also Thisable hijab.

Thisable has two legal main institutions, namely Thisable Foundation and PT Berkarya Menembus Batas in accordance with their functions respectively. Foundation is used for enhancing education for disability, and PT Berkarya Menembus Batas is used for supplying human resources, including Recruitment, Assessment and Competency Test, Training and Product Knowledge, Placement and Onboarding, and Refresh Training.

After Ms.Yudistia started her business in 2011, for the first two years, Thisable activities built more awareness because of the rarity of benchmark for social enterprise on disability, 3-4 years of education to reduce the high gap between disability graduates (and extra school) with manufacturing industry. In the 5th and 6th year of entrepreneurship program, Thisable tried to expand by supplying disability human resources to several industry sectors based on the constitution No. 8 of 2016, about the obligation to accept disability workers in minimum 1% for private company and 2% for the economy. The strategy of Thisable enterprise is for the first 3 years shared with investors, 4th-6th year for itself, and in 7th year it opened opportunities for some investors in order to grow to the economy's level.

Ms.Yudistia obtained and utilized human resources. She had some of requirements at minimum for undergraduate programs, because she built the system that had benchmarks initially, and now because social enterprise is getting more dynamic, it requires logical and mental understanding of the system and the disability community. She therefore opened recruitment through social media.

Thisable also makes ICT/ Smart Technology as a foundation of its business. Thisable has www.thisable.or.id for recruitment, and social media platform as well. Technology is not only to build a good communication and share information, but thisable also became a business partner with one of the biggest technology company in Indonesia, Go-Life (go-massage, go-clean, go-auto, go-glam) to increase more customers, so that disability can develop their economy. Thisable Enterprise grew as a Social Entrepreneur, which takes responsibility for the community.

Corporate Social Responsibility

Thisable Enterprise takes a social responsibility for the disabled's employment because unemployment rate is increasing annually. Ms. Yudistia takes the initiative to make many programs involving citizens of Bandung. Thisable Enterprise provide training for free in order to decrease the unemployment rate and create jobs. It is also strongly supported by the Government of the Jakarta, some of other cities in Indonesia, and the Government as they have the same goal, namely to create 100,000 jobs in the period 2013-2018. Thisable Enterprise thus acts as an

organization that help realize the Mission of Government. To run programs that have been prepared by Thisable Enterprise, funds come from the owner and contributors.

Community Development

As part of social responsibility, Thisable Enterprise has offered Small Medium Entrepreneur (SMEs) program and other skills program. According to Ms.Yudistia, Thisable Enterprise aims to produce members who obtain enough skills and knowledge from the training programs and make contributions to the relevant industries. Thisable Enterprise runs a community development process composed of three factors - community relation, community service, and community empowerment:

- **Community Relation**
Community relation is an action taken which relates to the building of trust and understanding through communication and information between the corporate and the local community (Rudito, 2003). In the category of community relation, Thisable Enterprise has been trying to make good relations with the Jakarta government.
- **Community Service**
Community Service is a corporate service to fulfill the public needs, for example, building health, transportation, religion, or learning infrastructures, cleaning skills, or other thing that could enhance the local society (Rudito, 2003). As part of community service, Thisable Enterprise provides a building for trainings.
- **Community Empowerment**
Community empowerment can be facilitated through programs related to the local development, for example, a local trade organization, and other small medium entrepreneur organization. Some people who participated in the program mentioned that the community empowerment programs prepared by Thisable Enterprise changed their lives and helped them to become key people in the fields.



3.7.3 Findings

3.7.3.1 Success Factors

As a social entrepreneur company, Thisable enterprise has some successful factors.

Mobility/Flexibility Promoted by Social Media

The first contributing factor is related to the mobility and flexibility promoted by social media. As technology advances, with the advent of tablet computers and smart phones, social media business can now be conducted from practically anywhere and at any time, including from home. This results in flexibility that allows women to take care of the family and children while simultaneously managing their business. Furthermore, these technologies also reduce the costs involved in opening a business, as social media businesses do not require the capital that is usually required in traditional businesses – to establish a physical store, for instance. Instead, they can keep their supplies at home, take pictures of the products, and promote them through their social media accounts, which can be accessed using their tablets or smart phones. These technologies are also easy-to-use. As mentioned, social media provides simple ways to upload photos, write updates and to contact people. Ms Yudistia said,

“Today, social media is getting more and more sophisticated and easy to use. In Indonesia alone, social media users are very high. Companies, from large companies to small businesses, have their corporate accounts. They use social media to find customers, establish relationships with customers or merely promote. Therefore, I try to maximize social media to conduct every activity in business. In this alone, we are cooperating with Go-jek Indonesia, one of the largest online transportation companies in Indonesia. They have millions of employees for both cars and motorcycles, up to food delivery business, massage services, workshop services, makeup artist services and others. I see this as an opportunity for the disability to express their expertise. Therefore, through a gimmick app, then each customer can directly choose the person who will serve them well by looking at the profile through the apps.”

Initial research demonstrates, therefore, that the main advantages of using modern technology and social media to start a business are increased mobility and flexibility. Social media entrepreneurship can be practised by women who desire to contribute to the household economy while continuing to fulfil their responsibilities in the home.

Gates (2000) argues that the Internet and its features create new possibilities for many people because it allows for a more efficient way to communicate. Not only is communication faster, it is

also easier and relatively cheaper. A new kind of service made available by the Internet, which has gained tremendous popularity, is social media. Following its introduction, social media such as MySpace, Facebook, and Twitter have attracted millions of female users, many of whom have integrated these sites into their daily lives. With social media, personal and direct interactions increase because the account owner can communicate directly with those on her friend list. These social media platforms also contain useful and easy-to-use features, such as photo uploading, video uploading, instant messaging and photo tagging⁶⁴.

Women often take advantage of social media for reasons that go beyond merely finding friends. They can now use social media in order to achieve a measure of financial independence. There is a growing trend among women to open businesses through social media. For instance, in Indonesia, among the 549,740 users registered on Facebook as the owners of small and medium enterprises, 176,300 of them are women. As reported by most of our research participants, social media businesses have numerous benefits. Research participants have stated that they can use readily available technology, such as smart phones, while taking care of their children. Additionally, they do not require physical stores, which can be costly. Social media applications are also easy to use since business owners can tag pictures and provide information to potential customers in a single click. The growing interest of women in developing online businesses may also be supported by the more social nature of some women and the tendency of many of today's customers to prefer online shopping for its convenience.

This kind of entrepreneurship is seen to be an ideal option for women for several reasons: society's perception that women should stay at home and take care of the children, the flexibility offered by this kind of business and the relatively low costs involved in opening the business. However, one specific factor that attracted the attention of some researchers studying online women entrepreneurship is the need for flexibility in balancing family and work (see, for example, Lombard 2001: 216)⁶⁵. This factor is most prominent in developing economies (van der Merwe & Lebakeng 2010)⁶⁶. In Viet Nam, Nguyen (2005) found that most women did not hesitate to leave their corporate jobs if they could become entrepreneurs so as to manage their traditional role as wife and primary role as caregiver to their children⁶⁷.

⁶⁴Gates, B. (1 Dec. 2000), 'Shaping the Internet Age,' Internet Policy Institute, Washington, www.microsoft.com/en-us/news/exec/billg/writing/shapingtheinternet.aspx.

⁶⁵ Lombard, K.V. (2001), 'Female Self-employment and Demand for Flexible, Non-standard Work,' *Economic Inquiry*, vol. 39, no. 2, pp. 214-237

⁶⁶ Van der Merwe, S.P. & Lebakeng, M. (25-26 Aug. 2010), 'An Empirical Investigation of Women Entrepreneurship in Lesotho' (paper presented at the African International Business and Management Conference, Nairobi, Kenya).

⁶⁷ Nguyen, M. (2005), 'Women Entrepreneurs: Turning Disadvantages into Advantages, PreFlight Ventures,' www.preflightventures.com. Viewed on 1 Oct. 2012

Social Media Facebook and Instagram have more followers and it's easy to share. Thisable also uses Whatsapp application to grab more disabled people to join the group. To build more awareness is faster with social media, because now it is easy for both stakeholders to look for information whatsoever they want to know. It seems trivial indeed, but the impact is very tasteful. Even for branding itself, with more trust in the internet, anyone can check what credibility companies are doing by searching on the internet. Today, all disabilities already have a smartphone, but unfortunately sometimes they do not all understand how to use it positively. Thus, blind people have a feature of "talkback" apps to support communication and information from their smartphones and can even use voicenotes if they stand for typing, and deaf people have been facilitated by the number of visuals. People who have no hands, instead of typing, can now use voice command from their mobile phone. Ms.Yudistia said,

“I advise people with disabilities or special needs to maximize the use of technology in every aspect of their lives. Technology not only helps them to communicate, but also opens opportunities for them to gain better opportunities, for example, getting information, job information or even doing work activities on the technology itself. Especially with the unemployment rates quite high in Indonesia, making the chance of the disabled will be smaller to work in ordinary companies. That way they can take advantage of the technology”.

Social Capital Gained Through Social Media Interactions

Social media interactions address the lack of social capital commonly experienced by Indonesian women; this is the second contributing factor. By engaging in business through social media, the women are able to reach larger target audiences located outside of their locale. Many respondents report that with social media, they can attract customers from other areas in Indonesia and indeed internationally. Moreover, the people that they meet through social media not only function as their customers, but can also serve as potential mentors, business partners and friends, thus enhancing their support network. As mentioned, Indonesia is also known as a social media hub, with approximately 61 million people subscribing to at least one social media account. Consequently, Indonesia is a large target market for the business of social media. Yudistia said;

“Of course social media allows us to reach even greater. We can interact directly, respond directly, without having to spend too much money as did the company of antiquity. Especially with my busy life as a housewife who must take care of family, children and home, social media is very easy for me to move more flexible and can reach the maximum target again”.

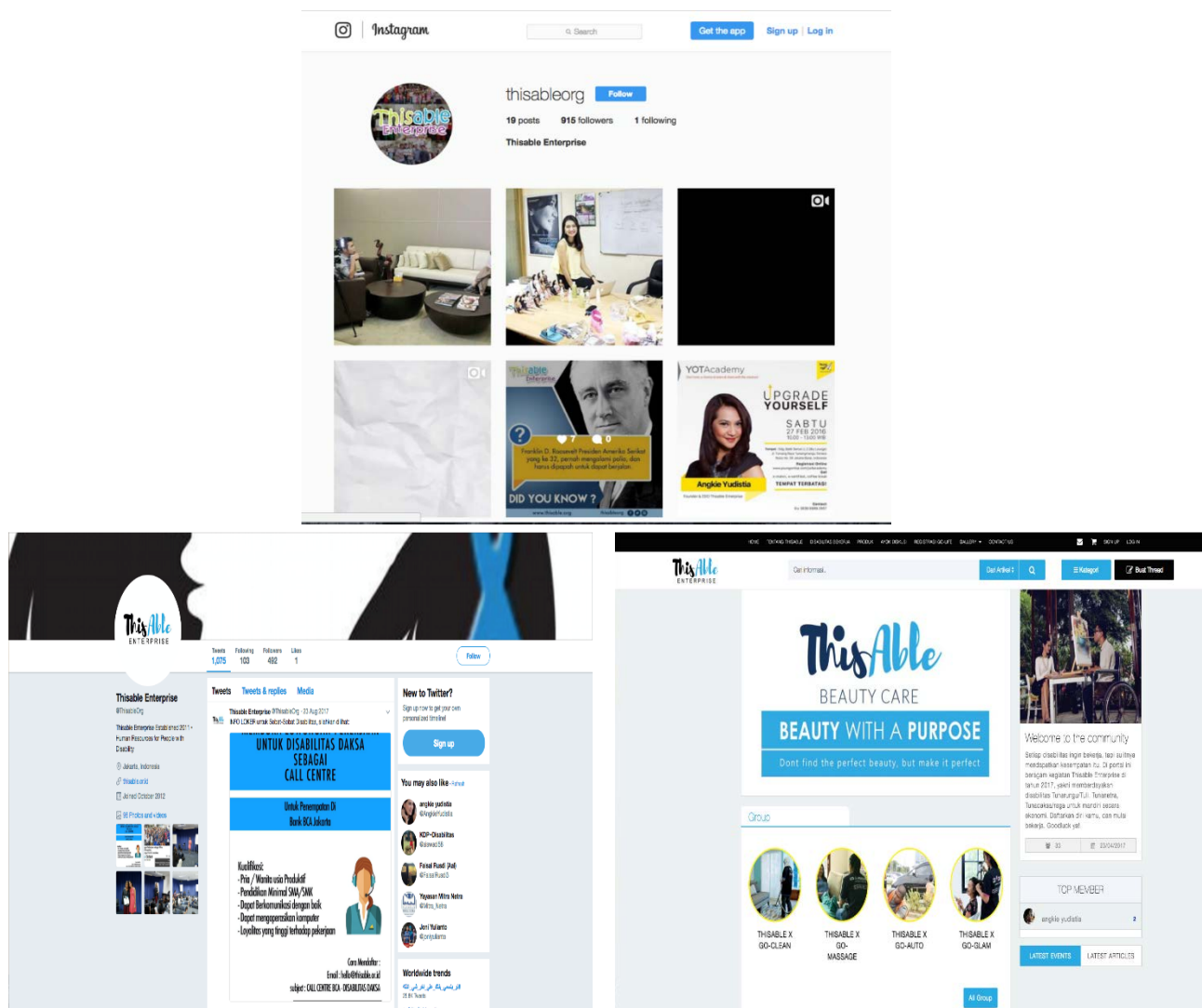
Meeting Customers' Needs through E-commerce

Economic development in Indonesia is not equally distributed throughout the economy. As a result, it is difficult to find some products in less urban areas of Indonesia, such as Kalimantan, Aceh and

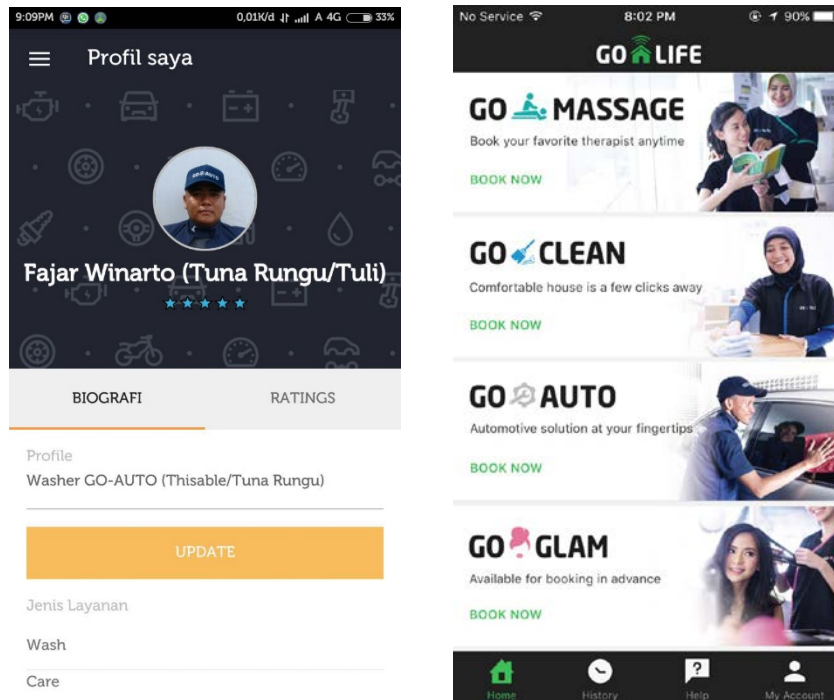
Papua. For that reason, there is a high demand for products sold by social media entrepreneurs in these parts of Indonesia. Moreover, many customers who live in urban areas have a working schedule that does not allow them the time to shop. Consequently, they prefer to shop online, which can be done outside of standard working hours or indeed at any time that is convenient.

Confidence and Satisfaction

What characterizes social media entrepreneurship in Indonesia is related to self-actualization. Social media businesses allow women to gain a degree of financial independence by having their own money. This has the effect of raising their self-esteem, giving them self-confidence to deal with future financial transactions as well as the financial freedom to effectively carry out other duties.



Social Media Thisable Enterprise, 2018



Apps Technology Partnership Thisable Enterprise & GOJEK Indonesia, 2018

3.7.3.2 Challenges

Thisable also faced serious challenges, some of which are as follows:

- Lack of resources and volunteers
- Maintain and monitor partners/ communities outside Jakarta, which is the main base office of Thisable
- Need some improvement in infrastructure technology especially in suburban areas

3.7.3.3 Policy Recommendations

Some of policy recommendations that can support entrepreneurship in general and the (med) technology sector in particular: Need more support especially from government in law/ policy especially in supporting gender

3.7.3.4 Advice for Women Entrepreneurs

- Establish community-based enterprise
- Move beyond digital literacy to cultivating digital citizenship

- Digital citizenship: not only provide digital literacy, but ensure ICT skills are used in a handsome way to solve social problems
- Stakeholder engagement: anchor ICT success in the strength of service-delivery team and relationships with the community
- Unlock potential of marginalized classes in ICT by altering perceptions: ensure marginalized persons in ICT careers can succeed and thrive

3.7.3.5 Summary and Discussion

Online business has great potential to empower women with disability by assisting them to become entrepreneurs. Nowadays, ICTs are main tools to develop entrepreneurship. In addition, social media entrepreneurship can be seen as a solution to the dilemma faced by women in managing and balancing their careers and family lives. Ultimately, social media entrepreneurship is a beneficial provision for women in Indonesia due to its unique characteristics that include mobility and flexibility, social capital gained through social media interactions, the unequal distribution of products in Indonesian cities, the lack of time on the part of customers to visit physical shops and the confidence and satisfaction experienced by women as a result of this enterprise.

3.8 Case Study of Japan⁶⁸

3.8.1 Profile of a Woman Entrepreneur

For Japan's case study, the entrepreneur was introduced to APWINC through its continued and longstanding work with APEC. Rika Yajima is the founder and CEO of aeru company and is based out of Japan. In 2017, Yajima was the overall winner of *[APEC's] BEST Awards* and winner of the *Best Social Impact Award* (APEC, 2017). She was chosen from an outstanding group of 12 finalists representing various APEC Economies for her work with aeru company (APEC, 2017). Her company specializes in selling infant and children products that are aimed at preserving and promoting Japan's historical roots and traditional culture—further details are included below (APEC, 2017).

A 60-minute interview was conducted with Rika Yajima in January 2018 via Skype. During the voice chat, questions pertaining to the founder's entrepreneurial journey were discussed. The full list of interview questions can be referenced in the Appendix. Additional research and findings about Yajima and her company were obtained through online resources, which were also incorporated into the analysis and case study findings.



Source: from aeru company

- Name of Founder: Rika Yajima
- Nationality: Japanese
- Age: 29 years old
- Title: Founder & CEO of aeru company

⁶⁸ This case study was conducted by Stephen Ham, Researcher & Editor, and Teri Ham, Researcher.

Start-Up Story

Rika Yajima started her company when she was a university student at the young age of 22 years old. Becoming an entrepreneur was not originally her dream. In fact, she was studying to become a journalist at Keio University in Japan when she discovered her love and passion for learning about and preserving traditional Japanese culture. It was noted that she even won a TV quiz show about Japanese culture and manners (in 2007), which first ignited her interest in traditional arts and crafts

During her university years, she noticed a gap in younger generations and their appreciation and knowledge of traditional Japanese culture and artistry. She feared that if young people grew up without an understanding of traditional Japanese culture and arts, that such traditions, history, and artistry might die out and be unavailable to future generations. As she reflected upon her own childhood, she realized that she, too, did not have opportunities to touch and feel Japanese traditional arts and crafts when she was growing up and noticed the same trend among her friends and peers. This troubling realization ignited her desire to start a company around connecting old traditions with future generations.

After entering a business competition for students (in Japan) in 2010, Yajima was able to win some money (approximately 1.5 million yen) to start pursuing her dreams of launching a business around preserving and promoting traditional Japanese culture to young people and future generations. In 2014, she opened her first store in Tokyo named ‘aeru meguro’, where she presented traditional crafts designed and made especially for babies and young children by professional artisans. By 2015, she was able to open a second store in Kyoto, called ‘aeru gojo’.

Yajima makes it clear that the main point of her company is to tell the story behind the one-of-a-kind crafted items sold, and not just to *sell* items. Passing along the traditions, history, purpose, and story of how the items were crafted is an important part of the company’s mission and goal. Yajima wants her and her company to educate future generations regarding historical traditions and crafts so that young people can grow up appreciating their roots and heritage. Therefore, the items sold by aeru have been carefully crafted with detailed descriptions, beautiful photos, and sometimes videos to bring to life the product’s background and story. Currently, her company’s products are sold online, in retail stores (located in Kyoto and Tokyo), and in department stores.

3.8.2 Profile of a Company

- Website: <https://a-eru.co.jp/en>
- Company Slogan: 'To connect Japanese traditions to the next generation.'
- Company Founded: March 16, 2011
- Company Location: online store with retail stores in Tokyo and Kyoto, Japan

Products & Services

The company specializes in selling everyday products for babies, children, and adults that are handcrafted by Japanese artisans to reflect traditional artistry and designs. The items include traditional crafts and pieces like earthenware, lacquerware, handmade Japanese paper, and indigo hand-dyed products (like the products shown below).



Source: aeru company

Additionally, the company also designs for a few select hotels in Nagasaki and Himeji, Japan. The company incorporates traditional Japanese culture and other features of the city into their room designs so that guests will be able to 'feel' the unique aspects of a region with all five of their senses.

Table 4. Timeline of Key Events (Kameda, 2016)

Year	Description of Time-Line of Key Events
2015	Opens a second store named 'aeru gojo' in Kyoto
2014	Opens the first aeru store named 'aeru meguro' in Tokyo
2011	aeru company is established
2010	Yajima wins student business competition sponsored by the Tokyo Metropolitan Small and Medium Enterprise Support Center and Tokyo Metropolitan Government
2007	Yajima wins a TV quiz show about Japanese culture and manners and her interest in traditional arts and crafts is ignited

Table 5. Company Achievements/Awards (aeru, no date)

Year	Description of Company Achievements or Awards
2017	<ul style="list-style-type: none">• APEC's <i>BEST</i> Award and Best Social Impact Award Winner• Kyoto City Culture and Arts Industry Tourism Awards "Kirameki Grand Prize" Winner (Kyoto City)
2016	<ul style="list-style-type: none">• 3rd Kyoto Community Entrepreneurs Grand Prize Excellence Award (Kyoto Shinkin Bank)• Company certification by Kyoto City (Social Innovation Laboratory Kyoto)
2015	<ul style="list-style-type: none">• FourthDBJ Women's New Business Plan Competition: Women Entrepreneurship Award (Japan Development Investment Bank)• Design for Asia Award 2015: Silver Award Winner
2014	<ul style="list-style-type: none">• OMOTENASHI Selection 2014: Winner (Japan)• GOOD DESIGN AWARD 2014• Social Products Award 2014
2013	<ul style="list-style-type: none">• GOOD DESIGN AWARD 2013• 7th Kids Design Award
2012	<ul style="list-style-type: none">• 6th Kids Design Award• Special Jury Award: Child-born breeding support design Individual / household division• Design for Asia Award 2012: Silver Award
2010	<ul style="list-style-type: none">• Business Plan Contest "Student Entrepreneurs' Championship" Excellence Award from the Tokyo Metropolitan Government Foundation Small and Medium Enterprise Development Promotion Corporation
2009	<ul style="list-style-type: none">• Business Plan Contest '2009 Campus Venture Grand Prix': Received Tokyo Industrial Club Award (Nikkan Kogyo Shimbun)

3.8.3 Findings

3.8.3.1 Success Factors

"At first [the prize money was] not enough [to get started]. But I think...not depend on the money... Because if I need many money, I think I can borrow by the bank or angel [investors]...we have many way to get the money. But I think more important things is uh why I want to start that... For me, I want to connect Japanese tradition to the next generation. [Nobody] thinks about uh make the products for baby and kids with Japanese artisan..."

-Rika Yajima, CEO & Founder of aeru company

Familial Support

Yajima credits her parents with being very supportive of her idea and dream to start aeru. While they did not give her any money to start her business venture, she found their support invaluable and thinks that finding her own funding made her more successful in the long run.

Market Opportunity

Yajima's company is the first of its kind and currently fills a big market gap, as there is no other retailer of traditional Japanese items made specifically for: (1) babies/children and (2) for the purpose of educating future generations. The company is also focused on making products that can 'grow up' with their customers and span a lifetime. Therefore the company's selection of products ranges from items that can be used by children all the way up to adults.

Prior to launching aeru, Yajima did not do any product or market research, and credits the success of her company to her passion, mindset, and sincere goal of wanting to preserve traditional Japanese culture. To this day, aeru does not do market research before launching new products.

Unique & Inspirational Branding

One of Yajima's accomplishments that she is most proud of is that she has brought hope into the world. She hears this from both the artisans she collaborates with and her customers. Artisans are appreciative of aeru's respect for their craft and mission to preserve their trade in a world that may see their work as a 'dying art', and customers are grateful that there is a retailer that sells high-quality, artisanal products that are sincerely and lovingly made, allowing them to teach and pass down important traditions to their children.

The CEO of aeru estimates that 95% of the artisans they work with are men, and only about 5% are women. Despite working with mostly with men artisans, Yajima has not experienced any discrimination because of her gender or young age. In fact, her experience has been quite the opposite. The artisans have been eager to work with aeru, and are very grateful for her interest, and are curious as to why a young woman would be interested in preserving and promoting their art and trade.

Yajima states that the average age of artisans of traditional Japanese crafts is around 65 years old. However, the average age of artisans who work with aeru are in their 30s, but can range in age from 20-70 years old.

The company's partnership and collaboration with younger artists is also very helpful in an economic sense, as Yajima states that younger artisans often struggle to find work. Unfortunately, even though there is interest from young people in pursuing a career in the traditional arts and crafts sector, job opportunities tend to be on the scarce side, and therefore artisans who fall into this category are very excited to work with aeru.

Leadership Philosophy and Style

As Yajima was not a trained entrepreneur or business professional prior to launching aeru, she relies mostly on an attitude of ‘learning by doing’. She believes that anyone and everyone can be a teacher, and is quick to ask questions when she needs help.

A philosophy that has guided aeru is an old Japanese saying called ‘sampo-yoshi’. It is a term that means ‘beneficial for three sides’. Yajima views the three entities as herself, the customer, and society. She has applied this principle in the following way: if I sell something that customers want (I become happy), and if customers want to buy something that I am selling (they become happy), the result is that everyone will be happy, meaning that society will positively benefit from this exchange/interaction. Yajima views this as a simple, yet important concept that continues to guide her business and aspirations.

For the first 3 years, Yajima ran the company herself, but after the 3rd year she began to hire other team members. In terms of her management style, Yajima believes in empowering her team. As she often has to be out of the office to travel to meet with artisans, she wants her employees to feel comfortable in quickly checking with her on high-level decisions, but mostly in being independent when she is not around. As her employees ‘grow up’, she believes that her company will also ‘grow up’. She also encourages her employees to indulge in out-of-the-office learning opportunities, like: visiting factories, meeting with artisans, frequenting museums, and other physical activities like kayaking and hiking. Since the five senses are a core component of aeru’s business, she wants her employees to participate in activities and learning experiences that can help them develop their sensory faculties. These types of non-traditional educational opportunities are important and a core philosophy of her management/leadership style.

Shift in Socio-Cultural Priorities

Yajima’s comments echo sentiments expressed in previous research findings that share how natural disasters in Japan have changed the societal priorities of citizens in Japan. In Yajima’s experience, the 2011 earthquake marked a major turning point in family and life priorities. Prior to the natural disaster, most citizens felt that the member’s economy/money/career were the most important. However, after the earthquake, people began to question if this was the right focus to have, and started to place more importance on nature, culture, and human interaction. As a society, the population tried to find a better balance between work and enjoyment. This shift in socio-cultural priorities provided a fortuitous opening for aeru, as more people were becoming interested in items and experiences that represented and promoted traditional Japanese culture.

“Of course, handcraft is a little bit more expensive, but, but many young people think about, about...like me...we want to tell our baby and kids about Japanese tradition so...the mind is

very emotional and people feel, feel very similar things...so our business is successful I think. Maybe [for a] 20th century company [the] most important thing [is to] earn money. But 21 century is a little bit different I think. Earn money is necessary to do...but the most important things...what is the change [in the] world if the company do.”

-Rika Yajima, CEO & Founder of aeru company

Industry Gap & Branding

Yajima credits the longevity and success of the company to her recognizing a gap in the traditional crafts industry and creating a new market to address it. Overall, since 1979, the industry has decreased in engagement by approximately 76% over the past 34 years as evidenced by the below statistics.

Figure 2. Downward Trend of the Japanese Traditional Craft Industry

In data provided by the Association for the Promotion of Traditional Craft Industries, a downward trend in the Japanese traditional craft industry was cited:

- 2013: the number of people engaged in the sector was approximately 68,720
- 1979: the number of people engaged in the sector was approximately 288,000

Source: Kameda, 2016

When Yajima first launched, aeru was the first company of its kind, and the only brand to sell traditional items that are intended to: (1) teach younger generations about traditional crafts and items, and (2) make such items more appealing and accessible to younger generations. And even though aeru is nearly seven years old, it still remains as the only company to provide traditional handcrafted items that are made specifically for babies and young children.

Also, as mentioned in the previous section, timing has also played a crucial role in helping aeru to build its customer base. The shift in Japan's socio-cultural priorities made aeru's mission of creating a new market all that much easier.

“Recently in Japan, the tradition is important movement we have...in 2020 we have the Olympic, and people say...Japanese tradition is very important...but...we start our company before the Japanese traditional movement.”

-Rika Yajima, CEO & Founder of aeru company

A clean market entrance and fortunate timing may have initially created opportunities for aeru, but Yajima believes that company growth has been achieved through their clear and strong branding.

“[We provide a] very clear message. Branding is our most important skill set.”

- Rika Yajima, CEO & Founder of aeru company

Whereas most traditional shops or craft stores have an ‘elderly’ customer base, aeru’s customers cater to a whole new segment.

“Our main customer is 20-40, young people. Young people who don’t know about Japanese tradition...”

-Rika Yajima, CEO & Founder of aeru company

Yajima goes on to explain that young parents do not intentionally set out to find aeru, but instead accidentally happen upon the company as they research high-quality, good products for their children. But when young parents do discover aeru, they are pleasantly surprised to find that there is a company like aeru and are appreciative that they can buy functional, beautifully hand-crafted items that are educational for both themselves (as many young parents are also not well versed in traditional Japanese arts/artistry) and their children. The younger skew of aeru’s artisans may also be seen as a competitive advantage and may explain the appeal that the company’s designs have to younger parents and markets. Even though aeru’s products are made in traditional ways, the design of the items has been intentionally adapted/updated/modernized. Yajima thinks this is actually one of the main innovations and accomplishments of the company – being able to capture the history and traditional roots of handcrafted items, in a modern way, without diluting or losing its essence.

The Role of ICT and Media

As previously mentioned, ICT has had a big impact on Yajima’s business and entrepreneurial journey. In some ways it is ironic considering that the basis of the company is to promote traditional culture and items. But by bridging the old world with the new/contemporary world, Yajima’s company has been able to successfully create a new market. The key to bridging the old with the new for aeru can be attributed in some part to ICT. Current technologies and platforms made it possible for Yajima to turn her idea and passion into reality quickly, with relatively low risk and investment (as evidenced by the below quote).

“If we don’t have the ICT, I couldn’t start my business. I don’t have any shop...we have only online shop. I think the Internet is changed the world. So, before Internet...we need big money to start new business, but with Internet, we don’t need big money, we need a little bit of money and big idea, big action.”

-Rika Yajima, CEO & Founder of aeru company

An additional and unexpected, surprising way that ICT has created yet another bridge is between the customer and artisan. Instagram⁶⁹, a popular online photo-sharing application with over 231 million users, has brought the artisan and customer together in a unique way. Through this popular platform, when customers upload pictures of aeru products, artisans are able to see how their crafts and artwork are being used and appreciated by customers and children. Yajima has cited that this has made artisans extremely happy and that this has been a big source of encouragement for them. This sort of friendly and indirect interaction that social media has facilitated can be seen as an important element contributing to aeru's success.

On the flip side, even though social media is considered to be an almost basic, integral element of any company's marketing and branding strategy in this day and age, aeru, much like their company's products, have actually found success in more traditional mediums. When Yajima started out, she had no money for advertising. However, Yajima's mission and philosophy for the company is so unique and sincere that getting media attention has never been an issue for aeru. In fact, in her first year of business, Yajima received over 100 press opportunities including newspaper & magazine articles (both online and in print), and TV coverage. This was key in generating both company/brand awareness and in building a strong customer base. Yajima also credits the diversity of media coverage she receives as being more meaningful and impactful than if she leveraged only social media as a marketing channel. Given that she was a young, female entrepreneur making a new market in the traditional craft industry, she was not shocked by the amount of media coverage that she initially received. However, she has been very surprised and grateful that the attention has not died down, and that even seven years later, various media outlets are still interested in her and the company's story. She credits this to her company's philosophy of being more interested in spreading Japanese traditional culture than just making money or selling items.

Gender & Government Programming/Policies

The below two sub-sections go into greater detail on the extent to which gender and government programming/policies have impacted Yajima's entrepreneurial journey.

"I think Japanese society has very changed now."

-Rika Yajima, CEO & Founder of aeru company

Despite the above research findings in 'Section One' relaying the difficulties female entrepreneurs face in Japan and other gender & ICT gaps, this has not been reflected in Yajima's journey or personal experience. As a female entrepreneur, Yajima has been lucky to largely escape discrimination or hardships based on her sex, and in fact, has found that being a young woman has

⁶⁹ <https://www.instagram.com/>

actually been advantageous in some regards. Firstly, her sex and age has opened up opportunities for funding.

“The government says the female, the young people, and seniors, we have to support [them]. And so, many [banks] or investment [firms], they want to [lend] money for young [people], women, or [seniors].”

-Rika Yajima, CEO & Founder of aeru company

She further comments that the current climate, in her experience, is very good for young, female entrepreneurs and thinks that possibly females may even have a slight advantage over males as there is increased economy's focus on helping female owned startups. But she also realizes it was not always the case. She recognizes that female entrepreneurs 20-30 years her senior struggled a lot to build businesses and become leaders, and is therefore very grateful to her predecessors for enduring hardships and paving the way for future generations of female leaders.

“Recently we can get money very easily I think. The challenge money...we have many challenge money, because in Japan we need more entrepreneur, and we need more new business, so the government, they encourage the new entrepreneur and young people.”

-Rika Yajima, CEO & Founder of aeru company

In terms of traditional societal, cultural, and gender barriers, she also states positive shifts. Previously young, single women may have felt pressured or obligated to focus on finding a good husband, being a good mother, and possibly finding a good career that wouldn't interfere too severely with household duties. In terms of Yajima's own start-up story, she was fortunate to have parents who did not dissuade her from becoming an entrepreneur. Contrary to research presented in 'Section I' that points out long-standing cultural and societal barriers for girls/women when it comes to focusing on career over more traditional roles like marriage and household work, Yajima received great support and encouragement from her family and friends to pursue her idea, which inevitably had a positive impact on her path to success.

“My mom and dad they say – uh if you want to do that you can...They very helpful for me to you can do it.”

-Rika Yajima, CEO & Founder of aeru company

Yajima also feels that society is more open to encouraging women to become entrepreneurs and re-define what happiness means to them. She states that recently girls have more opportunities to think about what makes them happy, and what constitutes a happy life. Before it was simple. A good career and a good marriage equaled a happy life. While these things still make girls happy,

she finds that young women are more curious about different ways to expand their vision of a happy life. Yajima explains that, 'I think before the society [dictated what makes girls] happy'. She goes on to say that now girls/women are able to think for themselves and are able to more freely pursue what their definition of happiness looks like. This positive trend in freeing girls from previous limiting and patriarchal views is something that she believes will begin to change and evolve even more over the next five years.

In regards to what government policies and programming have been influential in Yajima's entrepreneurial path, the following three questions were asked. Yajima's answers are included below in italics.

Question1: What public resources, governmental policies, or programs do you think have been key in supporting women entrepreneurs or startups?

"The support of the economy is substantial, but the role model of women entrepreneurs are few, and opportunities to meet [them personally are too] limited. For that reason, I feel that women have no idea of [what] entrepreneurship is [and that is] the [main] issue."

-Rika Yajima, CEO & Founder of aeru company

Question2: What further policies or programs do you feel are still needed to support women?

"Support is already substantial, so we need to make opportunities to meet women entrepreneurs from a young age, such as doing classes inviting women entrepreneurs at school instead of relying [on] only [the economy to lead such initiatives]. I myself am taking the opportunity to take the initiative to visit the school too."

-Rika Yajima, CEO & Founder of aeru company

Question3: Can you list any specific opportunities or programs that were helpful in launching your startup?

"The prize money received in the business contest helped, and I was able to start [my business]."

-Rika Yajima, CEO & Founder of aeru company

Findings from this case study demonstrate the marked progress the economy's leaders have made in cultivating a more conducive environment for female entrepreneurs looking to start and build their businesses, especially from a public-sector standpoint. However, one area of caution that may still be of concern is the lack of support and acceptance of female entrepreneurs from the private

sector. Earlier, research from Debroux (2004) pointed out the difficulties female entrepreneurs face in getting loans & financing and suppliers to work with, especially compared to their male counterparts. So while there has been marked progress, it is still important for government leaders to continue to identify and pursue areas that persist in being challenges for female entrepreneurs.

3.8.3.2 Challenges

One of the main business challenges Yajima has faced is in finding the right employees for her company. Although she gets a lot of interest from people wanting to work for aeru, it is difficult to find applicants with the right skills needed and who also fit the company's corporate culture. This is particularly important to Yajima, because once she hires someone, she hopes that the work relationship will be long-term and even last forever. In many ways she views the team relationship similar to that of a family unit.

Overall, the biggest challenge aeru has is to just continue their business and mission, and have the opportunity and ability to grow their vision.

Leveraging ICT Technologies

Even though aeru is a company focused on traditional Japanese culture and items, ICT plays a key role in Yajima's business platform. As the CEO, she leverages ICT technology in the following ways:

- **Business Platform**
While aeru does have two physical retail stores, their online presence/store is a major component of their business strategy and generates a large portion of the company's overall revenue. Specific figures or percentages were not disclosed during the interview.
- **Social Media**
Currently, aeru promotes their brand/company on Facebook (over 12K followers), Instagram (1,365 followers), and Twitter (1,608 followers).
- **Employee Communication**
Given that Yajima often travels and that her team is spread between two physical offices, tools like: phone communication, Slack⁷⁰ (a messaging tool for teams), and appear.in⁷¹ (a video conferencing tool) are all helpful channels/tools/mediums to facilitate consistent and easy communication within her team, among artisans/collaborators, and with her customers. Internally, Slack has replaced e-mail. Yajima states that Slack makes it easier to have real-time conversations with her employees, as e-mail requires a more formal style

⁷⁰ <https://slack.com>

⁷¹ <https://appear.in/>

of communication that tends to be less efficient than real-time messaging. Additionally, the tool provides an option to organize conversations into projects, which the team also finds helpful and effective. Line⁷² (a free messaging app that can be used on various smart devices) and Facebook Messenger⁷³ were also cited as tools that make it easier for aeru to communicate with artisans.

For the first five years, Yajima's focus was the domestic market. However, in recent years the company has been slowly aiming to serve international clients. ICT has made this leap possible and easier. Currently, the online shop is available in both Japanese and English, and social media sites also are designed to reach both domestic and international followers.

3.8.3.3 Policy Recommendations

Despite the overall favorable findings from this case study, some recommendations that can still be made to improve the conditions, state, and growth of the female entrepreneurship in Japan, include the following:

Increase in Mentorship Opportunities and Platforms Where Young People Can Meet and Interact with Female Entrepreneurs

Yajima has lamented about the lack of visibility and accessibility of female entrepreneurs, especially when it comes to role models for future generations and young people. More mentorship opportunities and increased platforms to allow young people and entrepreneurs to interact have been suggested as a recommendation moving forward as policymakers continue to promote ICT and gender agendas. As previously stated in the GEM report, the average entrepreneur in Japan is described as being a well-educated, middle-aged man (Futagami and Helms, 2017). Further work needs to be done to bring women leaders to the forefront, and to change the perception of who and what a 'typical entrepreneur' looks like in Japan.

Increased Focus on the Promotion of Gender Equality in the ICT Industry and Entrepreneurship

Estimates show that the member's economy could grow by 18% if female employees worked at the same rates as male workers. This is of particular concern since Japan is suffering from low birthrates and an aging population (Futagami and Helms, 2017). Current statistics also show that highly trained female workers, as a group, are underutilized in Japan's job market (OECD, 2017). ICT is one solution to address this multitude of problems. The findings from 'Section I' show that ICT can spur innovation and open up new market opportunities that can lead to new job creation and economic growth. The aeru company is an example of this. The company has been able to

⁷² <https://line.me/en/>

⁷³ <https://www.facebook.com/>

successfully create a new market, insert innovation into a lagging industry/market, and has provided employment opportunities for artisans that had previously struggled to find work.

Updated, More Current Research & Statistics

Furthermore, it is recommended that more up to date research be conducted on the failure rates of new businesses, looking at differences between males and females. As stated previously, 2007 government data showed that female-owned ventures were twice as likely to close their businesses compared to males. However, as this research is already over a decade old, it is suggested that policy leaders look into updating such statistics and determine if the factors or root causes can still be attributed to: insufficient skills and training, weak personal networks, and issues with balancing work and home-life. Based on new findings, future policies will be better guided as to how to more effectively help and promote female entrepreneurship in Japan.

3.8.3.4 Advice for Women Entrepreneurs

In terms of takeaways and learnings for other female entrepreneurs, the following can be gleaned from Yajima's example:

Start with a Genuine Passion and Love for What You Are Doing

The company's genuine and sincere mission for wanting to educate babies, children, young people, and young parents has inspired and piqued interest from everyone including the general public, press, and artisans. This has been a major factor in why the company has been able to thrive and grow.

Have a Clear Mission

A distinct, unique, and well executed mission branding strategy have played an integral part in aeru's success. The company takes the time to educate their customers by creating content (instructions/descriptions, photos, & video) that engages users and stimulates interaction between all parties (aeru, artisans, and consumers).

Take a Diversified Approach

The company has embraced diversity in many areas of their business, including their: product designs (traditional pieces, mixed with modern overtones), platforms (retail & online stores), product offerings, artisans who range in age and experience, and press promotion – leveraging current social media trends, but also embracing more traditional press mediums.

Invest in Your Employees

Her non-traditional employee education philosophy helps her to team to excel at critical skills important for the business and also keeps them happy, motivated, and inspired.

3.8.3.5 Summary and Discussion

The ‘Discussion’ section will present a brief analysis which will compare and contrast findings from this case study with other pertinent research, publications, and informational sources stated in the first section. The objective of this section is to provide a better understanding and context as to how the case study findings fit in with the overall research from Japan on entrepreneurship, gender, and ICT.

In ‘Section One’ the following reasons were noted as underlying barriers to entrepreneurship in Japan, which included: (1) limited funding sources, (2) unattractive legal system policies, (3) fear of failure, and (4) limiting cultural practices/beliefs (Karlin, 2013).

(1) To address the first barrier—limited funding sources—it can be concluded from the case study findings that this particular challenge was not a major concern for Yajima. In fact, her experience has been quite positive when it comes to obtaining funding, and actually credits and praises the government for opening up funding opportunities that are specifically targeted towards young people and females.

(2) In terms of the point about Japan’s legal system, this also did not seem to have a negative bearing on aeru. However, it should be noted that this topic was not deeply explored in the interview.

(3) Yajima also did not seem to suffer from a ‘fear of failure’ mentality that research and literature has touched upon. In fact, her passion, support system (family, friends, artisans), and her strong desire to prevent Japanese historical cultural practices and art from dying out have been empowering, and have been the building blocks for giving her confidence to go after her dream.

(4) Contrary to literature pointing out various cultural barriers holding back entrepreneurs and women, Yajima feels that Japan has actually moved forward in becoming more open to embracing career women and giving them the freedom to choose and design a path that makes them happy on an individual level, instead of one that is dictated by society. And she further sees more changes coming over the next five years.

Another point worth highlighting is Yajima’s leadership/management style, which is very much in line with Japan’s unique approach to knowledge creation. This figure details six key characteristics of Japan’s approach to creating knowledge including: viewing the company as a living organism, promotion of tacit knowledge over explicit knowledge, self-organization of teams to create innovations, and the belief that knowledge can be acquired from all people, including those outside

of the team/company (Takeuchi and Shibata, 2006). While Yajima's young age and lack of business/entrepreneurial experience could have been seen as hindrances, she was able to successfully navigate her business through her strong leadership and management principles, which are very much in line with those of Japan's well recognized knowledge creation model. Her view of hiring and managing her team is both distinctive and unique. As Yajima emphasizes, her team is like her family, and she believes in hiring employees that she hopes to work with 'forever'. Therefore, she takes great time in hiring the right employees from the beginning.

What also stood out was her unique growth philosophy...the belief that as her employees grow, so will her business. It is this philosophy that has seemed to lead her to emphasize investing, educating, and empowering her team over more mainstream management practices. It was surprising and refreshing to learn that she encouraged her employees to expand their experiences and senses by indulging in a variety of activities from visiting museums and festivals to more physical activities like kayaking. Through seemingly unrelated activities to her business, she is attempting to develop a special brand and breed of employees that are as distinctive as her business.

Another point worth emphasizing is how her lack of experience may have contributed to her overall success. Recognizing her own lack of experience, Yajima tended to lean more heavily on seeking knowledge from all sources and people. This probably gave her a rounder, more extensive learning experience than traditional classes might have quipped her with.

Furthermore, throughout the interview, Yajima reiterated that the gap in the traditional craft industry market provided her with a strong entrance point and advantageous path for aeru. From the beginning, the company's entrance strategy has been to educate customers and babies & young children, on the purpose, story, design, and usage of traditional Japanese products. The company has excelled at creating a brand that both resonates and inspires its customers, the press, and artisans they collaborate with.

Conclusion

In the case of this study on Japan, the findings produced results that paint a slightly different picture than what the general research has highlighted. While research overviewed in 'Economy Report' has tended to focus on multiple barriers to entry when it comes to ICT and entrepreneurship, Yajima's story is one that shows progress and change. The case study findings have revealed that known previous challenges and hurdles in entrepreneurship have not had a negative impact on Yajima's journey. The findings go on to further indicate that current government programs and policies are strong in supporting young people and female entrepreneurs and in the case of aeru, have been successful in supporting female business leaders. Additionally, shifts in societal beliefs and culture have given women more freedom to pursue individualized paths, including

entrepreneurship. And finally, in the case of aeru, ICT has played an integral role in allowing her to launch and promote her business in a way that has been affordable and relatively easy without a lot of risk.

While most start-ups are known to struggle or close down after a few years, aeru has continued to grow and build a successful brand. What makes this feat even more commendable is the fact that Yajima has accomplished this in an environment/economy that is known to be less conducive to females (as supported and highlighted throughout Economy Report).

The government's investment in Yajima has certainly turned into a profitable one. Yajima was able to leverage small funding awards promoted by the government and turn that seed money into a successful and thriving business that has gone on to fill multiple gaps over the past seven years. Not only is aeru filling a need on the consumer demand side, but Yajima is also promoting job creation in a sector that is in need of sustenance. As Yajima mentioned, bringing hope into the world is one of the things she is most proud of, and through her dream of launching aeru she has been able to do just that. The company has brought new hope to old artisans and future generations who may have feared that traditional Japanese artistry would die out as rapid consumption of technology continues to increase. Young artisans are grateful for the opportunity to have a fruitful way to sustain their livelihood and continue to design meaningful products. Artisans, customers, and the media alike are drawn to aeru's message of preserving and sharing Japanese traditional culture, and all seem to be inspired by the company's attitude that 'selling' is not their main goal.

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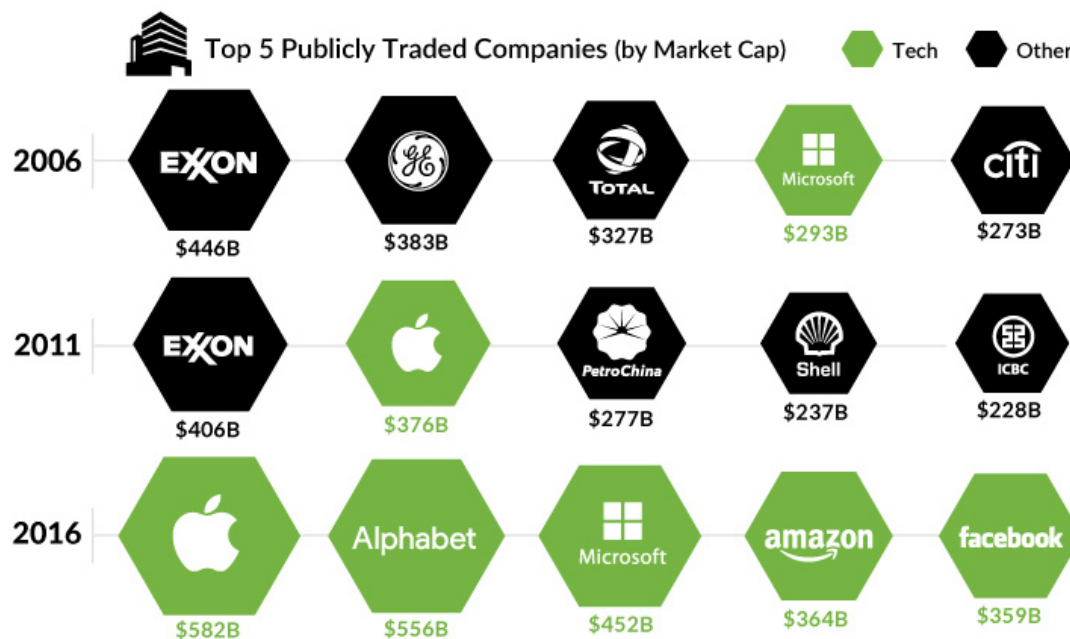
3.9 Case Study of Republic of Korea⁷⁴

The Fourth Industrial Revolution can be defined as a hyperlinked intelligent revolution triggered by digital technologies such as artificial intelligence, the Internet of Things, and big data.

The intelligent revolution is that everything is connected by the network; the data explosively increases according to the connection; and the increased data leads to a level of self-learning, so that it can perform not only manual labor but also intelligent judgment function.

So intelligence is changing as the key factor that determines the competitiveness of products and services, changing the existing industrial structure and triggering the revolution of the industrial ecosystem. Therefore, in the 4th industrial revolution era, it is expected that platform companies with algorithms capable of building and utilizing ecosystems to secure data themselves will lead the industries and markets.

The top five global market cap of 2016 are all platforms based on digital intelligence technology, or that combine platform business models into the value chain of existing businesses.

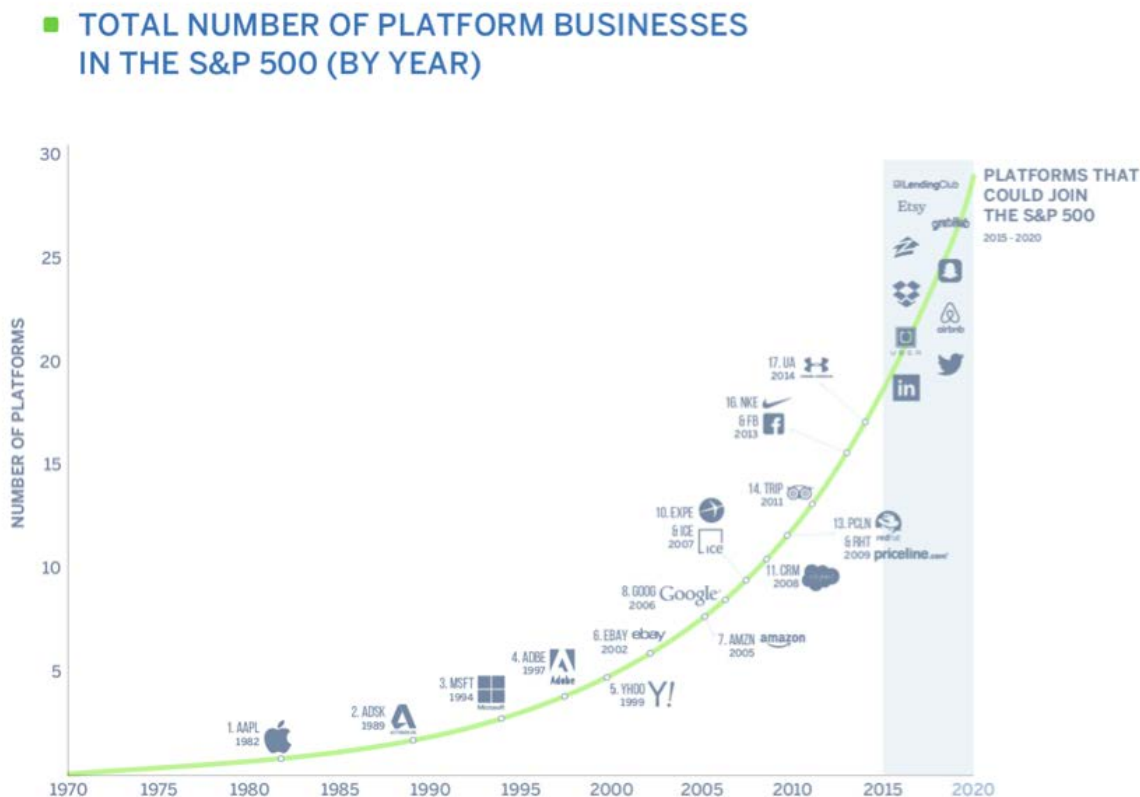


⁷⁴ This case study was conducted by Kyungmi Kim, General Manager, Asia Pacific Women's Information Network Center, Sookmyung Women's University, Republic of Korea.

The three most successful platforms to date are Alphabet (Google), Apple and Facebook, and the number of platforms at the top of our economy is growing fast. In 2016, four of the top five members of Forbes's list of most valuable brands were platform companies, as were eleven of top twenty. In addition, the companies that make up the S & P 500 companies are showing increasing numbers of platform companies.

Platform representation in the S&P 500 will continue to increase exponentially because platforms have distinct advantages over more traditional business models, such as more favorable cost structures, higher profit margins and the ability to scale to a size that traditional businesses can't. In five years, 5% of the S&P 500 will be platform business based on the following platform trend line.

Figure 3. Platform Business in the S & P 500 over the Last Forty Years



S&P 500 platform business have improved their net earnings on average by 330% in the past 10 years, compared to 16% for the overall S&P 500. So, in 25 years, 50% of the S&P 500's collective net income (profit) will come from platforms⁷⁵.

⁷⁵ ALEX MOAZED, 5 Reasons Entrepreneurs Should Take Advantage of the Platform Business Model, <https://businesscollective.com/5-reasons-entrepreneurs-should-take-advantage-of-the-platform-business-model/>

Platform companies are now clearly a global phenomenon. They are found not only in advanced industrial markets, but throughout the entire world thanks to the growing availability of mobile digital technologies. Not only platform companies are starting in all corners of the world with established hubs in places like Hangzhou, China, Bangalore, India and Cape Town South Africa, but a growing number of platforms are expanding beyond their home economies. Indeed, many platforms are best recognized as the multinational enterprises that they have become with large global footprints.

Above the mentioned, platform is very important business model in the 4th industrial revolution era. Thus, to be successful in today's business, it is necessary to understand how platforms work.

What is the implication of platform companies like AirBnB, Uber, Car2Go, and Amazon on legacy, precedent businesses such as Hilton and Walmart? Once small and novel, platform businesses have grown substantially in recent years to become a much larger part of the economy.

Taking this into consideration, we have selected the online fashion platform company "StyleShare" and its founder and CEO "Jayoung Yoon" as the final case. StyleShare is a platform company that allows fashion information to be shared online.

3.9.1 Profile of a Woman Entrepreneur

Founder and CEO

The Founder and CEO of StyleShare, Jayoung Yoon, is a young female CEO who is currently attracting world attention a lot.

Resin Man Kiss, Global VOGUE editor, visited the Styleshare in 2015, and commented "Styleshare is a strong team that changes the landscape of the fashion industry". Jayoung was also named as one of the 300 young leaders of 2016 selected by Forbes Asia and invited as a representative of Korea to the Global Entrepreneurs Summit hosted by President Obama in 2016.

Jayoung was born in 1988 in Seoul, Korea. She entered Yonsei University in 2007 and founded StyleShare in 2011 in her fourth year of college. During her college years, she was majoring in electronics, but she was very interested in fashion. At first she had no intention of making fashion a career, but as a consumer interested in fashion, she was gradually wondering if there was a chance for a fashion information service that was not available in the market at that time. One day, when she saw a magazine to get the information she needed to buy clothes that suited her at a reasonable price, she was disappointed to see that an expensive luxury brand of clothing was described as a

must-have item

‘What is fashion trend these days?’ ‘What should I wear today?’ ‘Where can I buy beautiful clothes?’ She started looking for a service that provides information on these questions. She finally found a UK personal blog, Stish.com, which provides similar information and went to England to meet bloggers. After this trip, she became convinced that her business idea was something feasible and she could start her business. Her business idea was providing a recommendation service that helps regular consumers with a normal body shape to dress well.

In her fourth year of college, Jayoung participated in a start-up competition hosted by a number of universities, and got a good result there. As she participated in several contests, her business ideas became more and more concrete, and she finally embodied her business idea as a service sharing street fashion information: through this, people could share and obtain information about the sophisticated attire found on the street.

In 2010, when Jayoung decided to start a business, the mobile environment was rapidly expanding due to the launch of smartphones in Korea. As she saw Facebook appear and the number of its subscribers increased, she thought she would do this with a website or mobile application.

Jayoung’s decision to start a business was made concrete when she met a startup accelerator. One day she attended a special lecture hosted by Yonsei Enterprise Support Foundation, and after the lecture, she had a chance to meet the lecturer to hear his advice on her business ideas. The lecturer was a representative of Primer as a startup accelerator, and, thanks to him, Jayoung got an opportunity to participate in the startup accelerator program with an investment of \$ 20,000, as her business idea was evaluated as excellent. She finally set up a company for \$ 25,000, including \$ 20,000 for investment and \$ 5,000 for school scholarships.

With the establishment of the company, she had to form a team to do business with service development and marketing. The Primer recommended her to work with a developer who had a long history of service development, and she thus teamed up with developers and school seniors. Her service, which remained only as an idea, started to become more concrete when she met a developer CTO, Min-hee Hong.

StyleShare team spent four months in developing StyleShare application in Boston, and they finally launched the app in September 2011. The team built an app for Android and iOS, and an internet website. Their app was selected as "NEW & Noteworthy app" and "What's Hot" in the Apple iTunes App Store. The team members were initially involved in service development, content and user expansion. The necessary funds for it were provided by the Small and Medium Business

Administration with \$ 70,000 in preliminary technology start-up funds and \$ 50,000 in prize money from entrepreneurship conventions sponsored by Money Today.

After only three years of sales in 2011, there was little sales, and in 2014 sales were only \$ 10,000, but the number of users increased rapidly to 1 million and monthly average number of visitors reached 300,000. Recognized for its achievements, in 2013, it attracted series A-level⁷⁶ investment from the founders of Daum, Lee Jae-woong and Suprema, and in 2014, they entered the full-scale commercialization in four years after starting their business with investment from series b-level⁷⁷ LB investment. As a result, the first ad sales were generated in 2014, and the sales started to increase from 2015. From 2016, sales were generated not only from the information sharing but also from the transactions of clothes and accessories in the photographs.

As for the future direction of StyleShare, Jayoung said "I think that StyleShare will be the fashion ground where young generation can play. Content and commerce will naturally be harmonized and serve as good media as a good store. I hope that newly launched brands or brands that do not have big funds will quickly gain recognition through StyleShare. I also hope StyleShare will act as a fashion incubator that will lead to sales. I think StyleShare is possible because it can act as media and distribution channels for those brands. We are confident that StyleShare will be a natural distribution channel for users to enjoy."

3.9.2 Profile of a Company

StyleShare started with a fashion-based SNS service that intends to help people to find the purchase information easily, on the fashion items that they see on the street. Specifically, StyleShare is a fashion information sharing service that allows users interested in style to upload pictures of their attire and also to ask questions about the size, dealer, and price of the fashion items to each other. StyleShare is growing into a fashion sharing platform company that creates new value by linking suppliers and consumers all over the world and also linking fashion designers and small and medium retailers.

To date StyleShare has achieved remarkable growth in all respects. First, the most important performance indicators of platform companies are the number of members and Monthly Average Users (MAU). In 2017, the number of subscribers reached 2.8 million, and the average monthly number of subscribers is 800,000, which means that 26,000 people on average use StyleShare each

⁷⁶ Investment in the process of making a prototype or beta version of a business into a formal service (product)

⁷⁷ Investments that are made when active services are required for marketing, services, and personnel recruitment needed to increase market share in the event that a formal service or product is recognized in the market

day. Traffic is rapidly increasing, with monthly average of 800,000 people visiting, 10,000 contents uploaded per day, and 78% of the members returning on average every week. More importantly, 2.4 million people, or 85% of the members, are young women under the age of 23.

For the first three years after the start of the business, there was little revenue, and the annual cumulative sales were only \$ 10,000 in 2014, but then in 2016 the platform company opened a store menu for sale in the StyleShare app and achieved a transaction value of \$ 400,000 in the first month. Since then, the turnover has increased rapidly, reaching a cumulative total of \$ 9.2 million in April 2017, exceeding \$ 27.5 million by the end of December.

Before making this achievement, StyleShare had prepared a lot of things for the platform company. From 2011 to 2013, StyleShare focused on developing services and recruiting members, and did a variety of activities to provide good content for retention. Mobile apps, the core of the business, were developed in 2011 and upgraded three times. StyleShare's mobile app was developed to support iOS and Android, and open source is used because open source does not have fixed cost burden such as license cost; it is economical; it has good performance and stability. By using mobile apps, users can upload purchase information such as the purchase place, price, and brand along with the photos they are wearing. It has comments, likes, follow, and notifications that enable users to interact and respond to uploaded information in real time. The StyleShare 2.0 version includes a collection function that allows the user to store necessary information separately, and a style feed function that updates every second in order to share the latest trends in real time. In 3.0 version, it has a store function together with a payment function and also launched a point reserve system called "button"

In 2012, StyleShare created an annual anniversary trend book, which was first released in the New York Fashion Week, and invited its members to the world street photographer event to give their members the latest fashion information. Partly thanks to these activities, the number of members has gradually increased to 500,000 in 2013 and to 1 million in 2014.

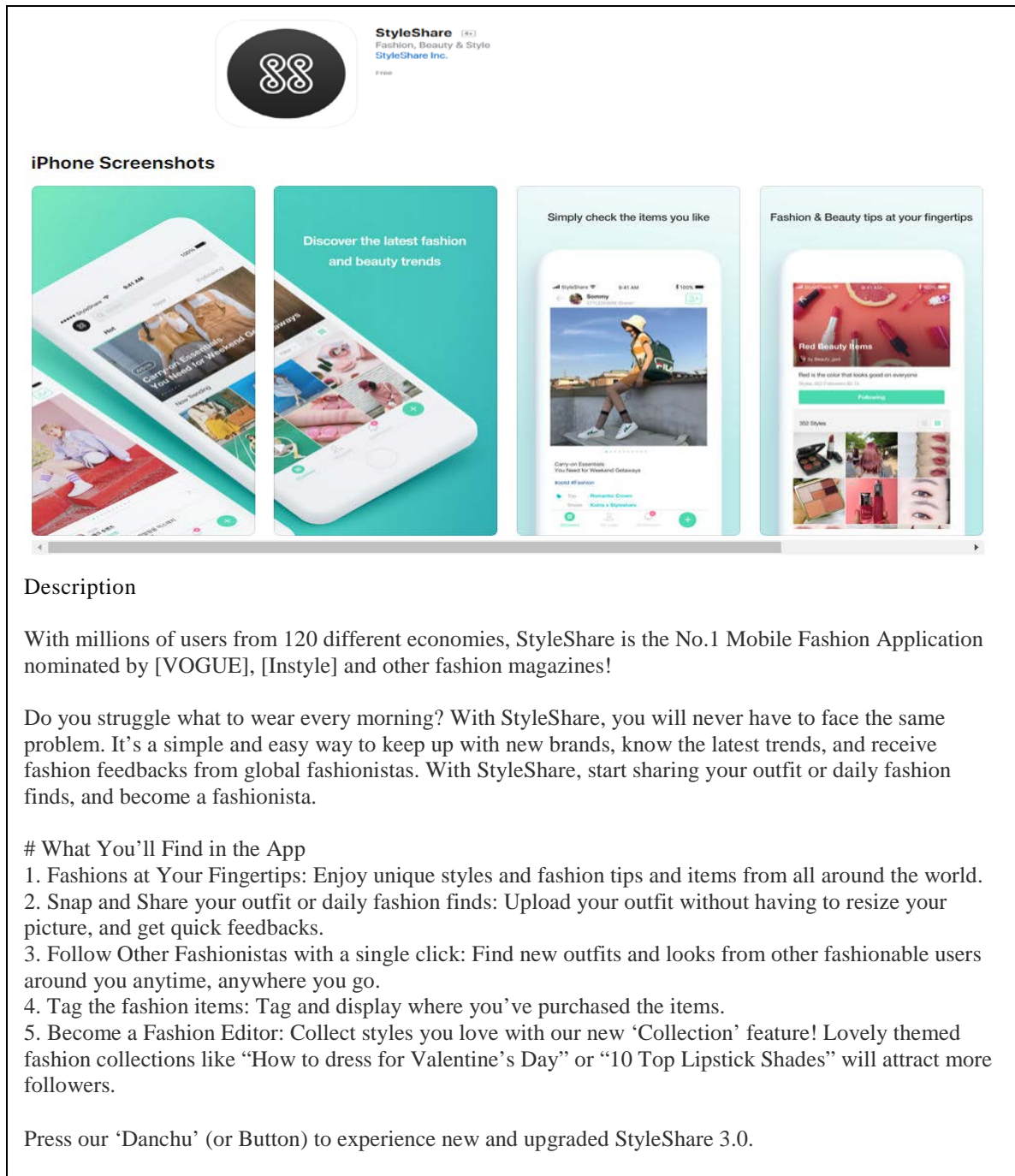
Since 2013, the market festival, a flea market, has been held annually for network effects. The number of participants has increased by 10,000 every year, and by 2017, it has reached 50,000. Participants are also becoming more diverse, including fashion designers, manufacturers, distributors and media.

StyleShare started business for profit in 2014. They launched an advertising system for advertising revenue and diversified revenue sources through various affiliate events. Then, in 2016, it was equipped with commerce function, and started to generate income from sales transaction in 2017.

As of 2017, StyleShare online store has 6,000 apparel brands, 300 shoe brands, and 300 beauty brands, and launches StyleShare's own branded products.

The following figure shows the StyleShare app.

Figure 4. StyleShare App for IOS



3.9.3 Findings

3.9.3.1 Success Factors

There are many success factors of StyleShare that has been growing rapidly during the six years since the foundation. Three major success factors selected are as follows.

Marketability

StyleShare was very attractive as a business item considering the fact that it successfully received angel investment only with a business idea even before the company was established.

In 2017, Korea's fashion market size was as large as \$ 40 billion. Fashion market participants are very diverse and enormous, including designers, manufacturers, distributors and public relations companies. Every player participating in the fashion market wants to know what the design of the final consumers like, what price they prefer, and where they can buy. Consumers also want to know what good clothes are available in the market, how much they cost, and where they are sold. Most of the companies engaged in the fashion industry are so small that they have a hard time in getting the market information they need, and, at the same time, consumers have too many kinds of fashion on the market to get the appropriate information. Therefore, fashion information sharing service is attractive to consumers as well as to fashion market workers. This kind of nature of the fashion market is well suited to the platform business. In other words, since the number of players in the fashion platform is huge and they have a strong desire to be connected with each other, the network effect through the platform can be maximized.

This type of fashion platform companies existed prior to StyleShare, but the companies provided their services were provided in supplier-oriented ways. The main difference between existing services and StyleShare is that StyleShare provides consumer-oriented fashion information, usually about popular brands, while existing services provide brand-oriented information, particularly about high-priced brands. StyleShare made it possible by leveraging mobile apps.

When StyleShare was established, the mobile environment rapidly improved, and the culture of sharing information such as blogs and Facebook was spreading immensely. As a result, StyleShare's business ideas received a lot of attention in many start-up competitions. When the service was introduced to the market, the number of its members rapidly increased to 100,000 in the first year, 500,000 in the second year, and one million in the third year.

Focus on Customer and Customer Needs

The success of a platform company such as a StyleShare depends on how much network effect is generated.

Network effect means that as the number of users who consume the same product grows, they gain more benefits from consuming the product. Considering network effect, it is very important to secure the number of users because the more the number of users of the StyleShare service, the more useful the service. However, simply having a large number of members does not mean that the network value is high. The value of the network is determined by the connection, not by the number of users. From that point of view, it can be said that StyleShare has network effects. In 2017, StyleShare has 2.8 million members, of which 85% are women under 23 years of age. Considering that the population of this age group in Korea is 5 million, 60% of this age group are StyleShare users. It is likely that these main users who share common characteristics are connected with each other through StyleShare and actively share fashion information, which will enhance network effects. StyleShare is successfully not only in terms of a total number of members but also in terms of network effects.

Then how did StyleShare get such a remarkable result? It can be said that it is partly because Jayoung had a clear target group in her mind from the beginning, and constantly improved and diversified the service to meet the user's demands. Jayoung's business was driven by her desire to provide consumer-oriented fashion information rather than supplier-oriented information. StyleShare has continuously focused on their customers' needs and demands.

StyleShare is designed to be easily accessible and easy to use through mobile apps. It allows users to upload all kinds of fashion information they want to know, such as price, store, and brand, and provide features such as comments, likes, and follow-ups in order to facilitate interaction with each other. Also, all the complaints and improvements from the users were shared with all the employees and the service was improved with reference.

In the early days of the business where there were only a few users and fashion contents, StyleShare broadcasted live broadcasts of New York fashion shows and Seoul Fashion Week at a great cost to provide fashion information to its members. They also made trend books and continued to build fashion content. With this user-centered service development and marketing, within three months of launching the service, StyleShare got the nickname of "Schweich," which means 'I want information' with a clear sense of purpose. When users access StyleShare and add a "Schweich" to someone's clothes or a fashion item photo, s/he will give the users information on the price, brand, and place of purchase. This way, members of StyleShare have created their own culture and created a solid bond. StyleShare has become a fashion-specific space for them.

As the number of users and activity indexes have increased, fashion designers and shopping mall operators have been joining as users and uploading their contents. As a result, users of StyleShare have begun to diversify, and network effects have begun to increase as the number of connections among various groups of members increases.

As for StyleShare, which has a higher number of users and activity indexes than other similar services, Jayoung explains:

“I do not think there is a big difference in function. The main differences between StyleShare and other similar services are content and users...Based on the number of members and active activity index, StyleShare is ranked third in the world. There is no place where users can respond to each other like in StyleShare. To sum up, I think that StyleShare is different in that sticky bonds have already been formed among the users, a unique culture has been created among them, and young people came to have their own special place for fashion.”

Join the Excellent Start-Up Ecosystem

Individuals with business ideas have many difficulties before they actually start business. Jayoung, who decided to start a business as a college student, also had difficulties as she only had a business idea but did not know how to start a business.

Jayoung was looking for help, and she came to have a great opportunity to meet a startup accelerator in a school foundation support event. A startup accelerator is a group that finds start-up companies only with business ideas, and supports them by providing office space or non-core tasks, or by linking them to consultants and experts as their mentors. Startups seeking help from startup accelerators were supposed to get a good appraisal of business ideas and participate in the programs that the startup accelerators provide. Actually, Jayoung did not know anything about the startup accelerator system, which might be what she needed most at that time, but she came to attend a special lecture about startups and, after the lecture, went to the lecturer to ask for his feedback about her business plan. The lecturer, co-president and the founder of start-up accelerator Primer, then advised her to apply for a startup accelerator named Primer club. Primer⁷⁸ is the first start-up incubator established in 2010 in order to create the domestic start-up ecosystem environment with the first generation of internet venture being the main axis and to give experience to young entrepreneurs.

With his guidance, Jayoung made a presentation about her business idea in front of the primer partners and successfully was allowed to join the Primer Club to participate in the startup

⁷⁸ <http://www.primer.kr/> Primer is Korea's first start-up accelerator that runs initial start-up capital investment and incubation programs in 133 startups from 2010 to 2017

accelerator program. As a member of the Primer Club, she received \$20,000 as entrepreneurial funding, mentoring and team members to work with. Besides, Jayoung made regular business meetings with mentors, set up key business indicators, set goals, and received advice on the overall business. Meanwhile, Jayoung met an angel investor who was a primer, and then learned about the ways to attract Series A and Series B investments, although it was not her intention to decide on the start-up ecosystem. Jayoung specifically described the following:

"I started my business with Primer investment from the beginning. At the beginning of the business, I did not think too much about the concept of investment. At that time, I had a strong desire to make good service, and I did not think that I was going to do business. Thanks to a good investor called Primer, I was impressed by the investment itself. At that time, the investor had a vague idea that he was the person who helped start the business. At the beginning of my business, my investment was like incubating. At that time, I did not have an ability to formulate business management strategies and to find out when I would need more funds. However, the investment came at a time when we lacked funds. In retrospect, I think it was the process that investors reminded me that we needed funds. In the meantime, we have invested in people we can respect. After receiving investment, I felt a need for IR (investor relation) but making a proper preparation was very difficult personally. It was not easy to organize myself and look back on my failures, but I learned a lot in the process.

I especially remember when I met a venture capitalist who reminded me of what I could not even think of. Angel investment or Series A may appeal to our enthusiasm, teaming, or idea, but it does not make sense in Series B investment. It was important to prove that we are the company that leads the market and shows visible performance. So the judges had different depth of questions. I felt like being tutored when I asked for data I could not think of, or when I asked about the meaning of the data. 'Oh, you can use this data in this way' and 'companies that have been evaluated to be growing up have been worried about this.' After returning from a venture capitalist meeting, I recreated their questions, and from then on, I was able to pick up and build up the data requested by the venture capitalist. "

Jayoung was a beneficiary of a healthy startup ecosystem functioning in Korea. She had a chance to meet a startup expert, gain supports from mentors, and receive funds from investors. Thanks to the help from the startup ecosystem, Jayoung could start and grow her business.

3.9.3.2 Challenges

StyleShare was a relatively easy startup unlike other startups, in terms of funding and management. It also succeeded in receiving large-scale investment from venture capitalists. But there were many difficulties in doing business, three of which are described as major ones below.

The Emergence of a Strong Competitor

In April 2013, when Naver, Korea's leading portal company, started to provide similar service to StyleShare, StyleShare faced the first crisis coming from the appearance of a huge competitor. Competition against large enterprises with a huge amount of capital was overwhelming. There are very few small companies that can cope with the rich capital and manpower of large corporations, especially in the case of platform business where it takes time to make profits. In this situation, netizens criticized Naver as an unfair trade practice that harms SMEs. As a result, Naver ended their new fashion service at the end of October 2013.

Other large companies have launched similar services, but they were not as successful as StyleShare. As Naver is Korea's largest internet company, StyleShare would have been a very difficult period if it had to continue to compete.

Rapid Organizational Change and Leadership Building

The most difficult time for Jayoung as CEO was when the entrepreneurial members left and she had to recruit a large number of experienced external personnel.

At the time of its establishment, most of the members of StyleShare were students, and they used the university space as their office. However, soon after it was founded and business was on track, five out of seven startup members left the company. At that time, when Jayoung saw the empty office, she had no intention of continuing the company, but she received advice and encouragement from her mentors and other career people to overcome the challenge by filling in the scarce manpower and to keep going.

However, Jayoung experienced the problem of manpower once again with the business booming and the large-scale investment. As the size of the company grew due to the large-scale investment, the role required for the CEO changed, which posed the biggest challenge to her. Regarding the situation of that time, Jayoung said,

"Before the team was upgraded, I was doing a lot of work myself, planning, marketing, and many others. However, there seemed to be a gap between my appearance and what people expected from me as CEO. I think I was deeply

distressed about what my role is and what my identity is. So I tried to change myself to fit what they wanted, but for the first time the business was so much less fun. It was the hardest time to do business. I was looking for advice, but in the end, my conclusion was that I had to live up to my style, and there was no other way around that”.

In the end, she did not lose her style but maintained her unique strengths while playing a role as CEO. One of her biggest strength was a deep understanding and affection for fashion and customer needs.

3.9.3.3 Policy Recommendations

Develop Manpower to Deal with Digital Technology

StyleShare is a platform company that is a representative business type in the 4th industrial revolution era. Internet, big data and artificial intelligence are important things in this new age. Digital intelligence connected with them is expected to bring about changes in society as a whole, and business based on them is expected to grow as well. Also, data, rather than capital and labor, which are important elements of existing production, will play an increasingly more important role as a new factor of production. Therefore, in the 4th industrial revolution era, competence to collect, analyze and utilize data will be important as a means of creating new value.

Against this background, the demand for the manpower to understand and deal with digital technology will increase, and securing the manpower with such capability at the start-up will be more important than anything else. Therefore, governments should establish a policy that can help to develop relevant competencies and link competent people to the places where they can work properly.

Establish a Network

It is also necessary to establish a network that can connect a potential entrepreneur with a business idea and a developer with development ability.

Create an Effective Startup Ecosystem

In solving the problems of entrepreneurship, governments should make policies and regulations that can promote easier startups, rather than provide funds and evaluate performance from a short-term perspective. It is important to focus on a policy that builds the environment and infrastructure from a longer-term perspective, such as a startup accelerator that invests business funds to entrepreneurs, or a policy that helps venture capitalists effectively support successful entrepreneurs.

3.9.3.4 Advice for Women Entrepreneurs

Jayoung gave three kinds of advice to other women entrepreneurs.

Focus on a Business Item that You Know Well

When asked about when to start a business, she said, "Start-up is your own choice, so you should start when you can convince yourself 100%." Regarding how to prepare for start-up, "If you decide to start a business, you should choose the item that you are most affectionate and can do well. Understanding the field is much more important to understanding consumers than understanding how. You need to be able to find a consumer's pain point and present a solution to that pain point. Most importantly, the founder must have an answer to the pain point.

Forming a Solid Team

When asked about what is important in the process of starting a business, Jayoung said, "There is no certainty at the beginning of the business, and it is difficult to recruit team members to work together. If you are convinced that it is really necessary for consumers, you have a lot of stress. It is very important to have a solid team that can work together and share their concerns when there is a hard time."

Network with Others

Finally, when asked what is important in the process of doing business, she says, "I do not step on a big landmine. If you do a hard job alone, you are exposed to a lot of dangerous moments. I often meet people, share their concerns and listen to their opinions."

3.9.3.5 Summary and Discussion

It took two years for a female college student who was interested in fashion information to generate a business idea with steady market research. She then met with a startup accelerator who participated in initial business start-up funds and mentoring programs, and in 2011 StyleShare was finally established.

During the first two years, StyleShare focused on service development and user recruitment, and in its third year, due to its satisfactory performance, the company succeeded in attracting large-scale investments. StyleShare invested the fund in manpower and developed additional services to earn real profits while diversifying profit sources such as advertising and co-marketing. With the introduction of the billing system in 2016 and the launch of the sales service, transactions started, and, in the 6th year of the business in 2017, the annual cumulative transaction value of \$ 27.5 million was achieved.

The story of Jayoung and StyleShare is a good example of what role the startup ecosystem can play in producing successful entrepreneurs. The startup ecosystem consists of multiple actors, including government, startups in their various stages, and various types of physical or virtual organizations, including universities, funding organizations, support organizations (like incubators, accelerators, co-working spaces etc.), research organizations, service provider organizations (like legal, financial services etc.) and large corporations. All the players in the ecosystem are interacting as a system to create and scale new startup companies.

Jayoung roughly formulated her business ideas in the beginning, but, with supports from the ecosystem, she could refine the original rough ideas and encounter precious opportunities to start and grow her business. She had an opportunity to present her business ideas through various venture contests held by universities, media, and government agencies; she was given advice and other necessary helps by her university that provided training and information necessary for start-up for the students interested in start-up; she was also connected with mentors and other institutions in the entrepreneurial ecosystem; she gained startup funds as a member of an incubation program. Later StyleShare succeeded in attracting large-scale investment after finishing the startup accelerator program. At that time, StyleShare had little revenue, but the cumulative investment amount reached \$10 million. The investment amount was used to boost the business, and it reached \$30 million transactions in 2017, just six years after its foundation. The footsteps of StyleShare show how a business idea can grow with a help of entrepreneurial ecosystems.

If a healthy startup ecosystem is built, it is possible for an individual with plausible, solid business ideas to start a business even if they do not have enough resources. Because of the intertwined interests of individuals or organizations involved in startup ecosystems, if the trust among the players is maintained, the ecosystems will prosper and startups benefit from the flourishing ecosystems. A healthy startup ecosystem with a trust relationship will boost and vitalize entrepreneurship. As the entrepreneurship becomes more active, the ecosystem will flourish as well, creating a virtuous circle of entrepreneurship.

If the startup ecosystem is well developed, there will be more opportunities for value creation through new innovation, which is critical to the current 4th industrial revolution era. Prospective founders or entrepreneurs need to understand the current entrepreneurial ecosystem, find reliable agencies and build networks with them.

Before anything else, it is important to thoroughly prepare the business ideas, and to do so, potential entrepreneurs need to try to get advice on their ideas and opportunities for evaluation.

These opportunities can be obtained by participating in various business idea contests hosted by the key players in the ecosystem or other relevant related meetings. Networking also has the potential to create such valuable opportunities.

3.10 Case Study of Malaysia⁷⁹

3.10.1 Profile of a Woman Entrepreneur



“My name is Nur Asyikin Binti Ismadi. I was born in Kuching, Sarawak, 7th of March 1990. I am 27 years old and of Malay ethnicity. I live at Kuching, Sarawak with my parents. I run a small shop here which is called Borneo Box registered under the company Alysa and Soo Company. I obtained my diploma from Polytechnic Kuching majoring in Civil Engineering. After that, I furthered my study for my bachelor at University Malaysia Sarawak (UNIMAS) in Politics and Government Studies. I work full time at an Electrical Engineering Company in Kuching as an Assistant Engineer. Prior to this, I worked part time by helping my aunt in her business from 2005 until 2011. I also worked as a draughtsman at a Civil Engineering Company from 2011 until 2012.”

All my family members started their career in business. My family has inherited the business of salted Terubuk fish from my grandfather. My grandfather was first doing this business and followed by other family members. My grandfather has been in this business for over 20 years. The salted fish business was introduced by my grandfather and only ran on a small scale. Their business is in Kuching which is call Medan Niaga Satok. Direct selling was the only method my family used to run the business until now”.

⁷⁹ This case study was conducted by Parveen Kaur, Senior Lecturer, University Malaysia Sarawak, Malaysia.

3.10.2 Profile of a Company

Alysa and Soo Company was established on 25th June 2016 and is registered under the District Office. The name of the shop is *Borneo Box*. This shop sells products which originate from Sarawak. This shop has been operating for over one year now. The business operation hours are from 9 am until 8 pm from Monday to Sunday. It is a shareholder business and was set up by Nur Asyikin and Nur Alysa (her partner). Their company's aim is to keep the business in strong position and secure profitable growth. They have two workers including the entrepreneur herself. One is her sibling who is responsible for managing the shop in her absence. Nur Asyikin manages the account and marketing of her company. Besides that, she also processes the salted Terubuk fish and bakes Sarawak layered cake.

The company's vision and mission are;

Vision: Create highly trained and efficient team and good customer service.

Mission:

- Create and cultivate long term relationship with supplier and customer.
- Achieve complete customer satisfaction and improve service continuously.

Alysa and Soo Company uses many methods to reach the customers. First, they sell a variety of products. Besides salted Terubuk fish and layered cake Sarawak, Alysa and Soo also sells other products that can fill the customer's needs. This company uses direct selling and online methods to reach their customers. Direct selling customers come to the shop and buy the product directly. Postage method is also used when customers order online. Social media such as Facebook, Instagram, Email, and Twitter are used extensively to reach a wider range of customers. Hashtags are also used to make it trendy and easy for potential customers to find the products. Another benefit of using social media is also that the customer's questions will be replied instantly. The social media is also beneficial as the release of information and feedback are often updated easily. Communication with customers are important in following up positive and negative feedback so that improvement to their service and products are done.

Cost and Profit.

The graph below shows the profit after six months of starting her business. From the graph, the high profit that she obtained was in October and December 2016 which was RM7500 (\$ 1842) due to the school holidays. June shows lowest profit as it was the beginning of her business and people didn't know about her shop yet.

The table below shows the cost when starting her business.

Table 6. Cost Starting the Business

Starting business	Cost
Shop Deposit	RM6,000 (\$ 1430.28)
Raw Material	RM3,000 (\$ 716)
License	RM500 (\$ 120)
Others	RM500 (\$ 120)
Total	RM10,000 (\$ 2384)

The graph below shows income after 6 months of starting business.

Figure 5. Graph Income after Six Months (from June until December 2016)



The products sold in her shop are:

- Salted Terubuk Fish and other fish
- Sarawak Kolok Mee (noodle)
- Handmade Layered Cake Sarawak
- Tabaloi (a mixture of desiccated coconut, sago and sugar)
- Sarawak Black Pepper
- Shrimp Paste

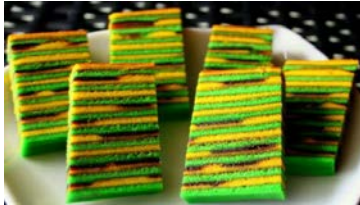
- Sarawak Laksa (Curry) Paste
- Salted Fish Egg
- Sarawak Cencaluk (fermented small shrimps or krill)
- Ring Cookies
- Sarawak Songket Fabric (machine embroidery)
- Gambir Sarawak Asli (an astringent extract obtained from the leaves and young shoots of a tropical Asian shrub)

Below are photographs of her products:

- Salted Terubuk Fish and other dry fish



- Handmade layered Cake Sarawak



- Sarawak Laksa Paste



- Sarawak Cencaluk



- Sarawak Songket Fabric



- Sarawak Kolok Mee



- Tabaloi



- Shrimp Paste



- Salted Fish Egg



- Ring Cookies



- Gambir Sarawak Asli



- Sarawak Black pepper



The flow chart on how Nur Asyikin processes the salted fish is shown as below;

- Workers will process by cutting the fish into two



- Workers will clean the fish that has been cut and ferment the fish with sufficient amount of salt



- Finally, let the fish sit in and dry up for two hours Salted fish is ready for sale



3.10.3 Findings

3.10.3.1 Success Factors

Model /Capital

Model/ capital is crucial in any business. Although Nur Asyikin had lack of capital before starting her business, she decided to withdraw and use up all her savings. A pointer here is that it is important to know what your business goals are going to be on to help in the capital investment decision.

Partnership

One of the success factors in starting up this business was because of her partner. Alysa and Soo Co. is actually a shareholder business. Her partner's name is Nur Alysa bt Dillah. She encouraged

Nur Asyikin to start the business as she was very interested in doing one. They shared the same goals and vision. She had a skill in baking layered cake while Nur Asyikin had a skill in processing salted Terubuk fish. Due to their skills, this encouraged them in starting the business. They planned their business during their final semester and started right after they graduated. This was helped by their good communication in keeping each other up to date on all things related to their business.

Family Influence

One of her success factors is her family influence. She liked the way her aunt handled her business. After her aunt took over the business from her grandfather, their business became more successful. She admired how she handled the business in term of accounts, promotions and communication with customers. Besides that, in her family all of them are involved in business as their career.

Skills

Nur Asyikin is a good learner in business. She gained her experience in business when she was doing her part-time job with her aunt. She learnt how to have a good communication with the customer, ways to reach the customer and also learn marketing and promotion with and without using ICT.

The Opportunity

Before starting a business, the location of the shop needs to be convenient for the customers. The reason this location at Kota Samarahan is chosen is because if the people nearby want to buy salted Terubuk fish, they have to go to the market that is located in Kuching within 45 minutes from Kota Samarahan. In order to make it easier for the customer to find Salted Terubuk fish without having to travel a long way, the ideal location is considered. Besides that, there are many shops, restaurants and a higher learning institution near to this shop. This gives an opportunity in providing a good business environment.

Love for Business and Work Independently

Her background is from a family of business people. Her aunt, younger brother and grandfather are all involved in business. Therefore, she makes them as her inspiration to start the business. She always had a passion for business. She wanted to be her own boss. Besides that, as a businesswoman all the decision making is in her hand. So, if her business fails it is because of herself, but if it is successful it is because of her too.

Hands on

In the business world, one has to create their own products to achieve more satisfaction. As we know, Salted Terubuk Fish is one of the popular foods in Sarawak, so her long term intention is to market the salted fish internationally. When she creates something new, she feels more satisfied.

One of her dreams is to create something that doesn't exist yet and becomes the first to penetrate the market.

Income

Money is another factor for her to take on a new career as an entrepreneur. After her graduation, she didn't have a stable job, so that encouraged her to start a business to live a better life. By starting her own business, she can break free from actuarial perspective and redefine the value of market.

Make a Change

Business is her dream and she loves to be involved in the business world even though she knows there are a lot of challenges and risks. She wants to prove to her family that even though one has education, it doesn't mean they have to work in the government sector in order to have a good life. Business is also a career that can change one's life. The success in her business is due to hard work and effort. She wants to attract young people and women especially to venture out into the business world. As we can see, nowadays people fear to face and take a risk in business. That motivates her to challenge herself to venture out in business.

ICT/ Smart Technology

Nur Asyikin started her business without the use of any ICT/ Smart technology method. Her business was slow and she found it difficult to reach a wider population as she only relied on customers coming to her shop on their own. After 6 months, she started promoting her business via Facebook, Instagram and Whatsapp and found that her business bloomed easily and at a significant pace. Her income doubled and her motivation to succeed even more was apparent. Thus, ICT is one of the most important modes for any business to flourish. Today she is learning to build her own website and is very thankful to the benefits of ICT.

3.10.3.2 Challenges

Lack of Capital

After graduation, she didn't have any permanent job and was only doing part-time job by helping her aunt. At that time, she also had small savings of her own. Besides her money, her partner also invested in the company and helped to get more money to invest. They started a business with limited capital and only sold goods in a small quantity.

No Support from Dad

As a parent, her dad wants a good life for her. He wants her to work as a civil servant because she has a good education and deserves to get a job based on her qualifications. Thus, he didn't support

her in building the business with her partner. From her dad's point of view, he thought that nowadays there are many cases of partners backstabbing and absconding the business. Therefore, she told her dad to give her time to prove that she is able to manage her business with her skills. She also convinced her dad that she was able to handle the business and promised not to give up.

Tricked by Customers

As a newcomer in business, she was always tricked by people who liked to take advantage of her business. For example, there were some customers who brought her products by not paying for the items. The customers told that they forgot their wallets at home and promised to pay by the evening. But, until now the customers have not paid for the purchased items. After that incident, she is very careful when confronted by a customer who gives the same excuse. She is afraid that customers repeat the same thing so she takes the initiative to be more insistent with the customer.

Abscondment

Her partner left their business suddenly after 6 months without giving any reason or explanation. This is because of their misunderstanding, miscommunication and lack of cooperation in marketing and profit. After that incident, Nur Asyikin became very moody and didn't want to further her business, but her family and friends gave her the support and motivated her. She then decided to handle the business herself by getting more knowledge and learning from the past mistake. She also got motivated and confident after reading motivational books about successful businesses.

Short of Manpower and Trained Workers.

She has problems in finding a worker that can process and package the salted Terubuk fish and bake layered cake as there is a lack of trained workers because the work needs professional training.

Lack of Marketing Skills

Prior to this, she didn't have any knowledge about marketing using social media applications. She started the business by setting up the shop and only displaying the product. She also provided brochures to give to nearby communities. She started learning how to use Facebook, Instagram, Twitter in order to make people know about her business. She learnt about marketing by reading successful business books. She realised that using ICT and without ICT when running the business are different. By doing online business, she now gets more customers not only from people living in Sarawak, but also outside of Sarawak.

Time Management

Besides running her business, she also works full time in a private company. Prior to this, her partner manages the business while she was working. After the incident, she has to manage her time working and handling business. On weekdays, after work she goes to her shop and processes the Terubuk fish. During weekends, she bakes layered cake and also processes the fish. This may cause lack of focus and lead to generally lower quality of product. She often feels stressed and too rushed to do what needs to be done and more likely to make mistake and overlook details.

Lack of Opportunity for Loans.

When she first started the business, she had the problem in terms of capital. Due to limited capital, she could only sell goods in small quantity. She even tried to apply loans from the government at the beginning of the business, but one of the procedure to apply was she needs to start up and run the business for 6 months. Only after that, the loan can be applied. Besides that, to get the loan it takes time to approve. Some government agencies take until half a year to approve.

3.10.3.3 Policy Recommendations

Association for Women Entrepreneur

Create an association only for women entrepreneurs which renders services such as teaching and learning. Some women have low confidence to show their self-worth in business. They might think that they are not as strong as man to do business and compare themselves with other successful businessmen. So, if an association for them (women) is established, they can be consulted, motivated and advised so they will think outside the box and be positive.

Focus on Rural Areas

Focusing on areas where women are less active such as rural areas. As we know, there is less focus on rural areas. There needs to be some research on women entrepreneurs in rural areas. This is because these women don't have enough money to go to the city to ask about business opportunities.

3.10.3.4 Advice for Women Entrepreneurs

Believe in Yourself

Believe that you can do what other people can do. You need to believe that you can succeed and find ways through difficult obstacles and challenges. Don't find excuses if you want to become a successful businesswoman.

Have a Vision, Take Action and Know Your Goals

Start your business with listing out your vision and mission. Always keep your vision clear at all times and remember that success comes through action. Start doing and quit talking about your dream without action. Focus on your target. Set your goals and remind yourself about your goals. Keep this in mind every day to ensure you're working on it.

Be Patient and Invest Your Time

In business, one shouldn't expect success immediately. No one successful entrepreneur starts the business and becomes successful easily. It takes a lot of patience, determination and endurance to become successful. Be patient and do what you think is best and don't afraid to invest time in your business. Remember sometimes we make loses, but take it as a challenge. In business, there are many challenges we have to face. Learn from the mistake that will make you closer to success even though you initially failed.

Target on Your Customer's Needs.

Customer is one of the main keys to success in business. Know those you serve and you are able to deliver the solution to their needs. Sometimes there are some customers who complain on your service that might not be good. So, take it as a greatest source of learning and let the customer teach you where the gaps in your service are. Learn to ask the customer's feedback.

Seek the Source of Financial Help

Finance is one of the key aspects to run the business. Having not enough capital can have a serious impact on the future of any business. Invest in your company to allow new opportunities that arise and create new products to enable you to expand. Source financial help that can provide a useful advantage to your company.

Gain Family or Husband Support

Women especially need a strong support from their family or husband. Some families worry and are concerned because they do not want these women to fail, or they are afraid of the risks involved. Family plays an important part in the business. Gain your support by discussing your business plan with your family personally, to acknowledge their concern and make them understand how important this business is to you. Show and prove to them that you are serious about the business and gain the support of your family. Besides that, convince them that you are focused to start the business by showing some progress.

Use Your Skills to Create Product

Use your own skills to create your own product. The products that you create are based on your goals and, most importantly, are what the customer needs. You will get your satisfaction when the customers are satisfied. Design your own logo to make it more attractive and personal.

Public Relations

Meet other entrepreneurs so that you learn their experiences. Build public relations with them and ask for their help about the business world. Get them excited about the concept of your business. Find a mentor that can be someone you look up to who has already achieved a level of success so that you can follow their ways. Find a way to connect with a person you want to be mentored by and ask if they would consider mentoring you. You can also improve your public relations with your customers by interacting with them frequently.

Social Media/ Physical

Social media is a powerful marketing tool for businesses. It can quickly become a vital part of online business. If we don't have enough to start the business, use social media first. We can create the account in order to run the business. People can easily connect with the business using social media. You can provide network setup, maintenance services and management from there; you can learn how to manage business and your customer's needs. Marketing often takes time. Be patient for it will be beneficial to your business generating activities.

3.10.3.5 Summary and Discussion

Below is the summary of Nur Asyikin's journey in her own words.

Method Used in Starting Business without ICT

“When I started my business, I set up a shop by displaying my products. After that, I was distributing brochures to nearby communities and students at nearby institution of higher learning such as University Malaysia Sarawak and University Institute Technology Mara. I placed banners in front of my shop to introduce my business to people nearby. I told my friends about my business by giving them my business card and making promotions early in the business”.

Method Used with ICT

“After six months of running my business, I started using ICT such as Facebook to sell my products on social media. We created an account page on the name Borneo Box as my shop’s name. I updated all my products in Facebook to let people know more about my shop. After that, we also created Email, Twitter and Instagram so people can easily connect with the business. Due to using social media after six months, my profit increased more than I got without using ICT. I learned and got more knowledge on how to use social media to promote my business. I obtained customers, not only people who live in Sarawak, but outside Sarawak as from West Malaysia. Now, I will start to create Website and Blog, so that the customers can get more information about my business”.

Support

“I have great motivators such as my parents, friends and also all of my family who always inspire me to build a business. One of my supports to build business are my mother and siblings. They give me advice and support in terms of money and help me in my shop when I have to bake the Sarawak layered cake. Besides that, my friend that I have known since study and also love business, Sabtuyah Annur always gives me advice and motivates me when I encounter problems in business. Also, my lovely lecturer Dr. Parveen Kaur whom I know since semester one in University Malaysia Sarawak, motivates me not to give up and always be strong to face the challenges in business. They also buy the item from my shop to show their support and promote to their friends about my business. Sarawak Economic Development Corporation (SEDC) also gives me support by providing equipment to bake the cake. Besides that, I get motivation from reading books about successful business such as Dr. Azizan Osman, Dato’ Alif Syukri and others to know their experiences when they started the business until successful today. All these have kept on supporting me in business until now”.

Speciality of My Own Product

Alysa and Soo Co. has their own products which are Salted Terubuk Fish and handmade Layered Cake. The specialities of my own product are;

- Salted Terubuk Fish

“There are two types of Salted Terubuk Fish which are dry and wet. The speciality of Salted Terubuk Fish is that it can only be obtained in Sarawak. Besides that, the speciality of Salted Terubuk Fish is on how we package the fish in a box when the customer wants to bring in on a flight. The price of Salted Terubuk Fish depends on the market price of fish”.

- Handmade Layered Cake Sarawak

“Speciality of Layered Cake Sarawak is we bake the cake fresh by request of the customer. If the customer orders the cake, I will bake it one day before. Handmade Layered Cake Sarawak has many colours and flavours. Flavours that customers love are chocolate cheese, oreo cheese, watermelon, and apple.”

Future Plans

“To improve my business, I want to upgrade my company by making frozen food based on Salted Terubuk Fish. As we know, people only know to cook Salted Terubuk Fish in terms of fried Salted Fish and steamed. Therefore, I want to introduce the variety of cooking Salted Terubuk Fish such as Ikan Terubuk Masak Asam Pedas, Masak Asam Jawa and the most popular that the customers love is Ikan Terubuk Masin Masak Lemak. This is my next plan to improve my business and become the supplier of Salted Terubuk Fish and other local products of Sarawak internationally”.

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3.11 Case Study of Mexico⁸⁰

3.11.1 Profile of a Woman Entrepreneur

Dr. Guillermina Cabral has over 25 years of experience on Information Technology (Design and Implementation of Systems and Databases), Consulting on Best Practices on Software Engineering and Strategic Planning Procedures and Training.

Dr. Cabral is a Partner and Software Director of Intranetslab Mexico (since 1999), a software and IT consultancy firm with main operations in Mexico and the United States. Her main responsibilities in the company are:

- Design of systems for providing IT applications through Internet (Cloud Computing)
- Design of customized IT applications
- Management of the IT development department in the company
- Consulting on process optimization
- Consulting on IT strategic planning

Some of her clients are: Government of Mexico, Koblenz, Middleby.

Prior launching Intranetslab Mexico, she was the President of Guillermina Cabral y Asociados, a consulting firm specialized on IT consulting, process optimization and IT strategic planning (1993-1996). Some of her clients at that time were: InterManagement, KPMG, Met Life, Aeromexico.

Dr. Cabral served as a Research Associate at the Research Centre on Strategic Technology of Andersen Consulting in Chicago (1989-1992). She was responsible for software engineering projects; design, assessment and training on methodologies and software engineering tools; consulting on software development. She worked with the Department of Defense in the United States, IBM, General Motors, among others, during that period.

During her studies in the United States, she was Research Assistant at the Software Engineering Research Centre (SERC), Purdue University, where she mainly provided consulting and training on software engineering.

Guillermina Cabral holds a PhD in Computer Science from Purdue University, SERC (1985-1990). She has a Master's degree in Management Information Systems also from Purdue University (1982-

⁸⁰ This case study was conducted by Perla Buenrostro Rodriguez, CEO, Bolder Group, Mexico.

1984). Dr. Cabral was awarded the Fulbright Scholarship from the Government of the United States towards that end. Dr. Cabral obtained a Bachelor's Degree in Industrial Engineer (summa cum laude) from Universidad Católica Madre y Maestra in Dominican Republic (1976-1981).

Dr. Cabral has been awarded the following distinctions:

- Prize to the Best Instructor of the Year (1985): Computer Science Department, Purdue University
- Maurice Halsted Prize: Research on Software Engineering (1989) Software Engineering Research Institute, Purdue University
- One of the 20 Women Entrepreneurs of the Year (2006) Revista Mujer Ejecutiva, Mexico City
- Member of the Executive Board of the Mexican Association of Business Women, Chapter State of Mexico (2005-2010)
- Vice-President of Communications, National Network of Mexican Business Women (2005-Present)

3.11.2 Profile of a Company

Intranetslab was established in 1996 in Holmdel, New Jersey, the USA. The company develops software for companies in the United States and Mexico. Intranetslab is a “Cloud Service Provider” that offers the BIOSS ERP software in the cloud. This Enterprise Resource Planning (ERP) software was developed by Intranetslab. Intranetslab offers several solutions for companies wishing access to a tool and consulting services that will help them meet fiscal requirements in Mexico.



Intranetslab, Their Value Proposition and Vision

Intranetslab is a 'Cloud Service Provider' which has been on the market for almost 20 years. Developing ERP solutions has been their core business. They have been successful for a long period of time and have been able to attract a wide diversity of clients, from micro, small or medium companies to big ones, such as Koblenz. They were born to support Koblenz, they are still next to their premises in the State of Mexico, and continue to be a technical branch of this company.



Roberto Serrano, Chief of Operations of Intranetslab, next to their servers.

Their value proposition is based on flexibility and adaptability to Mexican laws and regulations and customization. With a 'key in hand' approach, they promise to provide amicable solutions for companies aiming to plan their resources and navigate Mexican laws and its constant modifications, particularly related to taxation and administrative requirements, as well as to adapt to their clients' needs.

Some of the advantages of Cloud Computing are that it is a safe, less expensive compared to more robust options (such as the ones offered by SAP, Oracle, etc.) and a scalable model. Companies can manage and monitor relevant information, from sales, invoices, human resources to accounting, finance, etc. Their business model is based on only charging rent fees depending on what their clients use, as opposed to a burdensome license system with fixed charges.

Intranetslab has focused on a market niche of small and medium companies as they normally do not have established process or methodologies for managing and planning their business resources.

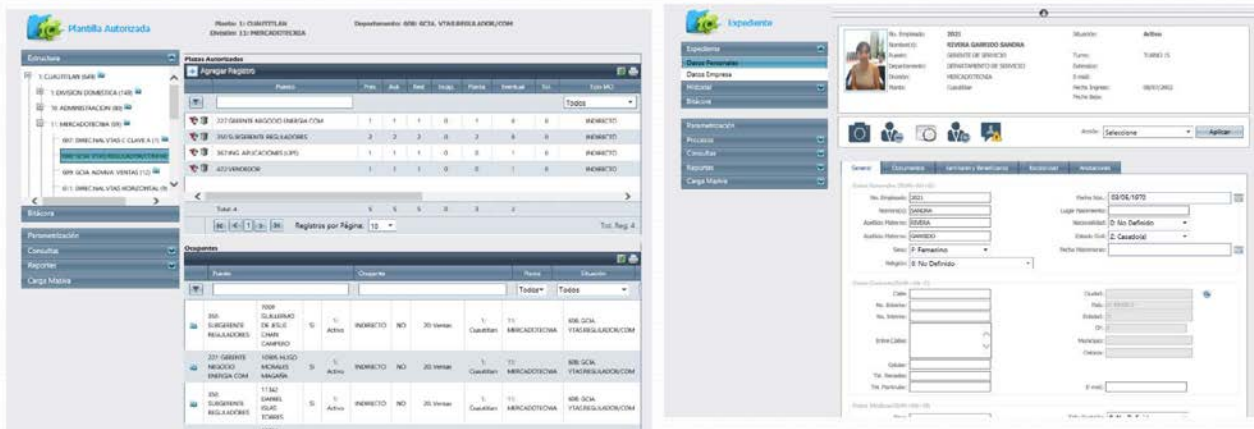
Their clients do not have to invest on infrastructure nor personnel for implementing their IT solutions. Dr. Cabral assures that within 3-months companies can start using their ERP.

Intranetslab offers packages with specific modules depending on their clients' preferences: commercial, production, payroll, services, accounting, help desk, etc. Their clients pay a monthly fee, with 10 as the minimum number of users per subscription, although they adapt to smaller companies. Their portfolio of clients includes manufacturing companies, importing agencies, shops and supermarkets, accounting firms, medical cabinets, transportation agencies, human resources firms, among others.

Intranetslab provides a technical and comprehensive support system for their clients; it works at three levels: Help Desk for general questions; Second Level with support from certified consultants, and Third Level, with help provided by the development team.



Look & Feel of Intranetlab's Solutions.



Solutions Particularly Focused on Talent Management

The company has been innovating and incorporating new modules to respond to their clients' needs. In 2017 they started to offer the payroll module following up Koblenz's requests.

The future seems steady and clear for Intranetslab as they are investing and developing mobile solutions for their services. The trend is to turn the ERP into a lighter solution as well as to offer mobile services that could complement Intranetslab's operations in the cloud. The company is working towards that direction and expects to launch an App this year.

BIOSS-CFDI

The BIOSS-CFDI Service is designed to provide electronic invoicing to the following type of companies:

- Foreign companies that are using a software package that does not support electronic invoicing for Mexico.
- Companies that are not ready to migrate to a full blown ERP.

This software allows you to generate, print and share electronic invoices in a user friendly way and in compliance with Mexican Law.

BIOSS-LITE

The BIOSS-LITE Service is a simplified version of Intranetslab's ERP, which integrates the following modules:

- Electronic Invoicing
- Accounts Receivable
- Accounts Payable and Banks
- Accounting

The electronic invoicing and accounting features are the same as those offered in BIOSS-ERP.

BIOSS-ERP

BIOSS is their web-enabled ERP Solution that resides in the cloud and integrates the following modules:

- Electronic Invoicing
- Sales and Accounts Receivable
- Purchasing, Accounts Payable and Banks
- Customer Service

- Inventory Control
- Production Control
- Accounting

Intranetslab has customers in Mexico, the United States and Europe.

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3.11.3 Findings

3.11.3.1 Success Factors

Dr. Cabral has achieved a successful career on IT and businesses in the last 20 years thanks to her substantive knowledge and experience on IT consultancy, the support from a good team, including her business partner, as well as a partner in her personal life, her husband, who has encouraged her career and business.

Substantive Knowledge and Experience on IT Consultancy

The story of Dr. Cabral is one of a very dedicated student and professional. She graduated as Industrial Engineer (*summa cum laude*) from the Universidad Católica Madre y Maestra in Dominican Republic (1976-1981) and immediately pursued a Master's degree on Management Information Systems from Purdue University (1982-1984) in the United States.

She was always attracted to computing; "I have always been the nerd", she said. Guillermina was raised by a single mom, as her dad passed away when she was five. "You have to see what you will do with computing as we do not have money to pay for another career," Guillermina recalls her mother's words.

During her Master's degree, Guillermina worked as Research Assistant at the Software Engineering Research Centre (SERC) in Purdue University, where she mainly provided consulting and training on software engineering. She then decided to pursue her Doctoral studies in that same university.

She was awarded the prestigious Fulbright Scholarship from the United States government towards that end.

Guillermina and her husband, a Colombian citizen, decided to move to Chicago in 1989 as he was conducting his doctoral studies in Physics in that city. Dr. Cabral worked as Research Associate at the Research Centre on Strategic Technology of Andersen Consulting (now Accenture) in Chicago (1989-1992). She was responsible of software engineering projects; design, assessment and training on methodologies and software engineering tools; and consulting on software development. That experience was very relevant for her career as she managed big project for clients such as the US Department of Defense, General Motors, among others.

Dr. Cabral, however, was not pleased with her life in the United States and therefore decided to move firstly to Dominican Republic, as one of the mandatory requirements of the Fulbright scholarship is that former students get back to their economy of origin. She dedicated there to consultancy work for a few years; among her clients there were some important banks.

Finally, the family (they were already 3 members, including a 5 years-old boy) moved to Mexico City in 1998 as Guillermina's husband received a job offer from the National Autonomous University of Mexico. Dr. Cabral then started her entrepreneur journey at her new home economy: Mexico.

Support from a Good Team

In 1998-1999, Guillermina and Roberto Kohler, his business partner, launched their business, Intranetslab. "We were a couple of nerds that did not know anything about business; it was difficult for us to become entrepreneurs and start this new endeavor," she recalled.

Towards that end her work experience in Chicago was very significant. Their first important client was Koblenz and their main responsibility was assessing software for that company. They continue outsourcing IT services for Koblenz until now and are located within the premises of this company in the State of Mexico.

"It was the time of the Y2K. The success of the company has been highly determined by the momentum that technology was experiencing. It was a breakthrough moment worldwide and also in Mexico," Guillermina acknowledged.

"Being software consultants has been strategic for the company's growth; we focus very much on adding value to our clients with technological solutions. That is our core business", she added.

“Both partners are very passionate about what we do and we communicate that to our team, clients and stakeholders”.

Dr. Cabral defines herself as a business woman with good eye to see business opportunities.

“I like to take risks. My partner is more cautious. We complement each other very well and that has been extremely relevant for our long term business relationship”.

Guillermina and Roberto had been good friends and colleagues before launching Intranetslab. They knew each other well personally and in work, and this was a definite factor for the success of the company.

Their relationship was based on respect and trust. They admired each other and had a clear vision of where they wanted to take Intranetslab in the years ahead: turn it into a software house.

She confessed that Roberto and she loved what they did and that had been a key factor for not abandoning the challenging path of entrepreneurship. “I was convinced that we added value to our clients: clients learned from us and we learned from them”, she said. This is precisely one of the competitive advantage of their IT solutions as they somehow co-create the services their clients need and work on implementation accordingly.

Guillermina loves the intellectual challenge, to create employment and contribute to the economic development of Mexico. In this exciting journey, the business partners have dedicated significant time and effort to build a high-level team of experts and engineers, which has also been key to guarantee quality execution in the company.

“It was very important to assure the talent. The rotation is quite low; we focus on results and largely on technical and coding skills”.

The team has grown with Intranetslab and consists of a group of very good professionals. Nowadays they have 22 employees; 7 of them are women. Talent is mostly local, from Central Mexico.

Mentoring and Networking Opportunities

Relying on mentors during her career and entrepreneurship path is another remarkable factor that has contributed to the success of Intranetslab.

Dr. Cabral participated at a mentoring program offered by Tecnológico de Monterrey back at the beginning of the company. This proved to be an excellent tool as she was starting her business and mentors were keen to provide effective guidance and feedback to women entrepreneurs, including

her. Mentoring was particularly significant for improving her business and commercial skills, which were new for her at that time. “It was a great program, but it was too hard; you had to overcome challenges and solve problems”.

Learning how to effectively network was another skill that Dr. Cabral acquired in a course offered by BNI. This proved to be a strategic ability as sales are based on trust and therefore networking is a must. “This is how we were able to grow and building more relationships; networking is very valuable for effective leaders”, she said.

3.11.3.2 Challenges

Incipient business skills, lack of a support system and access to finance were some of the barriers that this Mexican entrepreneur had to face in her path.

“At the beginning I was lacking relations. This was a barrier. Many businesses are made from connections and I was new in town (Mexico City). This implied building networks, trust and attract clients to our business”.

Struggle for Clients’ Acceptance

Guillermina mentioned that she struggled for clients’ acceptance at the early stages of Intranetslab. She has a direct tone of saying things and is a woman, and some business men, especially elder ones, were not eager to accept these attributes in a new colleague, she referred.

Lack of Supporting System

A care supporting system is key for advancing women business careers. Dr. Cabral also had some difficulties in that front. Neither her husband nor she had family in Mexico and therefore the couple had to work on building a support system. Mexico City is a very hectic and huge city (around 9 million people), and therefore the so called work-life balance was an unattainable goal when they first arrived to the member economy.

Guillermina had to overcome blame for being a working mom, a very frequent challenge for mothers in the 21st century. However, she did it and is pleased with the results.

She has a true partner in life, and therefore advancing her career and having family has been an attainable goal for her.

Limited Access to Finance

As to access to finance, which is one of the most significant challenges that entrepreneurs face, Guillermina shared that Intranetslab has succeeded thanks to the resources and support of partners and family. However, they have not applied for credit or any other type of finance as interest rates are very high and their knowledge on this subject matter was limited. This has impacted their business as she and Roberto have taken short term decisions as opposed to more aggressive growth, she said.

Intranetslab has never requested government support for their operations. This is due mostly to their reluctance to face burdensome bureaucracy. Still, Guillermina has been following up and supporting the work of the National Institute of Women in Mexico (Inmujeres in Spanish), a public entity which provides technical assistance, develops public policy on gender and empowers women. Her participation has been mostly as speaker, trainer or connector in activities organized by this entity.

Lack of Sales and Marketing Strategies

A particularly important area of opportunity for the company is establishing a proper sales and marketing strategy. Nowadays they have around 23 clients but have not been able to develop a strategy or department properly in charge of sales and/or marketing. This is a recurring mistake that SMEs and particularly those run by women make as they do not ponder the importance of dedicating time and resources to attract more clients and do not precisely see that their growth is very much related to increased sales. The company could also consider the possibility to develop a Human Resources department as well as a strategy to attract and develop their talent; particularly due to the fact that their ERP solutions measure related aspects and given the years they have been on the market.

3.11.3.3 Policy Recommendations

Dr. Cabral reflected on the importance of increasing the presence of women entrepreneurs on ITC and STEM. “It is a fabulous area but there are very few women, although flexibility is quite present. Women should participate and choose more these careers.” In that sense, she acknowledges that educating more on technology, as well as increasing the interest of companies on the role of technology in their businesses and operations are vital for ensuring growth and innovation in the 21st century.

Extrapolating policy recommendations from Intranetslab’s experience seems a tough and rather complicated task in this research exercise. Still, it would be important to concentrate efforts on:

Active Promotion of Women's Increased Participation in STEM

Actively promote an increased participation of women in Science, Technology, Engineering, and Mathematics (STEM) careers and activities since their early education days. The Mexican Government has actively engaged in an initiative called Código X since 2017. In the context of the National Digital Strategy of the Federal Government, representatives from the industry (CANIETI, AMITI), government, companies (Google, Cisco, Telefónica, AT&T), international organizations, education institutions and startups are making efforts to accelerate the number of girls and women in STEM. Around 44% of Mexican use internet (49,9% are women vs. 50,1% men), but only 14% of women chose careers on engineering, science and construction⁸¹. In the case of Google, for example, despite their efforts on diversity and inclusion, only 31% of their employees are women and just 19% of developers are women.

The workplan for increasing the number of girls and women in STEM requires ambitious goals and objectives and consistent assessment and follow-up, which is not yet very clear. Monitoring now and in the years ahead will be key towards progress.

Support for Somewhat Mature Companies

Government needs to provide basic guidance regarding professional services for companies with experience, as the one funded by Dr. Cabral. There is an explosion of services and funds for entrepreneurs, but there is room for improvement for improving government support towards more mature companies. They rely very much on traditional business model as opposed to more innovative efforts implemented by startups, for example.

The Mexican government, and the Ministry of Economy, has not specific programs for women SMEs as such, meaning experienced companies. Indirectly they provide funds for incubators or accelerators, some of which particularly work with women (ie. Victoria 147). Still, according to the National Development Plan 2012-2018, mainstreaming gender is a transversal approach among public policies under the current Administration.

Regarding women exporters, there is no program particularly oriented to that audience. ProMexico, a government agency oriented to Mexican exports, part of the Ministry of Economy, may follow the path of Promperú, its mirror agency in Peru, which offers a program called Ella Exporta since August 2017 for empowering and building capacity among women exporters (including mentoring).

⁸¹ See more on the initiative Código X: <https://www.gob.mx/codigox>

Incentives for Companies Buying from Women-owned Companies

Government needs to develop incentives for companies buying from women-owned companies (a potential tax reduction of 3%) provided that they are competitive providers that comply with internal requirements and create value for them. This necessarily requires implementing a strategy with measurable targets regarding women empowerment in value chains and buying from women entrepreneurs. There could be a benchmark (35%, for example) regarding the number of women business owners as providers of either big, multinational or even medium size companies, which may escalate in the years ahead.

3.11.3.4 Advice for Women Entrepreneurs

Dr. Cabral gave advice to women entrepreneurs the following for thriving in business and life as follows.

Continuous Training

An entrepreneur has to keep up the pace on trends and technology, particularly nowadays. She also advises to get solid finance training in order to take better informed decisions in business.

Women Empowerment

There are many barriers that women still need to defeat; many of those are internal and have inherited and come from gender biases. Women empowerment is very relevant to break any glass ceilings and advance women in all sort of industries, including ITC.

Mentoring

She is a strong advocate for reaching out to all kind of mentors and learn from others' experience, either from their success or failure stories.

3.11.3.5 Summary and Discussion

In the last decade entrepreneurship in Mexico has gained significant momentum in terms of business development, number of entrepreneurs, government support, investors and venture capital, incubators and accelerators, and more importantly, success stories (Clip, Yogome).

Mexico City, Guadalajara and Monterrey, the most important cities of the member economy, but also Merida in Southern Mexico, have experienced an important boom in entrepreneurship, including social entrepreneurship. In Latin America, Mexico has evolved as a key reference for

innovation, talent and entrepreneurship based on or highly related to technology development (startups).

One out of four entrepreneurs in Mexico is a woman, according to the Global Entrepreneurship Monitor. Women are increasingly participating in entrepreneurship and a growing number of organizations are supporting them in capacity building (Inadem, Endeavor, Mass Challenge), public and entrepreneurship policy, business opportunities and connection to global and regional value chains, depending on the stage they are with their companies.

Still, women continue to face relevant challenges in terms of business development and professionalization, growth, access to finance and capital, mentors and quality business opportunities, among others.

On top of that, business women owners and SMEs require to really adapt, innovate and create value for their clients provided the digital revolution. Traditional business models and companies will not thrive and grow in the 21st century as entrepreneurs and innovative and disruptive solutions are changing the dynamics of the market very quickly and adding more value to their clients (Air B&B, Uber, Instagram).

As their participation in global or regional value chains, not even 1% of companies led by women are selling to international companies⁸².

As to access to finance, women still recur to banks and finance on very rare occasions. They either start their businesses or achieve growth thanks personal or family resources, personal credit or supplier or client credit. However, they avoid applying for credit and have limited financial skills⁸³.

A recent report produced by Value for Women and the Cherie Blair Foundation in 2018 found out that Mexican entrepreneurs need: 1. more tailored business development services, professional networks, mentoring & coaching support; 2. information and access to financial products and providers suited to their needs; 3. leadership training, including content on overcoming sexist attitudes in business relations⁸⁴.

⁸² Fries, Rebecca with González, M. & Rivera Pesquera, M. (2014). *Creando Oportunidades: Fortaleciendo el ecosistema para emprendedoras en México*. Value for Women & others: Mexico City.

⁸³ Idem.

⁸⁴ Value for Women & Cherie Blair Foundation (2018). *Entendiendo como apoyar el potencial de las mujeres emprendedoras en México – Un Diagnóstico acerca de las Pequeñas Empresas en Crecimiento lideradas por Mujeres*. Pending publication.

Of 1,000 surveyed women owners for that study, 54% declared seeking finance from US\$ 125,000 to US\$ 3 million. In that sense, the study recommends to provide tailored business development services paired with financial services as well as to develop tools to improve gender intelligence in bank operations and credit approval processes.

In March 2016, Nacional Financiera with the technical support of Inmujeres provided a credit guarantee to banks in Mexico so they can offer low-cost loan and better conditions to women entrepreneurs. They have now access to annual preferential interest rates of 12%-13% for amounts of up to 5 million Mexican Pesos (US\$ 260,000) and an exemption of mortgage guarantee for loans of up to US\$ 133,000.

It is still early to have conclusions on the effectiveness of this Program called Mujer Pyme, but there are good indications that it can be a step forward for helping women grow their businesses. Besides, there is room for improvement in terms of interest rates (Mexico is an expensive economy for loans), bureaucracy and burdensome procedures seen in traditional financial institutions.

Guillermina Cabral, a Success Story

Guillermina Cabral is an example of a success story. She has had mentors throughout her career; she even applied for a formal mentoring program at the early stages of her company. That proved to be a very useful tool to improve her skills and widen her social capital and networks.

Having an effective but more importantly a trustworthy business partner has also been essential for Intranetslab's operations and permanence in the market. The fact that they have built a relationship based on trust and respect is very significant for personal and business purposes.

Choosing a true partner for life has also been a key factor for her success and balanced life. She is a family woman, and therefore having a partner that supports her career and shares responsibilities at home are part of the foundations of her daily life of work and personal growth. Sheryl Sandberg advocates with a lot of passion in *Lean In* about the importance of getting a real partner for life, and she is right.

A situation that has not improved a lot since Guillermina launched Intranetslab is access to finance and to business opportunities. As she mentioned the interviews, she has not applied to loans and has relied on personal and family resources to grow.

One common mistake that women entrepreneurs make is dedicating low or minimum budget to sales and marketing strategies. This is the case of Intranetslab. They could take advantage of a precise plan towards this purpose for improving their sales and growth in the years ahead. As the

Value for Women and the Cherie Blair Foundation study remarks, business women, particularly those with more experience in the market, require tailored made solutions for their businesses. This may be the situation of Guillermina's company.

Intranetslab also needs to invest in its branding and look and feel (website, offices) as part of the customers' and stakeholders' experience. The company needs to communicate with a fresh, innovative and 21st century image in order to succeed and attract more clients in the following years, besides focusing mostly on the IT solutions they sell.

The company is currently working on its mobile solutions, which will represent an innovative step forward for its development and operations. However, neither Dr. Cabral nor its Chief of Operations are oriented towards intensive growth; they seem comfortable with the size of their business, team and impact. A more in-depth work would be needed to assess what prevents their expansion; if its related to gender bias and stereotypes (during the first interview Dr. Cabral mentioned that she did not want a big company so the conversation would need to continue), to the mission and vision of the company's leaders or to external factors.

According to Google and its initiative Womenwill, small and medium businesses run by women in Mexico generate 44% less sales than those run by men. Google has also found out that 45% of women entrepreneurs that are online are not making the most of digital tools to grow their business, and therefore, are offering training and sensibilization about the importance to digitally empower business women owners worldwide and in Mexico.

Dr. Guillermina Cabral is one of the very few women in ITC in Mexico. In 2017, Google named Maria Teresa Arnal, the first woman CEO for the economy, making a step forward on diversity and talent inclusion. But there is still a lot to accomplish in that front. The Mexican chapter of Women in Cable Telecommunications (WCIT), an international organization based in Washington, D.C., initiated operations this year and aims to empower women in that industry with networking, workshops and best practices and specific targets that advance women in top positions.

If as the World Economic Forum has pointed out, ITC and digital innovation would provide the highest returns now and in the years ahead, women have to definitely take advantage of those opportunities. Otherwise, the Fourth Industrial Revolution will fail for not including all, women too.

3.12 Case Study of New Zealand⁸⁵

3.12.1 Profile of a Woman Entrepreneur



Source: themindlab.com

Frances Valintine is an education futurist, technology enthusiast, and founder and chair of The Mind Lab and Tech Futures Lab, specialist education labs focused on advancing STEM (science, technology, engineering and mathematics) fields. For the past twenty years, Valintine has been passionate about improving education in the ICT space, and in embracing and shaping the future of education delivery for the next generation.

In 1998, Valintine co-founded the Media Design School in Auckland, New Zealand. In 2003 she sold to Laureate International Universities, however stayed on as CEO until 2003.

Prior to founding The Mind Lab, Valintine founded an ICT company developing interactive projections using computer vision, which she commercialised with advertising and marketing applications.

In 2013, Valintine founded The Mind Lab, a specialist education provider focusing on digital and collaborative learning techniques. The Mind Lab has gone from success to success, and Valintine has won numerous awards for her novel approaches to education, technology and pedagogy.

“I’ve always had that kind of drive, of saying that if you want to work in something you really love and are passionate about, the best way is to create it yourself.”

⁸⁵ This case study was conducted by Mahsa Mohaghegh, Lecturer, School of Engineering and Mathematical Sciences, Auckland University of Technology, New Zealand.

Valintine founded Tech Futures Lab in January 2016. Tech Futures Lab is an innovative incubation lab which tackles the issue of skills shortages as a result of the continuous and vast advances in connectivity, cloud computing, cognitive computing and automation, and internet of things, to name only a few. Though still in early stages, Valintine's work with Tech Futures Lab has also seen significant success.

Frances Valintine is the very definition of an entrepreneur, and has evidenced on numerous occasions the ability to predict technological, industrial, and educational changes, and take advantage of these in business.

3.12.2 Profile of a Company



Source: themindlab.com

The Mind Lab⁸⁶ was founded by Frances Valintine in 2013 in Auckland, New Zealand. It is formally known as The Mind Lab by Unitec, after it partnered with Unitec Institute of Technology in 2014.

The Mind Lab (in partnership with Unitec) offers specialised post-graduate courses and training for school teachers from pre-school to secondary school. The objective of these courses is to equip teachers with “21st century education skills” that respond to the increasing digital advances in society, and the subsequent digital tools that can be utilised to communicate course materials in the classroom. The courses also transcend beyond traditional teaching approaches, and provide participants with experience in unconventional classroom approaches that are increasingly being shown to have significant effects on student success. The Mind Lab's Postgraduate Certificate in Applied Practice (Digital and Collaborative Learning) is a 32-week part-time programme specifically tailored to teachers who are currently working. The course exposes teachers to contemporary teaching and learning practices such as flipped classrooms, BYOD (bring your own device), and collaborative leadership.

⁸⁶ www.themindlab.com

The Mind Lab was the answer to several educational and societal issues identified by Valintine. She recognised the rapid changes in technology – access to digital devices, human communication and interaction, and future opportunities in a digital world – and that the only certainty was that change was happening, and would continue to happen. Valintine realised that every industry and every sector was going to change as a result of the “digital wave”, and that education needed to adapt to reflect the digital age people were quickly being immersed in.

Valintine realised that 21st century education cannot be modelled on historical pedagogical approaches best fit for a non-digital world. As an individual ever passionate about technology, she embraced the tremendous potential that technology brings, and identified areas where it could be used to enhance teaching and learning in a classroom so that the learning experience was not divorced from people’s everyday lives.

Valintine strongly believes that students need to be equipped with the right skills to face an increasingly digital world. Flexibility and adaptability are soft skills needed to navigate the changing environments they will encounter. It is this flexibility that is at the core of a contemporary teaching and learning approach, as it encourages students to explore from their own perspectives, bringing in their own experiences.

Valintine also identified the need for teachers to become equipped with skills to address future classrooms. It was at this time that a partnership between The Mind Lab and Unitec Institute of Technology was formed, and a post-graduate programme was launched with the aim of providing teachers and educators at all levels with professional development opportunities in digital and collaborative learning approaches. The Mind Lab’s expertise in training for 21st century education, coupled with Unitec’s history as a class-leading provider of applied vocational education ensured that the programme provides teachers with the knowledge and skills to implement contemporary practice in their own classrooms, and “navigate the new landscape of learning.

Since 2014, The Mind Lab has rapidly grown as more teachers and education providers realised the necessity of what the programme offered. The organisation currently has three other centres in Gisborne, Wellington and Christchurch, in addition to the Auckland centre. There are also currently 16 satellite centres in cities and towns around New Zealand.

Recognition and Awards

Valintine’s work has been recognised on both the domestic and international stage. She has won numerous awards for her efforts in ICT education, and development of educational programmes at The Mind Lab and Tech Futures Lab. In 2014 The Mind Lab was awarded Best Engagement of Youth in ICT at the New Zealand CIO Awards. Sir Richard Branson and Steve Wozniac judged

The Mind Lab the Best Start-Up in Asia Pacific at the Talent Unleashed Awards in 2014. In 2016 Valentine was awarded the Sir Peter Blake Leader Award, in recognition of her leadership achievements and accomplishments in her efforts.

“If you ask my friends, they would say I’m unemployable, because I love working in a very high-paced environment, and I think this is where I get my most joy – in making things happen and responding very quickly to situations.”

In 2014, Idealog recognised her as one of the Top 10 Most Innovative People of the Year (Strang, 2014), and the year after as one of 2015’s Top 10 Most Influential New Zealand Women. In 2015, Valentine also won the Westpac Woman of Influence Innovation award for her efforts in pioneering changes in education. More recently, in 2017 Valentine was appointed as a Companion of the New Zealand order of Merit (CNZM) in recognition of her services to education and technology (Shaw, 2017).

3.12.3 Findings

This section of the report primarily covers findings obtained through an interview with Frances Valentine, and also findings from other research in entrepreneurship and business startups. All direct quotes are from Frances Valentine.

A single in-person interview was conducted with Francis Valentine for approximately 45 minutes, at The Mind Lab head office in Auckland. Several follow-up phone calls were also made, and emails requesting clarification of various points raised during the interview.

The interview questions were set to obtain information most relevant to this report’s objectives, but Francis also expanded on some of the topics, providing other useful information.

Other research was also conducted on the same topics to compliment or confirm points raised in the interview. This is referenced in the text.

3.12.3.1 Success Factors

Timing Is Everything

Many people think the biggest success factor in a startup is having the right idea. While it is important, it’s still a few steps down from the top. The potential of a great idea can be easily destroyed with poor management and the wrong team of individuals. The single most important

success factor is timing – ensuring a market exists for an idea, that it's the right size, and that the market believes wholly in the idea. A great idea and the correct time to implement it can never be separated in entrepreneurship (Wong, 2017).

According to Valintine, many entrepreneurs have a “sixth sense” about what's going to happen next. Being able to envision the right time to act is paramount to a startup's success. When she launched The Mind Lab, her whole focus was trying to get young children, teachers, and education in general across the line with digital technologies, knowing that it would shortly become mainstream. She felt that there was enough global evidence, and knew that enough people at the time could see the need for what she was undertaking.

It was a similar situation with the launch time of Tech Futures Lab. At the time, Valintine and her team were busy running The Mind Lab, however she knew that the market was at the perfect stage, and something had to be done enough in advance so that by the time Tech Futures Lab was at operational level, they would be at the perfect time to take advantage of where the world had moved in the previous two years. Valintine feels that Tech Futures Lab is currently at the perfect moment, with people in their 40's and 50's, and mid-level executives are realising that there is still a long road ahead, and that there is still a range of new skills they will need to master to remain relevant in their industry.

Attract the Right People

“Many entrepreneurs make mistakes when they go out and hire the most experienced people they can, but ignore the fact that culturally these people may have never worked in a startup, and will only work in certain ways.”

There are many cases when people with the ideal skills for a certain role are entirely the wrong people to hire. According to Valintine, the idea is to *attract* the right kind of people, which is different from hiring the right people.

“If you have enough money you can hire anyone, but this can be detrimental to your business. The objective in a startup should be to attract people who believe in your purpose and vision, who will come at a stage where there's little certainty or security, when you can't quite pay them market rate. Essentially you are asking them to put aside their own reputation and their own hard work, and join you at an early stage when there is not as much security.”

Valintine says that attracting these kind of people is one of the most critical tasks.

“Many entrepreneurs make big mistakes when they have venture capitalists come in, and all of a sudden they have a huge financial resource, and they go out and hire the most corporate and experienced people they can, but ignore the fact that culturally these people may have never worked in a startup, and aren’t prepared to roll their sleeves up, so to speak, and will only work in certain ways.”

The people a startup hires will also shape the culture of the business, its performance, and sometimes even its core values. Ultimately, it is vital to ensure that those who are hired are aware of a startup’s business plan, its business purpose, and its vision, so that they know what they are meant to be driving towards.

Trust Is Central

The strongest cultural aspect at both The Mind Lab and Tech Futures Lab is trust. According to Valintine, this is their number one ingredient. “When a team member says they will do something, or believes someone else can do something, they won’t let the other down. Being able to remain confident in each other is of paramount importance.” This, Valintine says, means they don’t have secrets; they don’t have hierarchy. Instead, there is full transparency. “Team members should be able to ask a straight question and get a straight answer in response.” This has allowed Valintine to bring her team’s skills forward, and in this environment of trust someone can come forward and ask to undertake a certain project, or attempt a certain task. This is a core part of her leadership style.

Don’t Rush into Fundraising

Having a large amount of venture capital behind a startup in its early days can seem very attractive. It will feel like more options are within reach, and it feels like success.

“I think I’m different – I put every dollar in myself. I risked everything. I had just sold my house, my car... I didn’t want to be answerable to an investor who might have a different view point than me”

To some extent this is true, however it is better to be sparing with raising funds if the long-term health of the company is important, and striving to be self-sufficient helps to promote adaptability, agility and innovation in achieving certain goals (Wong, 2017).

Frances Valintine’s approach to funding was significant: she put every dollar into The Mind Lab herself.

“I never aspired to have a certain type of house, or car, or anything else. I just know that every resource I have enables me to have choices. When I started The Mind Lab, I had just sold my house. I sold my car, risked everything I had. This is hard with family. The main reasons were that I didn’t want to be answerable to an investor who might have a different view point than me, or have a bank which is only interested in the financials.”

This approach may not suit all entrepreneurs, and many would argue against it, however the desire to be independent of an investor is a good one, as it ensures protection of an entrepreneur’s idea, and allows independence and flexibility when it is needed.

Invest in Technology

Maintaining relevance is vital to any business. Technology is probably the biggest area where today, staying relevant and up-to-date is of paramount importance. Falling behind in technology can place any business at risk of losing their market edge, which can spell disaster for a them (Group, 2014).

Staying up to date with technology can be expensive, but it also keeps a startup on top, and can give it an edge over its competition. Some of the biggest investments in startups are often in ICT, and in implementing ICT techniques in the business. More recently this isn’t so much about ICT hardware, but in making use of cloud computing, automation, internet of things, and even augmented reality.

Maintaining a strong social presence is also vital. Almost everyone owns and uses a smartphone today, and has connections on various social and professional media platforms. Following social media trends places entrepreneurs at the forefront of the biggest market available.

3.12.3.2 Challenges

Leaving a Stable Career

One of the greatest challenges in startups (and probably the number one for new entrepreneurs) is having to leave what is likely to be a stable career with financial security, and devote a significantly greater amount of time and effort to developing and sustaining a new business towards success. It is almost always impossible for prospective entrepreneurs to entertain another career if their startup ventures are to see any great success (Alton, 2016).

Unfortunately, walking away from a stable, secure career or job is something almost all serious entrepreneurs must face if they are to succeed. There is no easy way out, however the most logical and advisable strategy is to ensure that everything is considered carefully before one-way bridges

are crossed. This is even harder when children or family are factors in the equation. All decisions carry some weight of risk, but at certain stages of life the risk is greater. For instance, leaving a secure job to build a startup is an extremely difficult decision when the responsibility of parenthood is present.

Self-Doubt and Fear of Failure

Some of the most common obstacles entrepreneurs face are doubtfulness of their own ability to succeed, and the fear of failure (Center). Discouragement often follows failure, or when the results that are expected are not achieved. Self-doubt can arise, and many times entrepreneurs may feel like giving up.

“I had huge doubt at times of the scale I could reach. I had doubts I could reach the heights I intended. You need real drive, determination and resilience. You need to remind yourself of your vision every day, and just get up and get going.”

Overcoming self-doubt is difficult but necessary. The key is to set reachable goals, make task lists, and persevere, knowing that very entrepreneur has struggled with self-doubt and the fear of failure before. As entrepreneurs gain more experience, they learn to recognise the doubts which are well-founded, and become more familiar with their own abilities and limitations.

The fear of failure is important to bring under control, since it can prevent entrepreneurs from taking advantage of opportunities that arise, affects risk management strategy, and causes hesitation in decision-making. Fear of failure will also change the confidence of the team as a whole.

Failing to Learn from Failure

Too often, failure is looked on as entirely negative. It is true that no one likes to fail, and when the disappointment and frustration are still fresh, deconstructing failure can be a bitter task. However, failure has the potential to teach lessons that would have never otherwise presented themselves (Winch, 2014).

Entrepreneurs should aim to learn more from failure than from success. Most people will fail at something at some point in their lives. However, they have only truly failed if they do not use that failure to learn.

Evaluating what to learn from a failure can be difficult. Often it isn't easy to decipher what exactly went wrong, and there are sometimes hidden factors that you can't see at first. Re-evaluating the

planning process is often a good first step. More often than not, failure comes about due to inadequate planning and foresight, poor risk management, and poor preparation.

It is also important to focus on factors that are able to be controlled. These are the variables that can be changed to improve a future outcome. While it's true that some failures occur due to factors that are unable to be controlled, the only thing that can be done with these is improve foresight and risk management.

Exhaustion, Burnout, and Loneliness

According to Valintine, one of the most common challenges for entrepreneurs is the workload, particularly at the early stages of a startup. In the lead up to launch, during, and shortly after, there is no downtime.

“You are running 100% of the time, all the time, and in most cases you have to take on a lot of extra tasks yourself. You can't leave marketing to a marketing team – you have to do it yourself. You have to take responsibility to sign things. You often have a low income, since every spare dollar goes back into your investment. You have to assess and manage risks, and take advantage of opportunities. The small things that are often taken for granted in corporate become more apparent. You are often the one buying the coffee and milk, cleaning the bathrooms, and doing the small things. Ultimately, you are responsible for keeping the wheels turning.”

This can all lead to exhaustion or burnout, so it's important to find friends who are able to provide emotional support and understand the passion that lies behind a vision or idea. While it's important to keep that purpose and vision clearly at the forefront, at times it is necessary to step away from the daily tasks and just refresh and take a new perspective.

“At times you do have to step out of what you do day to day and just refresh and take a new perspective.”

According to Valintine, the entrepreneurial life can be quite a lonely one.

“You are usually working in a very small team, and in this situation most people find it's not easy to talk to colleagues about issues, and as a result they can become quite isolated. It can get quite lonely. You are often in a small team, so you don't want to burden them with personal issues. This means you can get quite isolated, so the support of friends and family becomes even more important.”

Failing to Deal with Risk

Risks come hand in hand with startups. There isn't a single startup which doesn't have to deal with some degree of risk. It is how these risks are dealt with that is important. The way in which a risk is dealt with can make or break a startup. Failing to take risks can lead to missing out on once-in-a-lifetime opportunities. If no risks are taken, then it is very difficult to get ahead, to make progress in a venture, or to bring a leading edge to a startup.

However, if risks are managed poorly, or taken flippantly without the correct preparation, calculation or care, this can be even more detrimental to a startup than not taking advantage of them at all (Sethy, 2016). Technically, a risk is something which could occur, but hasn't yet. A risk becomes an issue when it actually takes place, and has to be dealt with.

Keeping a regularly updated risk (and issue) register is important, and should include details of how each is to be mitigated, and how it needs to be treated if and when it becomes an issue.

3.12.3.3 Policy Recommendations

Currently the New Zealand Government, through the Ministry for Women (previously the Ministry of Women's Affairs) is taking steps to improve outcomes for women in many areas. One of these is women in enterprise (Affairs & Development, 2008).

It is often believed that women can improve a work-life balance by starting their own business and becoming self-employed. However, research has shown that work-life balance is often made worse, since the responsibilities they undertake in the home do not change, and the "flexibility" of self-employment simply translates into working extended hours, or limiting time they spend advancing their business (Kirkwood & Mackie, 2004).

Probably the biggest challenge for women in entrepreneurship is children, and family responsibilities. When Frances Valentine started The Mind Lab, her children were already teenagers.

"There is a big advantage in having older children. For one, risk-taking becomes easier. Many of the women I am mentoring are in their early 30's, and have young children. This can place them in a situation where they feel very vulnerable, and feel unable or even guilty for taking risks."

One area in which policy change would assist women entrepreneurs is in government-assisted childcare. For many women, starting a family is a big objective for them. However, when time is

taken out for family reasons, this is perceived to be the peak time of a woman's career. This can limit the choices prospective women entrepreneurs make with respect to starting their own business. Currently the government assists with childcare expenses for children aged between 3-5 years old, and provides funding for 20 hours per week early childhood education (Government, 2017). However, children below the age of 3 are not subsidised by the government. This places families in either increased financial pressure (through having to pay for childcare) or in one partner taking significant time off to provide care. In most cases in New Zealand, it is still the mother who takes this time off.

While there are potential areas where government policy change could bring about an improvement in the situation for women entrepreneurs, according to Valintine, policy will not effect as great a change on the situation as encouragement, as she is involved in mentoring young female entrepreneurs, where lack of confidence is constantly the main topic.

3.12.3.4 Advice for Women Entrepreneurs

New female entrepreneurs need to know the challenges that are ahead of them, and how to take advantage of the resources that are available. It is well-known that there is a gender imbalance in startups, and that men are more likely to pursue self-employment than women.

“I think everybody has the potential, but they have to face fear, and that's probably the biggest challenge they have. It's saying, “What if I'm wrong? What if people don't like it?” You have to have an amazing amount of self-belief, and also a network of people who will be there to rally beside you.”

Being in this arena, Frances Valintine is well aware of the situation for women in entrepreneurship.

“Female entrepreneurs are still rare. I was on the judging panel at a startup awards event just last week. All the winners were male. At my table I mentioned that it was a shame there were no women among the winners. The men said they didn't notice. I find this heart-breaking. We just don't see enough of them. How can you be what you can't see?”

Several initiatives have been created to support women in entrepreneurship in New Zealand, and these are particularly useful. However, women who are starting out are able to take a few steps of their own to improve their likelihood to succeed.

Networking

Establishing connections with others is vital to success in any startup. The old saying “It’s not what you know, it’s who you know” is particularly accurate here. Forming a strong network links entrepreneurs with potential connections to support, mentors, customers, even finance. Even without these benefits, networking with other likeminded entrepreneurs is a great form of encouragement.

“Networking is an absolute must. You can’t do it alone.”

Valentine advises being part of a group of entrepreneurs.

“In this way you can look out for each other’s professional needs, and there is a mutual understanding between all of you. Networking is an absolute must. You can’t do it alone.”

Find a Mentor

Finding a trustworthy mentor is probably one of the most important things to do when starting out. The benefits of having a good mentor are numerous and significant. There will always be times when it is necessary to ask for advice, and many times this will be regarding a matter that is sensitive. Speaking to a trusted mentor allows entrepreneurs to confidently ask open questions, present ideas, or bring up concerns, and know that they will receive honest and unaffected answers (Rampton, 2016). Mentors are often able to identify characteristics of a startup that need improvement where they might not be apparent to the entrepreneur. A mentor who has experienced failure can also help in identification of potential pitfalls, and can provide advice to entrepreneurs so they don’t make the same mistakes. Mentors can also provide useful connections. A good mentor should be one who has extensive experience, and with this a wide network or contacts and the ability to facilitate connections with useful people.

3.12.3.5 Summary and Discussion

New Zealand, like many other economies, still has some way to go before the gender gap in ICT startups is closed or at least minimised. However, the efforts that are being made in New Zealand are world class, and have great potential to achieve this end. Initiatives like Lightning Lab XX offer excellent mentorship to women-led startups, and provide them significant resources and opportunities to pitch for capital investment. Groups like WE Network provide support and encouragement to businesswomen, not to mention numerous professional development workshops to provide and improve skills in this area, and increase women’s confidence when starting out.

We are beginning to see more women break the stereotype and form their own pathways, developing ideas into leading businesses.

Frances Valentine, founder of The Mind Lab and Tech Futures Lab, offered a wealth of experience and insight into startup strategy that has brought her great success in startups.

While there were a number of success factors discussed, Valentine holds that attracting the right kind of people to a startup is the most important, since they need to believe in your idea or vision, and bring enthusiasm to the team, while hiring the wrong person will do exactly the opposite. In terms of facing discouragement and self-doubt, she advises being part of a support network who can relate to entrepreneurial struggles. Finally, Valentine believes encouragement and confidence are some of the most needed things for young women entrepreneurs. Encouragement inspires confidence, and confidence is one of the most important factors in establishing a business, since it is not just about being confident in an idea, it is transferring this confidence to a team, and showing confidence to investors, partners and customers.

Women bring a unique perspective to ICT startups, and with statistics clearly showing the success of startups and businesses with women either leading or on the leadership team, venture capitalists – as well as others – are beginning to see the benefit of facilitating the growth of the number of female entrepreneurs, encouraging them to follow passions and turn dreams and ideas into reality.

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3.13 Case Study of Papua New Guinea⁸⁷

In the current marketplace in Papua New Guinea there are less than five women in ICT businesses operating in economy. There is no current and accurate researched data around the industry and number of women in ICT businesses. Estimates here have been taken primarily from the Papua New Guinea (PNG) ICT Cluster entrepreneurs registrations either than the list of ICT Women Professionals in the Industry in formal employment which has a larger representation.

The preferred and selected candidate has been chosen based on the criteria of number of years of existence (at least 5 years) and also her work in the entrepreneurial, free lancing, and project based roles in ICT. Below is the brief Introduction of the candidate and a detailed profile of the evaluation of her business since its establishment in 2009 and her success story and growth.

3.13.1 Profile of a Woman Entrepreneur



Winifred Kula Amini with Sons at Graduation Ceremony, University of Queensland, Australia in June 2011

About the Founder & CEO – Winifred Kula Amini

Winifred is a Business Analyst and Project Management practitioner that provides support for business improvements and projects requiring integration and strategic automation. This includes reviewing information systems with recommendations to Senior Management. Winifred Kula Amini has over 17 years in Business-ICT Management. Prior to setting up Win-IT Consultancy, she was employed as the Chief Information Officer (CIO) for Post PNG (2006 – 2009) and was responsible for planning and execution of the roadmap for automation such as the rollout of the Enterprise Resource Plan (ERP) Pronto™ software across the economy and re-engineering of the Salim Moni Kwik system (Domestic Money Transfer) enjoyed by many Papua New Guineas today. She has experience leading and carrying out all phases of full Software Development Life Cycle (SDLC) for integrated systems, from requirements, analysis/design, and development and testing

⁸⁷ This case study was conducted by Priscilla Kevin, Research Contractor, In4Net Ltd., Papua New Guinea.

applications. Winifred holds a Master's in Business from the University of Queensland, Australia and a Bachelor of Science in Computer Science (With Merit) for the PNG University of Technology, Lae (1999).

Reasons for Starting Up Business

Being a graduate in the field of Computer Science (with Merit) from the Papua New Guinea University of Technology (Unitech) in 1999 and then working in both private and public enterprises, Winifred recognized the need to become more flexible with work, time and family and so she took up the entrepreneurship journey to become an independent ICT consultant by starting up her company over her full time employment. It was official in 2009. Winifred started up her new firm called Win-IT Consultancy leaving behind her full time employment as the Chief Information Officer (CIO) of the largest National Postal Office Network - Post PNG Ltd which has over 30 sites across the member economy.

At just 28, Winifred was then the Chief Information Officer (CIO) of Post PNG and the first young female on the role of a partially privatised state owned enterprise entity of the Government at that time. Her primary role there was to facilitate and deliver transformational organisational change through ICT automation of the old conventional postal system under the guidance and direction of the former Managing Director Mr Peter Maiden. Transforming an old post office into a connected modern organisation was not easy through a POST Shop Model but it was an exciting transition for the Business and the ICT division. POST PNG had just come out of liquidation in 2001 and it was crucial to initiate and sustain business change and the postal reputation to the public for service innovation and connectivity and not just in implementing another system into the business network.

When Winifred joined Post PNG in 2006, there was only one online post office in Boroko, Port Moresby Papua New Guinea and after her leaving, the Enterprise Resource Planning (ERP) PRONTO™ software Rollout project team under her leadership had implemented from 7 large Post offices to 30 postal sites connected across the economy on the systems. The team under Winifred's direction re-engineered the local Money transfer system known as "Salim Moni Kwik (SMK)" (Domestic Money Transfer) which was heavily reliant on manual processing by the Postal network using the traditional faxing and turned it into the then robust PRONTO™ platform used currently today in real time across PNG.

It was through this great project experiences and her previous roles in her former earlier employment also with superannuation fund organisations that prompted Winifred's confidence to step out and start her own consulting firm in ICT. Her previous experience from the biggest Superannuation fund Nambawan Super Ltd as the Program Analyst and IT Manager and Administrator gave her further confidence to start up her own firm.

With her learnt experiences in full time role, Win-IT Consultancy opened its doors officially in 2009 and started providing consulting services in ICT to support various decision makers, planners and policy makers, project managers and IT managers on realising the important value of ICT for organisational effectiveness and efficiency. Today Win-IT consultancy specialises in Business Analysis, Project Management and Software Engineering.

Win-IT Consultancy's vision is to help overcome the challenging issues that threaten our people and societies through research and development of cutting-edge IT Solutions. Win-IT Consultancy solutions are designed for addressing people's needs and aspirations in the region and the mission is to promote and foster the development of Innovative technologies that are localised to PNG situation and region.

Research Methodology, Process, and Timeline

The research methodologies used in gathering feedback were done through direct face to face interviews with Winifred Kula Amini in a common shared workplace and coffee shop. Questions were asked in the format by APWINC, and key response notes and points were taken down.

An email was initiated on 17th November 2017 to Winifred Kula Amini to discuss the interview needs and for her consent to participate. On 21st November Winifred via email accepted on behalf of her company Win-IT Consultancy to participate. The set of questions by APWINC were then prepared in an email format and forwarded to Winifred for general feedback on 24th November after her acceptance. Winifred Kula Amini then prepared general feedback to the first two key questions on reasons for starting up Business and the success factors. On 27th November, the first face to face interview with Mrs Winifred Kula Amini was held at the PNG Women in STEM office located at the Workers Mutual Rumana Building Level 2 Gordons Port Moresby Papua New Guinea and had lasted for two hours. Win-IT Consultancy explained the products and services offered under the company and some of the highlights of her projects and consultancy for her business and networks. Engaging questions were further asked by interviewer to understand what contributed to her success and to the unique projects that she pursued and the value her business brought to the clients through her engagements. Her success stories were shared and key points were noted down. Win-IT Consultancy was then asked to submit her latest company profile from which this was received, complied and sent to APWINC required by 29th November 2017. Through the interviews no audio recordings were done but the direct conversations and elaborations were noted down and elaborated further.

The second interview was organised and done on Sunday 7th January 2018 after new year' even at PNG Women in STEM Office Level 2 Workers Mutual Rumana Building, Gordons Port Moresby. Questions were asked around her views and experiences on smart technologies and their

use and current views of ICT in economy and general participation of women entrepreneurs in the economy. Questions then followed through on obstacles that her company faced in delivering products and services to the market place and to her clients. This interview session lasted for 2 hours. The third and final interview was then done at Crowne Plaza Hotel's coffee shop Level 1 in downtown Port Moresby and focused on the policies and advice for women entrepreneurs and start-ups. This final interview lasted up to 4 hours. Key questions were asked and valued elaborations were shared and noted down. Further questions were asked to expound on two key projects highlighted as part of her company profile on developing a new product and championing standards around ICT Enterprise systems through her projects.

3.13.2 Findings

3.13.2.1 Success Factors

Track Record, Qualification and Experience in the Digital World

Winifred's first contract job in 2009 was with European Union (EU) to build an online website to strengthen the District and Local Level Governments (LLGs), a project under the Department of Provincial and Local Government of the Independent State of Papua New Guinea.

This project engagement involved developing a website that provided information about the various functions of the Districts and the Local Level Government (LLGs) and was delivered successful due to Win-IT Consultancy's professional skills in Website design and development and technology and her company's good and professional development and liaison skills built from past work experiences in dealing with and understanding key customer requirements for any project which involved people, process and skills. The project was Win-IT Consultancy first successful revenue contract and ran for a month which enabled her to build her business reputation and track record in order to gain more clients.

Following in 2009 after the first contract award, Win-IT Consultancy was awarded consultancy role with PNG Ports Corporation as a temporary assisting Chief Information Officer and Quality Assurance consultant on Enterprise Resource Planning (ERP) systems. Her role involved ensuring the software supplier Technology One delivered on requirements and specifications. Win-IT Consultancy also provided advice to the CEO Mr Brian Riches on ICT delivery and setup. PNG Ports Corporation's ICT infrastructure was been built at that time and their ICT division was led by a CIO. The network infrastructure was being managed by another supplier in the Telecommunications and Network space. Win-IT Consultancy was responsible in ensuring the database ERP Technology One™ and relevant ERP business modules such as the fixed assets

register was implemented correctly as needed by the business. Win-IT Consultancy provided the Project management and delivery of key business requirements during her consulting period.

In 2012 to 2015, Win-IT Consultancy was engaged to roll out the Papua New Guinea Government Integrated Information System (IGIS) of which she was the project consultant in project managing the setup and implementation of the site at Telikom Rumana Port Moresby. IGIS is PNG Government's largest information integrated network system to connect all government departments together on one central system stored in a central data centre. As a consultant, Winifred was able to project manage and deliver the components of the project on time working closely with the department of ICT, the Government reps and suppliers such as Huawei in completing and delivering the system as per government requirements.

Promote Best Practice and Global Standards through Consulting

In 2015, another significant project was awarded to Win-IT Consultancy as a female entrepreneur with the Kumul Petroleum Holdings (KCH) the holdings firm for the economy's mining and oil assets. Win-IT Consultancy was engaged to assist with Project Management Documentation for the implementation of their paperless Enterprise Resource Planning (ERP) system project worth over PGK 200,000 in a project time frame. Win-IT Consultancy's skills in translating initiatives into proper project management charters with accuracy and speed enabled Winifred's company to be considered for high level project management projects and to deliver on the project successfully.

In 2016, Win-IT Consultancy was awarded further the Mineral Resources Authority (MRA) consultancy role to project manage the delivery of a replacement ERP for the business. The project consulting involved delivery and management of the ERP supplier and the implementation of the new software ERP to MRA business and was considered successful on go live at end of 2016. Win-IT Consultancy was engaged to manage and deliver the software to full spec as per the Terms of Reference. Win-IT Consultancy also conducted the tender process and evaluation of the preferred ERP supplier for the organisation which then allowed for the organisation to screen suppliers according to the TOR evaluation template that was developed by Win-IT Consultancy. Through the company's model, other organisations are also following suite in evaluating their ERP systems and the preparation of their tender documents and supplier evaluations. The project ran up to 6 months consultancy engagement.

Following In 2017, Win-IT Consultancy was awarded the Transport Sector Support Program project which was attached to the Papua New Guinea Civil Aviation and Security Authority (CASA). The project involved Winifred as the first time BA (Business Analyst) which showcased engagement and embracing of Technology with Business and in evaluating their policies. Win-IT Consultancy was chosen based on the company's years of experience (over 18 years industry

experience) and her unique skill set as the principle consultant for the role both in Business and Technology. The project was a 60 days contract and was remunerated in Australian dollars to a local contractor. Winifred's unique expertise in Business Analysis, Project Management and Software Development enabled her to deliver successfully on the project role with CASA PNG.

Resilience to Develop New Product

Although Win-IT Consultancy primary service is in project management and consulting, Win-IT Consultancy wanted to develop its own innovation product for the market place. In 2015, Win-IT Consultancy entered the first entrepreneur accelerator program called Kumul Gamechangers in Port Moresby Papua New Guinea. Through this program, Win-IT developed an innovative digital product called the E-Ticket Haus project which was short listed out of 12 start-up entrants. The E-Ticket Haus is a single window for event management targeted mainly at tourism events and involves the integration of QR codes to event tickets and accessibility to venues through the tickets. Win-IT Consultancy was a finalist out of 40 and then shortlisted to 12 start-ups entrants through the business plan competition program in the Kumul Game Changer program. The E-Ticket Haus software solution captures and lists events by tourism, business conference, sports, entertainment (night clubs and concerts), box office movies or cinema and exhibitions from which customers could then buy tickets online to attend the event in the economy or in the city. Win-IT Consultancy together with the team of 2 staff, 1 software developer, 1 software designer and 1 manager who are actually all family members to design and develop the ETicket Haus product and pitch to the program panellists under KGC. Win-IT Consultancy learnt to pitch and also to develop the financials to bring the product to life and to present it to the market place. In early 2016 Win-IT Consultancy was invited by the PNG Sports Foundation to produce electronic tickets for their first event games at the newly built central sports facilities in the main city. The opportunity landed Win-IT Consultancy in developing the technology further to promote and scale online ticket systems for city events. However the product and platform is yet to be deployed online and adopted by partners to promote e-ticket systems for residents and visitors and event planners.

It was through many of this similar projects that enabled Win-IT Consultancy to be considered as a vendor or solutions consultant on public tenders for similar consulting roles as a woman owned business in ICT but also an opportunity to showcase women in ICT entrepreneurs who can deliver on the job to both large and small corporate clients and high value contract deliverables.

Quality Business Affiliations and Networking

Win-IT Consultancy's experience since 2009 enabled her to build a business track record overtime and to promote her work through referral networking. It enabled her business to grow in revenue generation, track record development, build-up of referral networks and experience since 2009 up till present. Through her project consulting works, Win-IT consultancy evolved from just using

printed advertising (company profiling) to a more social connected networked company using the Internet to reach her high end customers. Overtime value was recognised and large contracts were awarded and done successfully even with the challenges of operating as a sole trader.

Winifred's company affiliation to various business and industry and exchange programs and groups such as PNG ICT Cluster, the U.S Embassy International Visitors Leadership Program (IVLP) and the PNG Australia Alumni has expanded her work and field of expertise on industry & business subject matters both in domestic and international markets.

The good support of family in balancing entrepreneurial responsibilities and family duties and trade-offs such as support for rental accommodation and regular income from full time employment has helped her to venture more into her projects and services to her clients.

Win-IT consultancy is still operating today mainly because the clients have appreciated and have supported her company to continue to provide her services by facilitating and delivering change through strategic automation projects that is fulfilling as the company works alongside professionals and inspiring people driving change to eliminate duplication through the use of ICT, improve efficiency and productivity, reduce cost of doing business and bottom line having a zero fraud tolerance.

Win-IT Consultancy as an ICT business, also believes that ICT constitutes a powerful tool for poverty reduction and improvement of the overall living conditions and governance, provided that ICT continues to remain as a tool and not mistaken for goals themselves and or continue to be considered as a cost centre rather than as a value adding asset to any organisation.

Characteristics and Methods Used in Managing Business as a Woman

Win-IT Consultancy had to quickly adopt an administrative model as its first pathway to growing her business. She mentioned that it is expensive to hire personnel especially when revenue is not regular and contract-based.

“As a sole operator, you usually began as just one person in the business doing all things. I had to learn fast to try to see if I could build around a more structured business environment. The easiest way to do that was to hire within family to assist.” mentions Winifred.

The hiring of a family member was primarily based on trust and affordability as a start-up company. Win-IT Consultancy employed its first staff who was her younger sister to assist with administration. But this can sometimes have an adverse effect if family commitment to the

business is affected personally and therefore can become a hindrance to advancing the company's business goals.



Win-IT Consultancy & Others - Australian Business

Win-IT Consultancy wanted to grow its personal knowledge base and skills in business management being a company in ICT and she was able to do that by enrolling her and her employee sister to go through training programs such as the Australian Business Volunteer (ABV) on the Your Entrepreneurship Scheme (YES) program run under the PNG ICT Cluster initiative on Financial Business mentoring and coaching in order to help incorporate proper business structure and good business ethics for her business. The training was completed successfully, seeing her and her sister graduate from the 4 week program in learning how to manage a start-up. However as business continued, the administration model in hiring a family member to do the job eventually didn't work out due to family matters interfering with business matters and so Win-IT Consultancy had to now outsource the role to an account specialist.

She learnt during that change that outsourcing has its benefits to a small business where it helps an owner concentrate on delivering their services and products and allow for the admin support staff to carry out the routine task needed. The change now meant that Win-IT Consultancy had to pay a reasonable monthly fee to the admin partner to manage her business whilst she focused on delivering the service which has helped her progress in her business.

3.13.2.2 Challenges

Lack of Access to Funding and Proper Cash Flow Management

“There are many trade-offs in starting a business in Papua New Guinea.” Mentions Winifred.

Some of the key challenges include the access to secure additional funding for new innovative product development in the business. For example there are no funding categories in banks to support software development of a new product or solution. Access to secure funding was also lacking due to zero assets as a start-up to use as security or collateral to develop an innovative product that has potential to generate revenue and to grow the business.

The challenge also goes into cash-flow management and regular income activity based on project which are mostly short term basis. Other factors such as the high cost of setting up a good office space within good location and managing rentals, stable and reliable administration support and lack of intellectual property rights protection and legal protection on ideas and products to innovate and bring to the market as an ICT business contributed much to success of bringing a new product to market.

Lack of Business Management Skills

In starting up her company, it required minimum capital expenditure, and the company had to try to separate personal financing from business. Poor bookkeeping and lack of business management skill also contributed to the challenges in managing tax obligations and creditors and debtors being a technical ICT person and learning to run a business at the same time. The challenge also was in doing all things solely and not delegating to other resources because of the fear of failure if someone was assigned the task to do for the client. Other factors contributing to challenges included accommodation costs and the general high cost of living making business unprofitable in terms of meeting the costs.

Lack of Tax Concessions and Incentives

In Papua New Guinea, there is a lack of tax concessions for start-ups. For a woman in business to acquire loans in Papua New Guinea, it was difficult due to zero collateral. Most assets are generally owned by the men as Papua New Guinea is mostly a patrilineal society. The challenges also for on-time tax payments and compliance, consistent cash-flow to sustain operations, and the lack of marketing and sales forecasting further contributed to challenges for Win-IT Consultancy as a start-up business in ICT. There was also the different pay scale for gender in few organisation which can be discouraging when considering project value contracts and hiring the right people at the right profitable margin.

Lack of Mentor and Coaching Networks

Another challenge was the lack of readily available mentors and coaches to assist start-ups and new emerging entrepreneurs. Winifred received most of her help from families, her parents and friends and networks on how to manage and grow her business but not so much in the professional

space from business specialist networks, accounting experts and marketing and branding professionals to assist with business planning and progress. Most of Win-IT Consultancy training was either through self-taught or through close friends, parents and family and can at times be difficult in learning the specialised areas needed to run the business efficiently and correctly. It was also costly to engage experts or specialists to assist with various business needs.

Overcoming Barriers and Receiving Support in Running the Business

As a sole trader it can be difficult to voice entrepreneurial challenges, challenges faced by women businesses and challenges that are related to industry to relevant authorities and policy makers and the government and private sector.

Win-IT Consultancy appreciated the power of collaborating with others to create one voice for the industry and business and so took lead in setting up the European Union funded Pacific Islands Private Sector Organisation led initiative called the PNG ICT Cluster initiative in PNG and the Pacific. The initiative opened doors to mentoring programs such as the Australian Business Volunteer (ABV) and Your Enterprise Scheme (YES) Mentoring programs for ICT entrepreneurs and allowed for ICT entrepreneurs including women to be seated at various tables and to negotiate for better rates and environment for entrepreneurs. It also allowed to advocate for conducive business environment through the ICT cluster initiative to support innovative high tech ICT start-ups and promote the importance of ICT as an enabler and contributor to wealth. Win-IT Consultancy volunteering also contributed to discussing Intellectual Property Rights Protection and valuation pathways for PNG ICT Companies and importance of research and development through policy and funding and has been fundamental to progressing the initiative for entrepreneurs in the Industry.

It is still difficult though as a start-up micro small to medium sized business to try to volunteer at the same time on initiatives that support and advocate for the environment to improve business and to be profitable. Win-IT Consultancy ensured to continue to maintain a steady flow of income through contracts to sustain one's operation and this has been encouraging to her company to continue to work to see change for the good of the business environment and the industry through government and academia support and to succeed as an ICT business woman. Win-IT Consultancy is also a dedicated as a full time registered member to the PNG Business Council which seeks to represent interests of Businesses in PNG.

With the market experience and engagement on high valued projects, Win-IT Consultancy has been now considered to program and manage an E-District Model under the cluster initiative to implement the vision of the cluster as the Silicon Valley of the Pacific by delivering a rural Digital model in PNG. As an entrepreneur consulting on projects, it can either be seen as making a trade-

off and or getting paid on the job to deliver valued solutions for a client and Win-IT Consultancy has delivered some modelling on projects that have delivered valuable impact to social and economic development for PNG and as a woman owned business. It's this track record that has allowed for Win-IT Consultancy to be considered as a preferred candidate for various roles on emerging ICT projects.

3.13.2.3 Policy Recommendations

Effective Banking Facilities

Some of the key required policies for women entrepreneurs are effective banking facilities that promote start-up business kits for women businesses and at the same time provide a project management and guiding aspect from start of lending through to completion of the loan project. Most times, women seek funding without the proper project management aspect to ensure their seed funding is maximised and returned on time to the lender and can end up defaulting in their loan or funding and a failed project.

Provision of Seed Funding and Venture Capital Opportunities for Women-led Enterprises

Another policy that should be considered is seed funding and venture capital opportunities for women businesses through promotional programs such as grants or project pitches for investment. Papua New Guinea is still limited in this environment or may do so at very limited capacity and therefore is difficult to promote an investment platform for many upcoming entrepreneurs both for women and men. The other challenge is also the reach to the women businesses in the rural areas and how these financial lending services can reach them faster and to support them.

Tax Concession for Women Businesses

Another needed policy is around formulating good tax concession programs for start-ups and women businesses. The PNG SME policy [11] encourages growth of SMEs but the tax element denies or obstructs growth. For example if a woman was to seek venturing into a telecommunications start-up or business in ICT, the environment is not conducive for growth and profitability as most start-ups would have to pay for rental on the first month, remit taxes and also make the initial investment into the operating licenses. Without incentives the business will take longer to reach break even or even worse fail due to cost of starting up. There are also no tax incentives on ICT staff hiring as one company evolves and wants to expand into other areas such software development or engineering to fix problems. Tax concessions do not exist for the industry and therefore can become discouraging for many but more so challenging mainly for women to venture into new grounds of the ICT service industry and to participate as business owners.

Enhanced Infrastructure

In Papua New Guinea there is also the known issue of high costs of transportation, accessibility and connectivity. Internet costs are high discouraging businesses to access services, tools and expertise to help build businesses online and to trade, the lack of electricity and power sources in rural settings and even urban limits accessibility by women to conduct business. The cost of fuel to commute and visit clients and conduct business also contributes to the challenges faced and there are at present no effective policies to support women businesses in accessing services to carry out a more profitable business that has potential to attract foreign and or local investment.

Promote Women's Welfare

Another impediment to add is the welfare systems and policies to protect women's welfare. At present the child welfare act covering child maintenance stops at 16 years old and the women is left to source income streams on her own to support the children beyond 16 years old if the children remain with her during separation or divorce. Systems and policies do not effectively take course or effect when the women faces the situation and hence must do all things to provide for her family including managing her own business at the same time fend for herself and her children.

More Opportunities for Business Training for Women

Another policy to be considered under community development for women is more training centres to help women business progress in running and managing their business such as basic book keeping, marketing and sales, branding and online connectivity in order to provide and contribute income for the family targeted mainly for the rural areas. Effective programs need to be developed to assist women achieve financial freedom and support through their business in order to also encourage and inspire others to follow.

3.13.2.4 Advice for Women Entrepreneurs

"You need to be well prepared to start up a business. Developing a business plan is important."
Mentions Winifred.

Prepare Thoroughly Before Starting a Business

Most start-up businesses lack thorough preparation before getting into the business. Most often companies or businesses do not set goals before starting and through the course of time they face difficulties in achieving the expected outcomes because they do not know what it is they want to achieve in the beginning when they started. Most businesses develop their business plan right after they have started up the company and not at the beginning. In order to succeed and to know where you want your business to go, it is important to set goals and that your activities are aligned to these goals in order to achieve them.

Make Investment Plans in the Early Years

Another advice to consider is the need to make investment in the first early years. It is commonly known that a business will fail after 5 years or even early after 3 years. With this common known statistic, it is important to start the business first hand with a plan and set minimum achievable goals and have the goals set out by number of years to attain them with specific investment targets.

When you get into business and start generating revenue, you are able to then visit your business plan and set aside your investments in order to achieve your goals for your business and review them on a timely basis.

Win-IT Consultancy expressed that it did lack investment planning in the beginning years of her business and as the years went by for her company she had to re-strategize by looking at her plans and her objectives of being in business. There is a lot of effort and energy wasted if you do not plan well in the beginning.

Persevere and Endure

Despite the setbacks and challenges, Winifred encourages business women to persevere. Without perseverance, one can give up easily as things become harder for the business and for the individual. It is important to balance work, family, love and business and it is not easy but it is needed to continue to grow and develop your business. A savings culture needs to be developed as a habit including a culture of giving your time and part of your earnings to help others. This will in turn enrich one, their business and others.

Take Pride in Your Work and Contribution to Society

Winifred advises that it is not easy as a woman to do business in PNG especially in a field that is constantly changing and cross cutting such as ICT and a field primarily dominated by men but it is important to know that as a woman in business one will be contributing in one way or another to her community, economy and world in aspects of positive social and economic development, and this has been encouraging for her to continue to build up her company. She encourages more women to be bold and to pursue whatever it is you want to do when starting up your business and to continue to strive for the best having in mind to ensure that as individuals to be able to give careful thought and good planning and management to what is needed to succeed in business.

3.13.2.5 Summary and Discussion

The research effort has been conducted well with much enthusiasm in understanding what are the challenges facing Women in ICT businesses in Papua New Guinea especially in this time that Papua New Guinea will be hosting the APEC 2018 meeting here in Port Moresby Capital city. The

theme of the APEC summit is Digital Economies and to have an existing Woman in ICT entrepreneur in Papua New Guinea that is carrying out business with large companies goes to show that PNG is inclusive in its social and economic developments.

Today's digital economy is about speed, flexibility and connectivity. The ICT industry in Papua New Guinea has grown overtime and reaches mainly the population in the urban areas through mobile and smart phone technology but much of ICT needs to reach the remaining rural population which is around 80% of the total population where women constitute almost 50% of the population. It is through ICT that we are able to reach others around the globe to trade and also to train and learn. Internet provides the platform for connectivity and sharing information to empower an individual and once a person is able to connect to ICT, he or she is able to then develop and bring a product or service to the economy, region or the globe and many start up their ideas through forming a business.

Win-IT Consultancy company is a great example of young emerging Digital ICT entrepreneurs particularly women ICT business owners who are rising to the challenge to provide consultative services to the market place in the space of Government, Academia and Business and to collaborate with others to deliver innovative and much need product and services to solve economic and social problems faced by the economy and hopefully expand the reach to the region and the globe.

Win-IT Consultancy has also challenged itself to do better despite the difficult environment of doing business in PNG. There are times when considerations were made to close down business and to return to full time employment but the passion to continue to develop her business into a robust and preferred ICT consulting firm has kept Winifred going for over 8 years now since 2009. Her financial growth may be impeded but her experience as a consultant, business owner and entrepreneur has enabled her to strive and to look forward to bigger large impacting contracts and engagements. With these experiences, Win-IT Consultancy is looking forward to re-strategizing her business plans in alignment with new growing market demand and trends in the economy, region and globe and to position her business to engage further in ICT services and products.

Some of the policies raised such as tax concessions, seed funding and capital ventures, more training programs for women entrepreneurs and welfare support systems are important and will assist Women businesses like her to grow and to bring to market innovative products and solutions. Win-IT Consultancy is in the industry that is cross cutting and exists in almost all sectors and therefore can be a positive pillar for her business. However if the environment is difficult and not conducive then this can hinder the opportunities to grow and to create employment and opportunities for others and herself through her business. Her participation with the PNG ICT Cluster also confirms her contribution to making the Industry favourable in order to contribute to

helping ICT businesses like her thrive and also for the ICT Industry to be recognised as cornerstone in development and a contributor to wealth generation.

Winifred goes onto encourage that it is difficult to do business but it is an individual's perseverance and commitment towards her goals and aspirations in her business that will allow her to succeed. Much of this will require good business planning which must be done at the beginning rather than after starting up. An investment mindset is encouraged to ensure that you know where to invest your money in alignment with your goals as you earn revenue from your business.

Despite being a sole trader and wanting to build staffing in her company, Winifred has gone on to invest in training on business management and in acquiring various skills to enable her to deliver on her contracts and services. This is a good sign that a start-up woman business needs help and goes out to find it and invest in the training. Her training attendance to the Australian Business Volunteer YES (Your Enterprise Scheme) has helped her to develop her cash flow and budgeting, marketing and sales and basic book keeping. Through the ABV program it has given her confidence in herself and her business to continue to deliver on her services and products.

The research indicates that Women in ICT business entrepreneurs are emerging in Papua New Guinea and with programs such as WeCreate, National Development Bank funding, Kumul Game Changers, the Women's Business Centre, the PNG ICT Cluster and educational exchange programs such as the U.S Embassy International Visitors Leadership program (IVLP) and other supporting framework, there will be an increase in Women in ICT businesses as the environment become conducive to do business.

Win-IT Consultancy has demonstrated endurance as a small business in running large valued impact projects and it is such businesses in the Industry that can be harnessed, supported and promoted well in order to encourage others to do the same and create similar opportunities for themselves and others and to contribute positively to the member economy's economic and social development.

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3.14 Case Study of Peru⁸⁸

3.14.1 Profile of a Woman Entrepreneur



Mrs. Nory Rodriguez Vergara CEO of BEAT in Peru

Nory del Rocío Rodríguez Vergara was born in the city of Lima, on July 15, 1979; She completed her primary and secondary studies at the Santa María School, between 1986 and 1996. She is fluent in English, permanently employed in her work, and enjoys reading.

In 1997, she entered the University of Lima (UL), a Peruvian university with more than half a century of foundation, to study the professional career of Systems Engineering, having obtained the Bachelor's Degree with the distinction Summa Cum Laude, in the year 2002. Later between the years 2011 - 2012 she studied a Corporate MBA at ESADE Business School, in Barcelona, Spain.

Her work history began working as an *Information Security Analyst* in the *Banco de Credito del Peru* (2001-2007); she was in charge of the information security policy development, risk assessments, compliance, control design and effectiveness; attack and penetration testing including vulnerability/risk validation, and secure application development and utilization of network and application security assessment tools and methodologies to manage and address issues with different technologies: UNIX, Windows Servers, databases (Oracle, SQL, DB2, etc.), mainframe, firewalls, routers, VPNs.

Nory also worked as an *Advisory Services Manager* in *Price Waterhouse Coopers* (2007-2011), performing the following functions:

⁸⁸ This case study was conducted by Maria del Carmen Ferrua Allen, Professor, Universidad Femenina Del Sagrado Corazón (UNIFÉ), Peru.

- Identify and address client needs (developing and sustaining client relationships using networking to identify and sell potential new service opportunities; communicating value propositions; preparing and presenting complex written and verbal materials; and defining resource requirements, project workflow, budgets, billing and collection).
- Leading planning and execution of projects in the following areas: Information Security, Business Continuity, Risk Management, IT Management, IT Audit and Compliance with financial regulations and international standards (ISO 27001, ISO 27002, BS 25999).
- Planning and project management skills, risk analysis, quality assurance and vendor management.
- Financial industry expertise in a broad range of risk and compliance issues.

Nory's work experience and professional performance includes the execution of projects for companies located in the financial sector (Interbank, Scotiabank, Banco Ripley, Banco de Comercio, Peruvian Payment and Stock Exchange Company of Lima), and in other sectors of the member economy (Duke Energy, Milpo Mining Company, Food Technology, etc.) where it designs products and services, customer service, implementation of technological solutions with international service providers, project management, operational risk, information security, business continuity, systems audit and regulatory compliance.

In the following years, Nory was in charge of Operations Manager Mobile Financial Services - A MasterCard and Telefonica International Joint Venture (2011-2013); performing the following functions:

- Manage and execute planning and implementation of local IT project portfolio.
- Interface with business owners to understand in-detail business/functional product and service design needs and successfully translate them into technical requirements.
- Guarantee efficient technological liaison with technology services providers, partner bank, mobile network operator and agent network.
- Direct and manage operational and technical resources to enable economy activities within budget and project schedule.
- Develop policies, processes and procedures for economy operational activity.
- Supervise and monitor Front and Back office processes to ensure the highest levels of customer efficiency and effectiveness.
- Develop and monitor service level agreements (SLA) provided by IT vendors to ensure all quality standards are met.
- Manage operational risk, information security and business continuity requirements to ensure operation availability.

- Design and implement operational model and incident management procedures with all participants.
- Develop and maintain all operational and customer service metrics as well as other relevant KPI's.

She defines herself as a *"Specialist in the management of information technologies, risks and means of payment, with more than fourteen years of professional experience"*.

The Start of a New Challenge

She never imagined that as a result of her varied interactions and work relationships with different people, day by day, she was weaving a network of interpersonal relationships, which would lead her to receive a work proposal, unusual to her usual work.

It was a foreign company (TAXIBEAT) that was looking for an economy manager to open operations in Peru, in the urban passenger transport sector using information and communication technologies (ICT). That was how she accepted the challenge and embarked on a new adventure, which, as she points out, *"Is passionate"*.

The central office of TAXIBEAT, located in Athens, Greece, commissioned the CEO of Brazil the responsibility of the search of applicants to open a seat in Peru. After passing by a strict process of evaluation and interviews with Executive Directors, representatives of the company in Brazil, England and Greece, *"I joined up as the Economy Manager in Peru, in October 2013"*. Nory had to travel Greece for a week in order to know the internal functioning, values and spirit of the company.

Nory was the only representative and employee of the company in Peru, so she was responsible for developing the constitution project, setting up the company, searching a lawyers' staff, analyzing the opposition companies and the values elements (benefits for the user, prices, different from the opposition), solving the risky points for a startup (to break off paradigms in a corporate world, to include the taximeter in the apps, maps design), hiring talent, user acquisition brand building, finding a physical space to accommodate the installations and the sales force, formed by five hundred drivers for a city as Lima and for the people that have to affiliate, obtaining business credit and others, adapting user experience and product to market needs, as well as responsible for managing operations, business development and growth. She recalled that, by the end of 2013, the company's work team consisted of three people.

In her own words, she said that it was necessary *"To get your hands dirty, you had to fulfill different roles"*. For example, an arduous task for her was to find a spacious place where not only the offices

of the company would work, but also, the vehicles could be parked when the driver users came to carry out activities or activities of various kinds. Thus, the company occupied two offices, each of 100 square meters, with a parking lot of 500 square meters, which to date still occupies, in the area called El Trigal, in the district of Santiago de Surco.

She is fully involved in all the processes that as CEO she must perform, but she emphasizes those activities that guide human and company development; among them the following:

- Frequent contact with drivers and passengers, traveling in TAXIBEAT vehicles and receiving the opinions of the users of the services of transfer through the city, through personal interviews, as well as social networking services (Facebook), in such a way that feedback is produced, taking into account details that require quality attention, that the company makes in its promotional marketing.
- She reviews the policy of the company and its strategies that achieve the objectives set.
- She studies the changes that occur in the service market by application to provide better job opportunities and benefits of all kinds to the groups involved in this business.
- She controls that the client support area is vigilant and attentive to the needs of the clients twenty (24) hours a day, to provide the immediate solution.

Throughout these almost four years of strong and sustained work, Nory feels very proud of what she has achieved so far, a company that has a *"Wonderful work team"* that has allowed to position TAXIBEAT among the main companies by applications. in the Peruvian market: in addition, it has contributed to *"Professionalize drivers, who have improved their working conditions, and therefore their income, which have an impact on better living conditions for them and their families"*.

Nory Rodríguez became the first woman in taking the Economy Manager of TAXIBEAT, post in Lima (Peru) in contrast to other posts in Latin America whereby men's presence was predominant.

3.14.2 Profile of a Company

Origin and Development of the Company: TAXIBEAT

The application for smartphones with iOS and Android operating systems has become popular in the Peruvian context with the appearance of different companies such as Uber, a company of American origin that entered the local market with strength for its modest prices, in the opinion of the public or user; they also compete *Easy Taxi, Cabify, Taxi Satelital*, among others.



On April 9, 2014, a new company, TAXIBEAT, was incorporated into this market, whose website is <https://www.taxibeat.com.pe>, in order to meet the needs of users moving through Greater Lima and Callao, with the aim of expanding to other areas of the economy.

TAXIBEAT, as mentioned above, of Greek origin, was founded by Mr. Nick Drandakis, Nick Damailakis and Kostis Sakkas, had been operating in European cities, for example, in Athens (Greece), Paris (France) and Istanbul (Turkey), as well as in Latin America, in plazas of Ciudad de Mexico and Sao Paulo (Brazil), respectively, which currently – due to the competence existing in the App Market in passenger transportation – has stopped operating, except for Athens.

There were great expectations; all the steps had been taken to offer a private service of transport through a technological platform in a fast, secure and effective way were carried out. Nory pointed out that

“We operate an application for smartphones which connects passengers and drivers as part of this new era of sharing economy services”.

She was interested in entering the Peruvian Market to provide customers with solutions for traffic issues and insecurity while taking a taxi, within a city like Lima, with almost five million people, who have access to ICT in their homes.

On the first day of operation of TAXIBEAT, it was reported that only fifty-six people used the service, but that did not discourage them; on the contrary, that led them to continue on the road because the new company was betting that *"passengers can travel with the best taxi drivers in Lima, to ensure comfort and safety during their journey."* TAXIBEAT, using words from Nory, offers passengers a new experience in the search, geographic location and digital call to a taxi service, which is selected, based on the rating that drivers receive from other passengers; guarantees quality care by providing free services (television service in the car, wheelchair transport, etc.) as well as other additional facilities that can be offered (air conditioning, languages spoken by the driver, among others), and security in the transfer of the user to his destination, visualizing the route of the taxi from beginning to end.

During the process of setting up the company, Nory says that she found several barriers that had to be broken down, the most significant ones being for her purpose: *"the incipient use of the technology of most drivers and the lack of equipment"*, that is to say, the smart phone or smartphone. Therefore, the need to *"look for mobile telephony operators that could offer mobile plans and equipment to the driving users and develop a training plan in the use of this technology"*, to start operating in the market of taxi applications.

Other important and necessary aspects to take into account were the recruitment and affiliation of the driver users. It was necessary to find out the selection filters of the existing human resources in the market. Nory says that for this: *"today we have the services of the ADECCO company"*; this company is considered a leader in Human Resources (<https://www.adecco.com.pe>) that is responsible for the selection of the best professionals. In case of TAXIBEAT, the best professionals selected are the driver users, who would provide the safety and quality of service that TAXIBEAT was committed to offering to the passengers. Over time, Nory points out that:

"The driver and passenger users themselves mark safety filters for the selection of drivers" in the market of this mobile platform, and thus the "recruitment of them will be done remotely which allows us to find the best for the available work places".

Of the total number of applicants that the company receives each month, Nory points out that: *"35% of them pass the filters imposed and later receive training on the use of the application"*. In the case of the number of client users to this application, *"their growth is at 30% per month"*. At the date of the interview, it was estimated that more than fifteen thousand driver users were working with the TAXIBEAT application, and that it had been transferred to more than half a million passengers through the city of Lima and Callao.

The company has developed a document called *General Terms and Conditions for the Use of the BEAT Application by Users Drivers and Passenger Users*, which both must know, accept and commit to respect and comply with to ensure efficiency and quality of service and customer satisfaction. It specifies that for the payment by taxi service there are two modalities: use of cash and use of debit card and / or credit card, which must be VISA / MASTERCARD but have been issued in Peru.

Birth of the New Company: BEAT

In the first half of February 2017, the founder and CEO of TAXIBEAT announced the total acquisition of TAXIBEAT by MYTAXI, an application of European origin that also provides taxi services and is a subsidiary of DAIMLER MOBILITY SERVICES. Nory states that:

“TAXIBEAT was owned by a German consortium, dedicated to the same business. Nowadays, it is known as BEAT in Peru. It will continue its operations normally. The application and its functions, both for driver users and for passengers, will not suffer any change”.

She says that:

“BEAT'S VISION is to offer an affordable and efficient way for people to move in their cities”.



On July 5, 2017, the company's new name was announced with the following motto: As of today, we are BEAT! New name, the same great experience!

On the other hand, the headquarters and administrative offices in Peru move to a new location, which is located in Av. Paseo de la República 5895, Interior 604, Urbanización San Antonio (LEURO BUILDING), Miraflores – Lima 12, maintaining the old offices as the center of operations for the driving users.

In the new infrastructure open co-working spaces have been created where professionals meet and relate with others, as Nory says: *"the idea is to have them close."* It is an infrastructure that has work rooms, where the projects are developed or any theme of working life, as well as meeting rooms to receive customers. What is observed in this environment is that the decoration, the layout of the office furniture is different from the traditional concept;

“It is a multifunctional space that allows you to develop different activities at the same time”.

According to Nory,

"That environment is conducive to good management, that is quality, and mainly invites employees to develop innovation projects and continuous improvement in the management of the company".

BEAT, today, is a taxi service, which transports passengers not only in the cities of Lima and Callao, but also in the city of Arequipa, located in the south of Peru; its entry into the transport services market by App was carried out in 2016, using the same procedure and maintaining the same quality standards.

Currently, BEAT counts with almost 100 people between Lima and Arequipa. Nory states that: *“Since I started the company in Peru, the sustained growth has maintained above 30%.* This is possible because they have a very active website, since not only the application for the smartphone is downloaded but also information is provided to the users, all kinds of amenities are offered through photos and videos about the community.

On the other hand, BEAT uses social networking services such as Facebook, Twitter, LinkedIn, etc., in addition to its website as an immediate channel of communication with the followers of the company or its products, as well as an electronic means of information and marketing of new products, offers and promotions offered to its users.

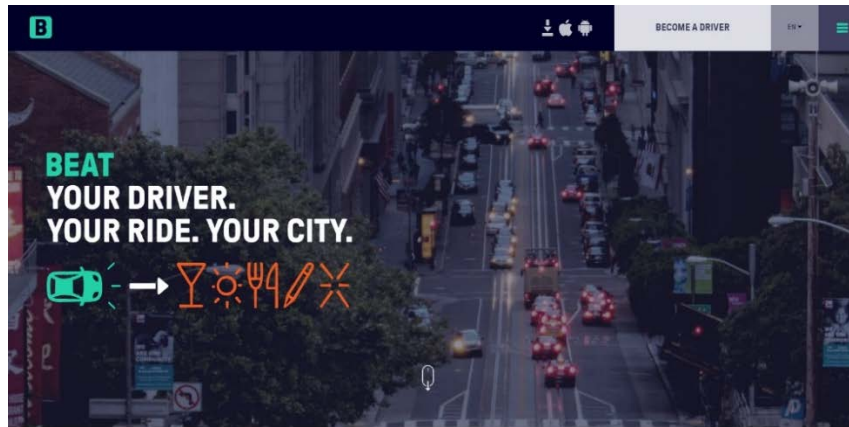
In them is the story of stories of the city, the invitation to tour the city, go to their favorite places and the most interesting places of it, among others.

So, on August 8, 2017, it launched not only an update of the application, but the change of name brought new colors, in a more, friendly interface, and a new visual language that is based on the codes and symbols of the city, such as say their creators.



BEAT replaced the previous image by a new design with colors that give the sensation of light and freshness to become more attractive to the eyes of its users.

The marketing campaigns carried out by BEAT emphasize the safe service provided to the passenger, because in advance the driver and his vehicle can be identified so that he can communicate it to others; It offers a dynamic rate because it aims to attract more driving users to areas of high demand and traffic, and no additional commission is charged on the final rate; and finally, it promises the passenger user to arrive at his/her destination quickly, with the push of a button, since he/she will find available drivers, twenty-four hours a day, seven days a week.



After four years of functioning nearly, the company has achieved a position in the Peruvian market. Recognized by the users of the taxi service by applications, BEAT occupies the second place of preferences, after the company Uber, because it complies with the offer, in the opinion of the passengers.

Nory expects BEAT to continue on the path of growth and preferences, thanks to the select team of professionals in various disciplines, with whom it counts in the areas of engineering, administration, accounting, marketing, among others, including the driving users themselves to reach their goals, in her words: *“Attract and Keep Top Talent, Sustainable supply growth, Amazing product experience”*.

3.14.3 Findings

3.14.3.1 Success Factors

The success achieved so far by BEAT is due to factors that are related to the emergence of digital and innovative companies in our environment, and the needs of having an urban passenger transport that allows users to travel to different points in large cities such as Lima, quickly, with affordable prices to the consumer, and safe; to have a team of highly competitive, creative and innovative professionals.

Growth of the Digital Company in Peru

In Peru, an interesting process – a heavy use of technology – has been initiated by young people, and it has created an opportunity to start a business, since university initiatives have emerged through incubators of new companies, and other technological communities that are promoting "Startups".

This ecosystem that promotes innovation grows in Peru at the initiative of the people themselves who know that the mobile market and the penetration of the internet grow every year. In addition, current government programs and innovation contests that are promoted are driving the creation and growth of these businesses.

The developers of technological startups have focused and shown interest, for example, in the passenger transport sector due to the chaos caused by traffic in the city of Lima and the loss of hours every day, as users move to their work centers, studies, among others. This is the reason that motivated the emergence of taxi service companies through smartphone applications, as Nory points out: *"The main success factor is the growth in digital startups, especially in the business that I am on now which is transportation. Technology has open an important door in our economy to mix these two areas and improve it"*. However, over time, it has become more important to build value propositions and unique business models, because this will allow competing with other companies of this type, domestic public and foreign, that exist in the local market, and achieve the expected success, and that's what Nory knew: *"Of course, we have a lot of things to work yet, as a market and with the government (as an aid)"*.

Growth of the Market and Use of Smartphones in Peru

In 2014, when BEAT entered the Peruvian market, the world of smartphones was just beginning to develop. It was estimated that around one million was imported that year, but, to date, this figure has tripled according to Peru Retail (July 2017); smartphone users reached 12.7 million, which represents a penetration of 33.0 percentage in the local market. This is due to the increase in sales of these devices and the incursion of new mobile operators in the economy that allowed a varied sale. (See <https://www.peru-retail.com/usuarios-smartphones-peru/>). This is strength for the business undertaken by Nory and she has understood this:

"It was a moment where smartphones were being selling a lot and it keeps growing, so it is turning to a positive way of growing for us too".

However, such favourable market situation alone was not the only success factor. The company made innovations in many aspects, for example, determine what other categories of application of mobile technology can be offered (new service offers and differentiated benefits) to the passengers; seek to interact with them, know them and support them in an unexpected situation; make differences with respect to their competitors in this business; improve operational and marketing strategies aimed at their target audience.

Increase in the Demand and Commitment of the Work Team

The mobile applications for taxi services were changing the passenger transport market that operated in cities of Peru. In Lima, this modality constituted an alternative to the informality of the taxi service, since it was estimated that around 180,000 taxis circulated between Lima and Callao every day.

In the local environment, seven or eight companies by mobile applications are currently quite well known, unlike four years ago, when BEAT started its operations, and it was only recently that people got to know about this service modality. Nory states:

“Initially, when we launched we only have two or three players at that moment, competitors, so we learned from the market, where they were, what they were offering to people, and we learned how important it was to provide transparent fairs, safety to ride, and the people needed a lot of convenience through technology”.

In a mega-city like Lima, and in cities where there is more than a million people, and that are growing, the market potential of this service is very high in Peru. The demand for a faster, safer and more efficient service will grow on the one hand, and the offer will do so on the other hand because a mobile App will allow the driver to access passengers, who are looking for a means of transport, near their location, simply and quickly. This is what has happened to BEAT. Nory says:

“Now we grew up to 30,000 drivers active per month which is an amazing milestone but we need to keep growing because as much as you get to be known by the community, more use, more demand, you need more people to take them. We need to keep growing in every aspect, demand, supply, and even into a team”

Team Work

The success of taxi service companies based on mobile applications is in the generation of value to the brand. Nory knows that the companies will grow as long as they have a good team of creative professionals who are committed to the BEAT Mission and Vision and have expertise in business, design, marketing and business, advertising, and communication. Nory was proud of her team when saying:

“I think by now one of the main success factors is obviously the amazing team that we have. If not, we can’t execute the way that we are doing.” With good team work, it will be possible to diversify this market and occupy the first place, in the short term, of the top ten of this type of companies, for a long time.

“Since it is a digital business, it is constantly adapting and choosing the best team to be able to keep up with changes”.

3.14.3.2 Challenges

Since the beginning of BEAT, Nory has faced a series of challenges from the fact that she is a woman in charge of a mobile-based taxi service company, a business which is usually male dominated work and she was not well prepared for. The following are some of the challenges.

Permanent Adaptation to Technological Change

Today, people live in a digital, global, hyper connected world, which is constantly and rapidly changing. The most radical thing could be the emergence of the digital clients who, on a permanent basis and, thanks to access to the internet and mobile technology, can generate new habits of access and consumption of information, according to their needs, tastes, preferences, ways to communicate, transport, rest, etc.

Service companies such as BEAT must constantly face technological adaptation; modernization and improvements must be made to its business model, technology itself, internal and external processes. It implies the need to train employees to become resilient, so that they can withstand the pressure of change; to create an open, innovative organization culture which appropriately reacts to technological changes and puts as a center of the business their clients for whom we create unique and exceptional experiences.

BEAT must always keep this digital strategy in mind in order to find new competitive advantages and enhance them: *“It is a need that everybody has the same mind set because priority changes every day and also because this is a very competitive market, in terms of competitors. So, everybody has to avoid frustration and to be flexible and adapted to change every time”.* Only then will it enter new places and position itself better than its competitors in the Peruvian market.

Informality and Lack of Market Regulation

The Peruvian urban transport market is characterized by its informality and atomization. It is estimated that only in Lima there are more than 250 thousand taxis, but individuals who are not authorized as taxi drivers by the Metropolitan Municipality perform the role of taxi driver using their vehicles.

In this market, the vehicles that provide a service by application are considered by some as an irregular service because private individuals who are not registered in the Metropolitan Municipality of Lima and have not contracted the *Compulsory Insurance against Traffic Accidents*

(SOAT), are added to this market for taxi; others consider them as unfair, illegitimate competitors because they cannot be easily audited and their vehicles are not identified as taxis, and thus there is a legal vacuum.

"The informality of such taxi drivers is not a recent problem that emerged with the mobile applications, but it is something that already existed ", says the CEO of BEAT.

Faced with this situation, the Congress of the Republic of Peru has presented a bill N° 1505/2016-CR that seeks to regulate this service through the use of smartphones, whose purpose is to ensure the legality of the service provided by these companies like BEAT. The text of the law also seeks to promote the improvement and quality of the service and identify the responsibilities between the operator of the platform and the users of the service. In the short term it is certain that this bill will be debated to consider this service as a "private transport service" that is intended to be controlled by the Ministry of Transport and Communications. People can see what happens in the coming months, what these answers companies like BEAT will give.

Taxi Services by Mobile Applications Are Not Transport Companies

The digital applications that are used in the passenger transport service are a means to interconnect a passenger user with a driver user, and there is no other type of relationship in businesses such as Uber, CABIFY, BEAT, etc.

These business companies have agreements with private or private drivers who own their vehicles, but who are not identified as taxis; in practice, it is a passenger transport service that in the near future will have to be regulated because every time users (about 60%) in Lima prefer them, and it is increasing, despite not having municipal authorization. In the opinion of the passengers, the transport companies provide a service that guarantees their safety by knowing who is driving, the license plate number, the route to follow, which are data-provided by this type of company.

Consequently, Uber, CABIFY, BEAT, EASY and others are not recognized by legislation as transport companies: they do not have a fleet of taxis or private cars; the drivers are not workers of the company; they do not appear in the employee list; they pay a commission for trips to companies that fluctuates between 12.0 percentage and 25.0 percentage for the interconnection service that they provide the driver to move the passenger.

These technological platforms, in short, have no responsibilities or obligations to drivers and passengers, a situation that with the passage of time will be subject to attention by Peruvian legislation, and possibly other economies in the world where they are operating.

The Safety of Users Is Not Guaranteed

In the past few months, complaints of assault and robbery on board vehicles that provide a mobile app-based service have been known by the Peruvian press, and this has caught the attention of authorities at all levels of government.

Companies by mobile application ensure that drivers are previously investigated to ensure they do not have a criminal record; the police, criminal and judicial records are reviewed and they are also trained in the code of service provided and preventive management; however, security is not guaranteed at a hundred percentage for the passenger, despite the information that exists about the drivers, such as his face and his name given by the companies, in addition.

Also the drivers are victims of robberies and aggressions. The company is not obliged to intervene in these cases because as mentioned above, they are not part of the screen because they are not their workers. Hence the need for the systems of these companies allow the driver to evaluate and qualify the passenger for their behaviours and attitudes, and may be sanctioned in some way, when the case merits.

3.14.3.3 Policy Recommendations

Women in Peru today have many more opportunities for the creation and development of their companies than in the past; they have demonstrated their entrepreneurial spirit and their contribution to the economic growth and well-being of their family and society respectively.

But, also today, despite access to the internet, mobile technology, and the digital ecosystem that unites the talent, opportunities and resources to support new entrepreneurs of this 21st century, women are still reluctant to engage in business partly for lack of academic training appropriate support, and contacts with the industry and investors.

Promoting the Teaching of Academic Disciplines of Science, Technology, Engineering and Mathematics (STEM) Among Children and Young People

The Ministry of Education and civil society should aim at the development and promotion of programs that improve the teaching of mathematics, science and technology from schools, at all levels of basic education, to universities.

On the one hand, it is necessary to review the curriculum of primary and secondary schools to evaluate and reinforce the contents of the basic and applied sciences that are taught and confirm the effectiveness of the methods and materials used and see other alternatives.

On the other hand, it is necessary to ask crucial questions, such as ‘who should teach?’ ‘how should teachers be prepared?’ ‘Should opportunities be given to professionals in STEM disciplines to be incorporated into the teaching of these disciplines in educational institutions of primary and secondary level because they have the skills and capabilities?’ The important thing is to generate a collective conscience about improving educational opportunities and satisfying the Right to Education of children.

STEM careers are the careers of the future. They have high demand in the labor market, but few are the young women who agree to study them, hence there is a need for the State to develop a Scholarship Program in the Training of Professionals in Careers of Engineering and Technology, and for universities and institutes of higher education to create Mentoring Programs to guide young women in the study and research.

Promotion and Development of Business Incubators in the Economy

Business incubators are strongly related to entrepreneurship and innovation, and it is from there that business initiatives of a digital nature emerged. With the development of the internet and the contribution of new technologies, incubators have become the center for the development of new products, technology solutions, among others.

In Peru, the State created "Start Up Peru", under the leadership of the Ministry of Production and Vice Minister of MSE and Industry with the aim of promoting the emergence and consolidation of new Peruvian companies that offer products and services based on innovation and technology, so that they can enter the local and international market and create quality jobs.

This proposal has generated more and more young women and men to present their projects of entrepreneurship, incubators and companies at an early age, to competitions, to achieve financing, and to develop collaborative networks with different actors of the Startup community of the economy and abroad.

However, it is required that this initiative be extended and strengthened throughout the economy's territory, because the Peruvian, whether male or female, is an innovative entrepreneur, but it is difficult to turn that innovation into a competitive, profitable and sustainable business in time. It is not fully known what the Peruvian entrepreneurial ecosystem is like.

Access of Women Entrepreneurs to Digital Education and Business Training

In Peru, female entrepreneurship is recognized because it is creative, ingenious and persevering but also suffers from the lack of business knowledge, advice, financing and use of ICT in their businesses.

There is a digital divide for reasons of gender, basically for cultural reasons, because it is thought that boys and adolescents can easily access the learning of technologies, and not the girl, the adolescent or adult woman. There is also a digital divide between the rural women and the urban women. Former requires more urgent training programs and technical support to achieve their business opportunity.

Therefore, inequalities do not only occur in access to equipment and possibilities of accessing the Internet, but there are other inequalities such as in the production of information and content, in technological skills (what one knows how to do), in the intensity (how much is done) and in the type of use (what is done).

3.14.3.4 Advice for Women Entrepreneurs

The following is advice that Nory gave to many women who have dabbled in the business world:

Where Next!

As the goals and objectives of the company are reached, women startups must continue to consider more challenges and new objectives and goals constantly, while seeking to achieve the success of the company and pursuing its dream of making it great m. *"To keep on pursuing the goal towards success and once you get there, again as we say in BEAT, ask yourself "Where next?"*.

See Failure as an Opportunity

The society in which we live teaches us to value success and to feel uncomfortable and ashamed when failure occurs. For that reason people are afraid to take risks and only limit themselves to remain in their activities and jobs. But the truth is that failure leads people to continue learning and progressing to savor success later:

"Every day we see news of how we are succeeding in areas that "were not for us". Of course, it is not going to be easy but, the point is: "to keep trying and see a failure as an opportunity to show strength and keep learning".

There Are No Limits, Only Opportunities

People have two paths to follow: accept the limits and stop doing what they want to do because they are prevented, or look beyond them and see the opportunities. Business women are breaking the gender stereotypes associated with the production sectors and economic branches that were dominated by men. Nory advised other women to keep in mind that there is nothing impossible, and that by preparing and working hard they can take advantage of opportunities as soon as they present themselves to make a difference.

“As women, we are proving day by day that there are no limits to what we can do and where we can go. Every day, more women are proving that no profession is unique to a gender and that not only do we have the same abilities but we deserve the same opportunities”.

What You Do, Do It with Passion

Entrepreneurship is nothing more than doing what you love in life, to make it evolve to get the most out of it, not only from the economic point of view but from the perspective of personal self-realization; it is what most interests and full of happiness every achievement that is achieved. Being an entrepreneur implies being creative, innovative, and successful and having leadership.

“No matter what the challenge is, you just take it. If you really make it with passion you are going to make the best of it. And inspiring people with what you do is the best way to feel real, makes it satisfaction for yourself”.

3.14.3.5 Summary and Discussion

This investigation has allowed knowing more closely the information and communication technologies development state, as well as, the feminine entrepreneurship in Peru.

To date, Peru counts with a law project that creates the Vice Ministry of ICT and will be attached to the Ministry of Transport and Communications (MTC); was recently approved by the Council of Ministers, and will be delivered to the Congress of the Republic / Committee on Transport and Communications for debate and approval, so that in the shortest time it can be implemented an.

All Peruvian society actors (private sector, academy, civil society) are aware of the need for a body such as the Vice Ministry in question to promote the ICT development in Peru. Also there is a need for the policies in the information society field which can facilitate the special data functions integration, information security, digital literacy, e-government, e-commerce, and the emergence, development and operation of ICT industries, which will contribute to the economy's development, social inclusion, democratization, transparency and modernity.

The current Vice Ministry of Communications that will be replaced by the Vice Ministry of ICT has a goal for the Peruvian Independence Bicentennial, year 2021, to expand the internet penetration in the economy provinces and districts, and have high speed internet connection; for this, people have been working on the implementation of the National Dorsal Fiber Optic Network (NDFON) and regional networks for the Coast and Highland, while for the Jungle department capitals there will be other solutions (satellite internet, microwave network) because they are difficult access areas, in charge of the Investment Fund in Telecommunications (IFT). This project

is vital for the Peruvian digital integration.

The ICT use, in Peru, is below the Latin American region level. Peru is the economy with the least internet users, being surpassed by economies such as Uruguay, (leading ICT development economy in the region), Colombia, Chile and Brazil where there are digital government institutions.

According to journalistic reports, the Peruvian State, with the development of the NDFON, is determined to support the vital sectors for the population, such as health, education and security. Likewise, it must promote digital use in the population to generate digital citizenship, demand for digital services that improve the citizen life quality, the companies' productivity and the government service efficiency.

According to the National Institute of Statistics and Informatics (2017), the penetration of ICT in the economy's households was 93.0 percentage; 19.7 percentage accessed the internet at home, and mobile phone; 28.2 percentage of the population of six and more years of age, accessed the internet through the mobile phone; and 13.5 percentage accessed the internet only at home, while 9.0 percentage only in the public booth.

98.9 percentage and 97.0 percentage of household heads with university and non-university higher education access to mobile telephony, respectively; followed by heads of households with secondary education (93.2 percentage) and those of primary education (79.6 percentage).

In recent times, those who have been using ICT are entrepreneur's women who run a micro, small and / or medium-sized company. It is now known that the Peruvian entrepreneurial women rate is higher than that of men's and this is due to the great effort they make to support their family, financially support at home, and improve living conditions and their environment.

Although it is recognized that Peru is one of the leading economies with entrepreneurs' women in the world, and that there are some of the best entrepreneurs, there are still not enough favorable conditions to support their entrepreneurship. This is limited by the business failure fear for lack of the education and business training, business financing support, and public policies that support the ICT use and its integration in company.

However, it must be recognized that the Peruvian government has been making efforts to support Peruvian enterprises, in recent years, by launching the Startup Peru Program, led by the Ministry of Production. The objective of the programs is to promote emergence and consolidation of the new companies that offer innovative products and services with a high technological content, projection to international markets and job quality generation.

It must also be recognized that in the economies of the Latin American region there is still very little investment in science, technology and innovation, although there is an increasing dynamism in the adoption of ICT in new ventures, in contrast to what happens with the economies that make up the Organization for Economic Cooperation and Development (OECD).

In Peru, the female entrepreneurship ecosystem is being promoted, and attempts have been made to offer necessary tools (government programs, educational programs, among others) to women, at each stage of their life development (girls, adolescents, adult women and elderly women), when they decide to launch their own business. To promote this female entrepreneurship ecosystem in Peru, it is necessary that from the academy, the student, accompanied by her teacher, can raise and develop a business idea, culminating with a business project presentation; that the government promote public policies, funds and educational and training programs for women to develop soft skills, specify their project, access credit, form a company and get it formalized; and that from the family group the support and the motivation to the woman be given to concretize these initiatives of entrepreneurship.

It is important that the Peruvian State and the companies should support projects, proposals or initiatives of entrepreneurs in the technology industry who are committed to closing the gender gap in order to attract young women and give them the opportunity to be trained, prepare them for the world of work in trades and occupations that the technology sector brings in the future.

In Peru, today, women who are working in the technology sector is a minority. It is estimated that less than 7.0 percentage of software developers are women, and it is likely that this is also happening in Latin America. This situation must be changed imminently, for several reasons; the first because women can stay out of the market where the jobs of the future will be and technology is increasingly important in the workplace; secondly, if women are not prepared for the use of technology, what is already seen with artificial intelligence, robotics, women will fall even further behind.

It is necessary to put into action the new paradigm of education for the 21st century, banishing traditional education that distinguished between education for men and for women, which started from an inequality and a prejudice: women are delicate, but not so studious, while men are ingenious and have more ability to learn.

In the knowledge society, education aims to cultivate among young generations abilities to think from the perspectives of science and technology, which are used in everyday life, but that objective has not been achieved yet.

The world of work is changing, and will continue to change with the irruption of technology at work, in the economy and in the lives of people, in a constant way; new careers, trades and activities will appear around future scientific and technological development, which is why, as already mentioned, schools need to prepare and create other forms of learning, perhaps more playful for children, young people, find a taste for the study of science, technology, engineering and mathematics (STEM) disciplines, which according to modern times, are forcing everyone to study, learn and train, permanently.

That is why we must motivate the few women who study engineering, mathematical sciences, technology to develop social projects, solidarity projects aimed at these other women, young and old, who have a business idea, have talent but need advice, accompaniment and training, among others, for the generation of companies that create new services and digital products.

Finally, what is expected in the future is that the female workforce in Peru is represented in the different hierarchies of the organizations, for example, that there be equal opportunities and participation in the total number of executives and members of the organization senior management of domestic public and foreign companies; that the academy encourages and encourages more entrepreneurs to be trained, that a community of mentors can be created that can support these entrepreneurs.

3.15 Case Study of the Philippines⁸⁹

3.15.1 Profile of a Woman Entrepreneur

Headed by its President and Chief Executive Officer (CEO), Ms. Kim Lato, Kimstore Enterprise Corporation is able to introduce and accelerate quality e-commerce services in the Philippines. Within over a decade of operations, this enterprise have set the bar of quality and excellence in e-commerce for tech and electronic gadgets and accessories in the economy.

Business familiarization and orientation came early in Ms. Kim Lato's life, having been born in an entrepreneurial Filipino-Chinese family and being the eldest of 2 siblings, she is often brought by her parents to their textile business operations. When she was old enough, her parents started assigning her simple roles and responsibilities in the business, especially during school summer breaks, intermittently doing business responsibilities and vacation time. From there she learned business basics, critical business values and, more importantly, she was able to earn money for herself as she was given a form of "salary" if she does her roles and responsibilities well. According to Ms. Kim Lato, her parents always implement "fair wages for fair work," and this policy applies to all, even to family members. While her business acumen is slowly being developed during those times in their shop, she could already see a pre-determined future – that she would inherit their textile business and continue her parents' legacy, as this is what her family is expecting from her and her brother. While she does not dread the thought of inheriting their textile business in the near future, keeping the thought to herself, she knew by heart that her interest does not lie in textiles or its distribution.



Ms. Kim Lato, President and CEO of Kimstore Enterprise Corporation – one of the most trusted and leading e-commerce portal for tech gadgets in the Philippines

⁸⁹ This case study was conducted by Joy Munsayac-Cacal, Researcher | Project Management Consultant, Coca-Cola Philippines, the Philippines.

Attending higher education in one of the premiere business schools in the Philippines, she took a degree in Marketing. College education further honed her business capabilities, both in theoretical and in practical terms. Ms. Kim Lato was still in her 2nd year of college education at the De La Salle University Manila, when the concept of establishing an online gadgets business came into being.

She was a budding photography enthusiast and she always stays up to date in the latest trends and technologies by researching through the internet and engaging in her photography group. As a passionate photography hobbyist, she came across the challenge of finding a reliable and affordable source of top-of-the-line photography gadgets and accessories locally and even more difficult to locate an online store catering worldwide. This difficult situation sparked her business inspiration, it struck her the idea that it is really difficult to acquire photography gadgets online from a Philippine based portal and being a student means she had limited time to go from one physical store to another in order to scout and buy the exact gadget that she needs.

She investigated why online purchasing or shopping is not a hit in the Philippines that time, given its potential practicality for busy students like her and career professionals alike. But she did not stop at just being curious about the absence of reliable e-commerce in the Philippines, from there she envisioned to introduce and popularize it in the economy. She firmly believed that the future belongs to the curious, and that “curiosity is the spark behind every great idea.” Her greatest challenge at the onset of her business was how to transform shopping mall-loving Filipinos, or at least a niche or slice of the shopping population, into an enthusiastic online shopper.

Coming from a family of entrepreneurs and armed with a (more or less) solid online business concept, it did not take long for Ms. Kim Lato, then 18 years old, to set-up her first online store via, the now defunct social media platform, Multiply. With an initial investment capital of Php20,000 (about US\$400) borne from her lifetime savings, she made her first sales transaction on a premium digital camera worth Php15,000 (about US\$300) to an equally passionate photography hobbyist and organization colleague. She started selling cameras, lenses, and other photography accessories from the social networking site, as this is where she communicates with her friends, classmates, fellow hobbyists, and networks. From this endeavor, she also easily accomplished her schoolwork requirement for her Sales Marketing subject, in which they are tasked to sell Php30,000 (about US\$600) worth of any products, as a learning by doing exercise, before the term ends.

Her product policies were simple: quality is always paramount in everything that she sells, seconded by affordability since her target market is mainly students like herself. Undoubtedly learned from her informal and formal business trainings, she mentioned that “from quality and

affordability, you get customer satisfaction and that is how your business will grow.” A business value that she would carry in the next years of her operations.

As a very “techie” person or one who is versatile on technology gadgets, usage, and concepts, she is offering more than just tech electronic products. She always painstakingly study, review and research the products that she sells so she could give the best advice and recommendations to her customers. She would always be the first to be in the know about the latest gadgets or accessories and anticipates inquiries from her customers about these latest trends online. After only a year of operations within her university, her market grew to other schools in Metro Manila, such as Ateneo de Manila, University of Sto. Tomas, and University of the Philippines through word of mouth, online referrals and good customer reviews or feedback via social media. From there, her inventory grew from photography line, as her buyers also look for laptops, smart phones, tablets and other tech gadgets. With commitment, hard work and the desire to offer the best deals across the economy, she found joy and fulfillment in knowing the satisfaction of buyers when they got their hands on their favorite gadgets through her store.

Still having a one-woman team operation in 2007, she felt a surge of determination to continue her online business, and she began to operate purposively by arranging her schedule between school and business. On her 3rd and 4th year in college, she attends classes from 8:00 am to 1:00 pm, then do business from her laptop and mobile phone from 1:00 pm to 6:00 pm, managing all business processes from order handling; payment receipt and confirmation; delivery; technical advisory on product specs, features and functionality; and ordering from suppliers. Her initial thoughts was this online business is good while still in the university, as a side job while earning her degree.

Upon graduating in 2008, Ms. Kim Lato again faced another challenge, this time with her career path after college. She would have wanted to experience a few years in the workforce sector after graduation. However, the Philippines was undergoing serious economic crisis at that time, which means she had limited employment opportunities locally, and she also did not want to venture abroad for work. So instead of looking for employment, she continued to grow Kimstore into a full pledge online store for quality and affordable gadgets. She formally registered her sole proprietorship business as Kimmy Enterprises under the Department of Trade and Industry (DTI) and hired their house helper as her first employee, mainly to help her fulfill deliveries across nearby meet-up points or handle package shipments for outside of Metro Manila orders. She kept her network even after college, so the connections and communications continued up to when her friends, classmates and customers from college years became young professionals. She gradually grew her business and her team support as she firmly believed that every businesswoman should be ready to adapt to changes, be open to feedback, accept challenges, and keep up with trends. By

the end of year 2009, she already made her first 1 million pesos (about US\$20,000) sales from Kimstore business transactions.

The business growth continued, multiplying every year the number of satisfied customers and the subsequent sales through various online channels; however, Multiply social media was still the main portal for her business. She continued to grow her business portfolio, so by the end of year 2012, her business capitalization is already worth more or less 10 million pesos (about US\$200,000). It is also within this period when Multiply recognized Kimstore among its most successful online seller of the year.

Not short of challenges and lessons along the business operations, Ms. Kim Lato again encountered a major obstacle when Multiply suddenly closed its operations in the year 2013. The platform did not also give enough time for its users to migrate their profiles or communicate adequate announcements to their social media networks and followers. For the first time in her life, she felt a degree of uncertainty regarding the future of her online business. She described her feelings as being in a state of shock, as Kimstore was hugely offline for at least 3 days. Luckily, she already began building her profile and portfolio on Facebook and Twitter, which enabled her avid customers to locate Kimstore again.

But learning from third party social media experience with Multiply, she began developing her own website. Establishing her own e-commerce website was not an easy breezy endeavor, and a shrewd person bought kimstore.com and kimstore.com.ph URLs ahead and waited for the right moment to sell the web addresses. She was forced to spend a huge amount of money to buy the Kimstore website addresses, as she was not able to secure intellectual property rights to “Kimstore” as a brand name yet at that time. After securing her rightful web addresses, and with ample amount of help from her friends and networks in the web development field, <https://kimstore.com/> e-commerce platform became operational within 3 months’ time. She also secured patent for her brand names from the Intellectual Property Office (IPO) of the Philippines.

While the 2013 business year was full of challenges, the following year 2014 was a year of abundance. She was able to double her business value and sales. She took advantage by investing in online advertising across all search engines and social media platforms that enabled her to establish a strong and more stable customer base. By year 2015, she renamed her business to Kimstore Enterprise Corporation and registered it under the Securities and Exchange Commission (SEC). Overcoming these challenges earned the favor of her family towards her business. Her family supported her throughout the business obstacles, and respected her decision to continue growing and sustaining Kimstore as a business endeavor. She even hired her fresh graduate brother as a business management executive under training.



Ms. Kim Lato, then 23 years old, is the youngest among the 50 Young Entrepreneurs awardee of GoNegosyo in 2011.

Source: Taken during the book launching and signing of the GoNegosyo publication 50 Inspiring Stories of Young Entrepreneurs where she is featured.

As President and CEO, Ms. Kim Lato is very much hands-on in the strategic direction and operational management of her company. Throughout its operations of more than a decade, Ms. Kim Lato received numerous awards and accolades from various institutions, recognizing her revolutionary work in the field of e-commerce business in the Philippines. In 2011, she became one of the 50 Young Entrepreneurs Awardees in the Philippines by GoNegosyo and one of the 12 Young Starpreneurs recognized by The Philippine Star. Not resting on her laurels, Kim Lato started the year 2014 by being a Brand Ambassador of TackThis Philippines, a new e-commerce program under Smart Communications. She was hailed as the PLDT Boss for E-commerce in 2015 and Brand Ambassador of the MAKE IT BIG campaign by PLDT SME in 2016.⁹⁰

3.15.2 Profile of a Company

Point of Sale and Product Range

Now operating 11 years of profitable business in the Philippines, Kimstore Enterprise Corporation already came full circle as it is now among the longest running and most trusted e-commerce service platform when it comes to procuring electronic gadgets and accessories online. Kimstore envisions a full e-commerce ecosystem that will provide all Filipinos the latest gadgets and technological advancements that will take the Philippines at the forefront of the tech industry.

⁹⁰ <https://www.businessnews.com.ph/success-story-kim-store-20170202/>; and <https://www.entrepreneur.com.ph/news-and-events/who-are-the-leading-foreign-and-local-players-in-ph-e-commerce-a00200-20171024>

The main online platform of Kimstore is via its website: <https://kimstore.com/>, where a full online e-commerce shopping experience can be accessed by online customers. Likewise, business traffic and transactions also come from social media platforms, mainly from its Facebook business page: <https://www.facebook.com/kimstorePH>; twitter account: <https://twitter.com/kimstoreph>; and Instagram account: <https://www.instagram.com/kimstorePH/>.

Kimstore's retail products range from digital cameras; gaming consoles; mobile phones; tablets; music players; powerbanks; earphones; speakers; action cameras; mirrorless cameras; photography accessories; wearables; health and sports gadgets; and other latest tech gadgets in trend. Each product sold through Kimstore undergoes quality review through a company tradition called the "unboxing," to ensure that it will deliver to the specifications and features advertised. This tradition is attended by the full Kimstore team, as this is where they get their education and orientation about the latest products that they will sell. Kimstore also adheres to standard product warranty and product return policies, as mandated by the DTI and other enterprise regulatory bodies.

Kimstore is a trusted online partner of several tech gadget brands: they sell products of Anker; Apple; Asus; Garmin; Nokia;Huawei; Oppo; Samsung; Sandisk; and Transcend, to name a few. Worldwide network of suppliers and distributors ensure the supply of gadgets demanded by Kimstore customers is fully complied all the time.

Kimstore has a very broad digital footprint: Kimstore's Facebook profile alone have over 2.5 million followers; daily traffic from website surpasses its target each day mainly coming from organic and paid online advertisements. Brand partners of Kimstore are also subsidizing the advertising or marketing costs for their products promoted on Kimstore channels. Awards and citations from well-known institutions and ICT corporations received by Kimstore and its CEO continue to flourish as an organic online press and video release and, in some way, also serve as an advertisement for the company as the featured releases accentuate the good performance and values of Kimstore as an online e-commerce business.

While Kimstore is mainly accessible online, they also started partnerships with established physical retail tech gadget stores, wherein online orders can be complied if the customers would like to pick-up the items immediately. Currently, there are 12 Kimstore partner stores strategically located in prime spots around Metro Manila that releases orders and receive payments for company

Quality Customer Service and Honest Communications

What sets Kimstore apart from other e-commerce platforms is its personalized way of catering to customer's electronics and tech gadget needs. In-depth product knowledge starting from its leadership to its employees transcends quality service to buying customers. According to its President and CEO, *"e-commerce is more on personal relationships. It's not just about selling and earning. It's all about how you communicate your products to your customers in an online and telecom medium. It is important that your customers will be able to make an informed purchase decision every time."* With this perspective in mind, Kimstore also built a very detail oriented post-purchase service team to assist its customers in relation to the gadgets they have purchased online, whether about first time gadget use, product set-up, maintenance, and other technical related concerns.

In line with its company's mission *"to provide brand new and guaranteed original gadgets at unbeatable prices anywhere in the economy,"* Kimstore brokered several exclusive online distributorship with electronics and tech gadget brands that enable the company to sell the products at very low prices, compared to physical outlet stores and mall shops of the same brand.

Over a decade of quality operations brought Kimstore its strong customer base following. The company now caters to a broader section of the shopping population from youth, college students, young professionals, tech gadget enthusiasts, photography practitioners, and, more recently, private corporations on their tech gadget requirements. Positive and raving reviews from loyal customers online also contributed to its ever growing customer base. At the same time, quick issues and concerns resolution mitigate or neutralized negative reviews or feedbacks.

Partners for Business Growth, Inward and Outward

As a rapidly growing business, Kimstore required reliable logistics and payment partners, and these partners ensure that orders are delivered on time. For product delivery compliance, the company is in partnership with LBC and Ninja Van.

While for payments processing, the current partners are Dragon pay online, MLhuiller Pawnshop and Money Transfer, Banco de Oro, Metrobank, EastWest Bank, Unionbank, and Cebuana Lhuiller Pawnshop and Money Transfer. Kimstore is currently piloting an installment payment program for higher priced tech gadgets and equipment, where customers can program their payment in an agreed period of time through a form of loan from Cebuana Lhuiller. If proven to be an effective business strategy, the installment program partnership will be expanded across the economy.

As a form of Corporate Social Responsibility, Kimstore launched an ambassadorship program wherein loyal online customers can become affiliate sellers and receive percentage of the sales income as reward. Another form of giving back initiatives include assistance to select community programs by posting its campaign or projects in the Kimstore's online communication channels to help in the information dissemination and encourage the general public to support the call to action.

Company Core Operations and Team Work

The President and CEO, Ms. Kim Lato, personally handles employee training and orientation. She also leads the “*unboxing*” tradition of the company. Through this practice, it is ensured that the Kimstore business values and commitment are inculcated in the company culture and in the conduct of quality business services through her employees. Explaining each role of employees and hands-on training in the Kimstore e-commerce ecosystem enables each of the teams to work in sync with the other steps and processes managed by other teams of the company. While there are clear role sorts and team leads, the central nervous system of the business is still the office of the President and CEO. In turn, Kimstore, as a company, ensures workplace ethics are followed and benefits mandated by the law are extended to all employees at all levels.

As her own brand ambassador, Ms. Kim Lato is also known online as “Ninang Kim” (godmother Kim) by its online customers. Ninang Kim is a caricature that serves as mascot or icon of the company, often used when communicating promos and discounts seasonally offered throughout the year. Their most recent promo to cap off 2017 is the “*What is your wish from Ninang Kim?*” online promo, wherein customers participate by answering the question. Kimstore team selects the best answer and Ninang Kim grants the tech gadget wish of the selected winner for free.



With the company's sustained growth and with a growing team of 60 personnel, Kimstore began its process to full digital transition in the year 2016. Kimstore is now on full ICT based operations

from order taking, marketing, customer servicing via phone and chat, payment processing, advertising, post-purchase assistance, logistics and delivery, and even financial accounting.

Company Milestones and Customer Testimonials

The table below shows the notable historical highlights of Kimstore throughout its 11 years of business operations. The summary also denotes the major challenges faced by the company.

Table 7. Business Milestones and Challenges of Kimstore

Milestones	Year	Challenges
<ul style="list-style-type: none"> • Inception of online tech gadget business with Php20,000 (US\$400) capitalization • Made first business sales transaction through Multiply social media 	2006	<ul style="list-style-type: none"> • Capturing a niche among the shopping mall-loving Filipinos and turning them into online shoppers
<ul style="list-style-type: none"> • Expansion of market to other major universities in Metro Manila • Expanded portfolio of gadgets inventory for sale 	2007	<ul style="list-style-type: none"> • Time management between school and online order fulfilment, especially for meet-ups delivery across the universities
<ul style="list-style-type: none"> • Formalized business and registered Kimmy Enterprises as a sole proprietorship business under DTI 	2008	<ul style="list-style-type: none"> • Retaining networks and customers after graduation from the university
<ul style="list-style-type: none"> • Made first million from Kimstore sales • Hired first employee to help fulfill logistical requirements 	2009	<ul style="list-style-type: none"> • Growing customer base needed bigger and better team to fulfill orders and process payments
<ul style="list-style-type: none"> • Started team creation, hired initial 2 fresh graduates and trained them on order processing via call, text and chat • Settled physical office by renting office at Lakandula St., Tondo, Manila on a family-owned building 	2010	<ul style="list-style-type: none"> • Team not enough to process all orders real time
<ul style="list-style-type: none"> • Expanded team to about 8 employees to manage order processing, warehousing inventories, delivery fulfilment and receipt of payment • Became one of the 50 Young Entrepreneurs Awardees in the Philippines by GoNegosyo • Received GoNegosyo Badge of Trust • Recognized as one of the 12 Young Starpreneurs by The Philippine Star newspaper 	2011	<ul style="list-style-type: none"> • Setting safety procedures in cash on delivery meet-ups and handling money from payment of orders by employees
<ul style="list-style-type: none"> • Multiply recognized Kimstore are one of the Top Online Sellers of the year 	2012	<ul style="list-style-type: none"> • Need to improve financial accounting processes

Milestones	Year	Challenges
<ul style="list-style-type: none"> Surpassed 10 million pesos business sales from Kimstore Expanded team to 15 employees Started building Facebook and Twitter profiles and portfolio 		
<ul style="list-style-type: none"> Doubled the business value from 2012 bench mark Expanded the team to 30 employees and built the post-purchase customer service team Established own e-commerce website Started partnership with physical gadget stores to expand pick-up and meet-up locations for Kimstore customers' convenience 	2013	<ul style="list-style-type: none"> Multiply social media platform shut down, Kimstore was offline for 3 days Web address acquisition from prior owner Lack of intellectual property rights over Kimstore brand
<ul style="list-style-type: none"> Patented Kimstore brand and related business icons at the IPO Hired more personnel for order fulfilment 	2014	<ul style="list-style-type: none"> Encountered fraud transactions complaint from customers victimized by online scammers pretending to be representatives of Kimstore
<ul style="list-style-type: none"> Renamed business to Kimstore Enterprise Corporation and transitioned into a corporation type of business ownership Registered company to SEC Secured exclusive distributorship to a number of tech gadget brands Expansion of the number of partner stores Expansion of headquarters and warehouse to 3 floors of the building 	2015	<ul style="list-style-type: none"> Some fraud transactions still continue to persist despite reports to the National Bureau of Investigation
<ul style="list-style-type: none"> Grew number of partner stores to 12 outlets Formalized business partnerships with logistics companies Started transition of all business processes to ICT systems Expansion of team to 50 employees Piloted Kimstore ambassadorship program or web affiliate marketing as a form of CSR 	2016	<ul style="list-style-type: none"> Selecting the right technology for the full ICT transition of all business processes Persisting fraud transaction cases
<ul style="list-style-type: none"> Formalized business partnerships with payment processing companies and banks 	2017	<ul style="list-style-type: none"> Warehouse expansion or relocation to a bigger facility

Milestones	Year	Challenges
<ul style="list-style-type: none"> • Launched information drive in the form of organic and paid ads, informing the online public customers about the legitimate Kimstore platforms for business transactions • Piloted installment payment program through micro-loans • Ended the year with 2.5+ million followers on Facebook • Ended the year with greater business value and highest annual sales record, as of yet. 		<ul style="list-style-type: none"> • About 10 cases of fraudulent transactions

Among the main factors that moved the company success forward is its growing number of satisfied customers. When good customer reviews and feedback are given, the word spreads like a lightning bolt online. These reviews add to the corporate reputation score of the company that helps increase brand recognition and trust, which is very important especially for online businesses because these values, more often than not, converts to actual customer sales. Here are some of the selected best customer testimonials for Kimstore throughout the years.

Chat Fores, Customer since 2008, Age: 42. Occupation: interior designer

“Kimstore has always been a lifesaver for me. Being a mother of 2 and busy with my interior design company, kimstore has made it very convenient for me to get the gadgets I need for my family and my business. Prices are lower than the usual stores and service is great! I get all the items at my doorstep! You can get the newest items faster than everybody else. All it takes is a one text and the item is yours the same day. I am also a big fan of Kim's little gadgets. She has the most fun stuff I can give out during Christmas! Kim has been my reliable source of all things techie since 2008.”

Zyla Quiambao

“Hi, I’m Zyla, 30, working in Digital Advertising. I’ve known Kim since college - we’re orgmates - and I’m Kimstore’s first customer. I remember I got a Canon point and shoot camera. I guess I can say I’m a lucky ‘buena mano’ (first customer), seeing as how Kimstore has grown to be one of the biggest players in e-commerce in the Philippines.”

“To be completely honest, Kimstore’s success doesn’t come as a surprise to me. Since our college days, Kim has already shown competitiveness, leadership, and strong business

initiative. I mean, how else will you describe a college student who pioneered e-commerce in a time when people are apprehensive to purchase things, let alone gadgets, online. For a new business venture like that, it would have taken great determination and a kick-ass strategy to succeed. Fortunately, Kim has had that formula down pat. Since the start, I already knew Kimstore would be the success that it is right now, and I couldn't be prouder of Kim for everything she has achieved at such a young age. I can only look to her for inspiration, as do a lot of young people who wish to be their own boss someday."

Rucci Ramos-Pacag, 29y/o, Finance/HR

"I've been buying gadgets and accessories from Kim for almost a decade now and it has always been a great experience - cheapest price in the market, authentic products, very responsive staff, even Kim herself quickly attends to my orders and inquiries. I've introduced Kimstore to my colleagues and friends, and like me, they never get disappointed on their purchases. I will never get tired of recommending Kimstore to anyone because I know that I will never go wrong. Kudos to Kim for creating Kimstore, you deserve the fame and recognition, good job and more power!"

Atty. Ernesto Tabujara III

"I am Ticky Tabujara, 52 years old, lawyer. I have been a Kimstore customer for the past 6 years, since 2011. At that time I was new to online transactions, but Ms. Kim Lato personally handled my first transaction and my trust was immediately gained from her. I bought a camera and Kim went the extra service mile and guided me on how to use it. Since then on Christmas and birthdays, or whenever I need a gadget I go to Kim for great service and affordable products. Since those early years many competitors have emerged, but I have remained loyal to Kimstore because I know that I am assured of getting the best possible deal, and friendly, convenient, service."

Mark Milan Macanas, Editor-in-Chief, TechPinas.com one of the longest-running, most followed, and most read technology blogs in the Philippines

"Kim Lato, through her trusted and successful Kimstore online business, has helped democratize the use of gadgets in the Philippines by putting these devices at arm's reach of many Filipinos across the economy. Kim is not only a true trailblazer but she has also helped so many people through the years by providing jobs, by the consistency of the service that Kimstore provides, and simply by being an example of an empowered Filipina."

Prior to becoming one of the most trusted online gadget store in the Philippines, Kimstore had to overcome major challenges along the way. From a Php20,000 (US\$400) business value investment in 2006, Kimstore is now a multi-million business venture capitalizing on e-commerce and vertical marketing. Starting from a one-woman team, it now employs over 60 sales, marketing and support team, creating economic value and sustained livelihood for more than a decade, not just to its owner but to its employees as well. Based on MSME classification in the Philippines⁹¹, Kimstore was able to grow from micro, to small, and now a medium sized enterprise.

Kimstore Enterprise Corporation is conducting its base central operations from its headquarters located at Lakandula St., Tondo, Manila. Surpassing its 2017 sales target, its business direction for 2018 is to double the sales mark and sustain its business growth. Ms. Kim Lato intends to remain as the President and CEO of a leading e-commerce online store in the economy for the coming years and to continuously serve and address the tech-related needs of the Filipino people.

3.15.3 Findings

3.15.3.1 Success Factors

The success of Kimstore Enterprise Company can be attributed to many factors and circumstances, as shown in the initial sections. Many would attribute Kimstore as one of the pioneers of e-commerce business and have accelerated the promotion of this type of facility as a reliable, convenient and affordable means to shop. Particular to Kimstore, it became a leader in providing quality electronic tech gadgets, living up to its badge of commitment to be “*The Most Trusted Online Gadget Store*” in the Philippines. The following section highlights the top 5 attributable success factors of the company.

Maximizing ICT Utilization

As an online business, Kimstore fully utilized the power of ICT from the beginning, which has become its most powerful ally in bringing the e-commerce business to success. Being a digital native, Ms. Kim Lato understood the online environment very well and used it to her company’s advantage. Kimstore always make sure that they are keeping up with the technological trends that are being introduced in the industry. According to its President and CEO,

“It is really important to be one of the early adopters of the newest innovation for the simple reason that technology can do almost everything today. Being one step ahead in utilizing the

⁹¹ Senate of the Philippines, The MSME Sector at a Glance, Senate Economic Planning Office, March 2012

right advanced technology for your business is when you can say that you're on the right track."

While bold in trying new or upcoming technologies, Kimstore filters the right technological fit for its business, the right technology that would answer the needs of the company now and the immediate future. Kimstore is now on full ICT based operations both for its end-to-end business processes and marketing communications. This full ICT transition brought efficiency in her team operations and cost reduction in terms of company operational expenditures.



Bringing your business to the next level means continuously inspiring your team and keeping head of your competitors when it comes of ICT tools for business.

The Right Mindset, Upbringing, and Education

We could say that Ms. Kim Lato is in an ideal environment or breeding ground for entrepreneurs. Having been raised by a very enterprising family and learning from top academic business institutions are among the attributable success factors. However, Ms. Kim Lato says that

"Entrepreneurs are not born to it. Succeeding in business takes a lot of learning about your market, hard work to achieve your goals, and the capacity to innovate in today's fast-changing business climate. Before you throw yourself headfirst into entrepreneurship, first ask yourself: are you ready to take the risk?"

Indeed, back in 2006, a risk-taking go-getter attitude was the main driver why Kimstore was established in the first place. She really thrived to get educated in her business, both from formal and informal sources of valuable information, and thus, she took calculated risks when she made an informed decision to start and grow her own company. For Ms. Kim Lato, being an entrepreneur is a never ending educational journey - some you can learn from other people or online and some you can experience first-hand.

Creating That Win-Win-Win Scenario for Businesses and Customers

Success lies heavily on creating business value to all parts of your business ecosystem. Key stakeholders to Kimstore Enterprise Corporation are: (a) Kimstore as the online e-commerce point of sale; (b) Tech gadget suppliers and distributors as the manufacturers or source of products; and (c) online shopping customers of tech electronic gadgets. The steering wheel to create a triple winning scenario is at the helm of Kimstore, as the company need to bring value to all 3 stakeholders. Striking that right balance in between business-to-business (B2B) negotiations and business-to-consumers (B2C) is a business strategy that has been already mastered by Kimstore. In order to deliver quality service online, Kimstore has built its 60 personnel team gradually and meticulously. It is very challenging to maintain the expected quality of service customers, that is why the President and CEO is personally attending to the employee's education and orientation, instilling to every employee the mission, vision, values, and the humble beginnings of the company. For Ms. Kim Lato,

“Every businesswoman should know how to value their employees, making sure that they are being taken care of by giving them a holistic approach to growth, not only monetary but for their personal well-being. As the company goes up, flourishes, and achieve its set goals, the employees also step up and flourish as well.”

The Kimstore e-commerce business is bringing sizeable financial value to its product suppliers. The continued business relationships and several exclusive distributorships secured by Kimstore can attest to the good business conduct of the company to its suppliers.

Likewise, Kimstore have maintained good customer service by delivering quality products at the lowest price. Kimstore is known to give the best customer service. Key to this is that

“Each client is given a personalized customer experience, starting from inquiring about the product to purchasing process to after sales concerns. Each concern is given the best customer relations and handling strategy, making sure that their concerns were not just resolved but the customers also feel happy and satisfied on the products and services delivered,” said Ms. Kim Lato.

Reputable Global Digital Footprint

The mass base of online customers of Kimstore is brought about by its online reputation and global digital footprint. Having a strong marketing presence online and a strong following customer base, Kimstore is able to partner with tech brands that have also provided the opportunity to be the exclusive distributor online and leverage its pricing to maximize profit to the company and value to its customers.

Online Marketing and Communications Consistency

This success factor contributes also to creating a reputable online global footprint. Consistent messaging and branding increases possibility of customer recall. Kimstore is known to be *“The Most Trusted Online Gadget Store,”* and this has been their company tag line and mantra since its inception in 2006. As the company grew, Kimstore established its own digital marketing arm, consists of in-house creatives and communications talents that take charge of managing the offline and online marketing and advertising campaigns. Apart from product inventory, marketing communications is the second biggest investment of the company.

3.15.3.2 Challenges

With over a decade of business operations, Kimstore Enterprise Corporation has already experienced a lot major challenges and obstacles along the way. Some of these challenges brought valuable lessons that made the company even better. The following section focuses on the top 5 business difficulties encountered by the company that required ICT based solutions.

Creating Your Niche of Online Shoppers

Back in 2006, the Philippine market was not used to online shopping, nothing could beats malls when it comes to shopping. Filipinos would make purchase only after they see, feel and, in the case of electronic tech gadgets, tested the product. Mall shopping is such a phenomenon in the member economy that key cities, provinces and airports have malls all over.

Kimstore broke that glass ceiling when it is able to create or mimic almost the same customer mall experience when selling tech gadgets online. Each online engagement at Kimstore is personalized according to the customer needs or wants. Kimstore speaks about products online in a factual and in-depth manner that they become the authority when it comes to securing the right tech gadget based on your preference and budget, it's as if you are seeing, feeling and experiencing the products when you read its posted information or communicate with Kimstore online. According to Ms. Kim Lato,

“The web and social media can spread the word about a company's products and services like wildfire, it helps build brand awareness in a very unique and powerful way.”

Sustaining your niche or customer mass base is a continuing journey, especially with online type of business. The internet world for business is a powerful ally, but can also be a fickle friend,

“You may be the online e-commerce leader today but there will always be another disruptive idea that can challenge your organization. In order to sustain your online market share, you

and your company should work together to adapt to your customers' ever-changing needs," she added.

Among the biggest lessons in relation sustaining your online niche is establishing your own e-commerce website. Learning from the 2013 experience with Multiply, Kimstore realized the importance of having a 100% controlled and owned online facility. Third party social media platforms are still among top the sources of business transactions, but having its own website is a security blanket that will ensure that your online footprint will never be erased.

Inventory Management

As the Kimstore business grew, so has its inventories. Kimstore is already occupying 3 floors of their rented building headquarters and most of it are allocated for inventories. It is also challenging to monitor the inventory types and count all the time for a business that is conducting sales on a daily basis. There were also several cases of missing items in the warehouse.

Staying up to date with the latest technologies, Kimstore adapted early on an online inventory management system (IMS), and they have continuously developed this according to the changing needs and business process integration. The generated information from its IMS also helps in the sales projection, which becomes the basis for product procurement from manufacturers or suppliers. While physical inventory count is still being done on a regular basis, the tedious work of inventory management was made efficient by the IMS.

Maintaining Quality Customer Service in a Growing Mass Base

A growing customer mass base is always good for business, but it would also require larger number of team members to deliver that same quality customer service in order to maintain good business reputation. For online businesses, lag time in responding to customers is a big factor, it is always important to provide an almost real-time experience to buying customers.

With the current team of 60 personnel, about 70% are allocated to customer handling, yet still the volume of customer inquiries remain to be a challenge. Recently, Kimstore adapted yet another business process technology for inquiry response via chat message, it uses a level of artificial intelligence (AI) that clusters similar inquiries that can be replied with a more or less similar message, for example several customers asking for the price of a particular product can be replied all at once by a product specialist. The customer management application also automatically cluster inquiry per type of product, which makes responding more manageable for specific product specialists, especially for inquiries that will require personalized or extensive answers. Ms. Kim Lato shared that this new technology that they adapted have increased the sales and customer service team's efficiency by almost 50%.

Logistics and Payments Management

Increasing sales transactions is a good business indicator, but it will also require ease of payment processing and efficient logistics to get the products delivered on time. With the current business size of Kimstore, it is difficult to manually receive each payment and manually transact deliveries for each customer.

Kimstore forged partnerships with reputable logistics and financial companies to address these business challenges. They now have a fully integrated online system that confirms payments and delivery requirements along the ICT powered e-commerce system of Kimstore. The systems integration was initiated in 2016, now Kimstore have 2 logistics and 7 financial payment processing partners that helped increase business efficiency compared to having these processes managed in-house on per transaction basis.

Fraudulent Online Activities Using Kimstore Brand

Being a popular online store also have its pitfalls, Kimstore encounter fraudulent transactions done by online scammers using its brand name. With a batting average of 10 fraud incidents a year, the company management takes this threat very seriously and have fully coordinated and cooperated with the National Bureau of Investigation (NBI). While no culprit has been caught or convicted yet, Kimstore launched information drives online to warn the public of such fraudulent activities and at the same time inform them the legitimate online platforms of the company.

“It’s like fighting fire with fire, they use online means to scam people, thus, we will use bigger and better online information campaign to dispel and prevent their fraudulent activities,” said Ms. Kim Lato.

3.15.3.3 Policy Recommendations

There are about 5 policy recommendations that can be deduced from this research exercise that could help advance the plight of struggling women MSMEs in the Philippines.

Intensify and Ensure Equal Access of Men and Women to Entrepreneurship and ICT Education and Training at All Academic Levels

Learning from Ms. Kim Lato, it is never too early to learn business basics and business values, but not all can have that ideal environment. According to Ms. Kim Lato,

“While a good head start as a budding entrepreneur is always ideal, not all of us can have it, which is why commitment to education is very important. The right technology and entrepreneurial knowledge and information can take you where you want to go.”

Filipinos are talented and they got brilliant and creative minds. In fact, Filipinos ranked second next to India in terms of quality, cost, and availability of skilled IT workers in Asia, making them very much in demand in many parts of the world. But despite these skills and talents, there is a lack of support, access and use of ICT for productive entrepreneurial purposes. Also, the government should also acknowledge the need for ICT policies to narrow the digital divide by promoting competition, interconnection, and convergence in the ICT industry. This call for change will surely open opportunities for Filipino women entrepreneurs.

Women entrepreneurs who have enough knowledge and experience can be tapped to conduct seminars or trainings, providing insightful information, and recommend technologies to women entrepreneurs in the making and serve as inspiration to other women.

Create Enabling Environment and Avenues for Women Entrepreneurs' Empowerment

The Philippines is way behind its co-ASEAN members in terms of support to tech start-ups in the economy, much more, to women initiated tech start-ups. Throughout the Southeast Asian region, women are still perceived as the weaker sex. This notion automatically crosses out a lot of opportunities for women entrepreneurs. Stakeholders from the government, private sector and civil society should work together to open new doors for women entrepreneurs' active participation in economic building.

This can be achieved if women are given equal access to education, personal trainings, and skills formation. It was also discovered that women tend not to participate in business due to lack of skills training and education, which later result in lack of confidence. Asserting this right in the society can give them better work and entrepreneurial opportunities.

It is also connected to giving women entrepreneurs a chance to be heard. Also, one major action that should be taken into consideration is to incorporate a women's entrepreneurial dimension in all entrepreneurship related policies.

“But at the end of the day, it is still wide-range information dissemination campaign to fully understand the role of women entrepreneurs in the economy that can possibly make it happen. While rounds of discussions and campaigns happen regarding the development of women entrepreneurs' image in the society, there is still a big gap on the information about the economic impact or contribution of women entrepreneurs. Women are still underrepresented and it's about time to let women get the right to be represented, especially in the 'non-traditional industries' for women,” said Ms. Kim Lato.

Create Institutions That Will Cater to Women MSMEs

One of the efforts in which the ASEAN region can adopt from the United States is by creating a government office of women's business ownership. This office can help in facilitating informational seminars and/or women's business centers, and encouraging women entrepreneurs and their organizations to be the voice in policy making and program development decisions.

Up to Date Monitoring of MSME-Related Policies and Instigate Modernization, as Necessary

Current MSME-related policies should also be evaluated periodically to counter-check which policies are still serving the best interest of the community. This is a very important step because it will determine what policies are still facilitative to the advantage of the members of the MSME community and what policies are causing disadvantages. This will also create an opportunity to adopt best practices from other communities or economies. ICT can be a very strong component on this aspect, especially in the modernization policies for MSMEs.

Strengthen Cyber Security Capabilities to Protect E-Commerce Businesses and Customers

E-commerce operated businesses will only flourish in a safe and secured online environment. Increasing the capability of the authorities to track, apprehend and convict online scammers will be a very welcome development to online entrepreneurs in the Philippines.

“It will send a strong message to organized online criminals that cyber security in the economy is being taken seriously, for the protection of both the business owners and online customers,” said Ms. Kim Lato

3.15.3.4 Advice for Women Entrepreneurs

Throughout the Kimstore Enterprise Corporation journey, there are a lot of lessons that can be learned and best practices that can be adapted. Among the top 5 advices that can be imparted to women entrepreneurs, especially those at the onset or start-up phase are.

Take the Risk and Take It Now

The only thing that makes a successful woman entrepreneur different from another person is that they didn't try and they just dreamed about it. Everything has a risk, and it's up individuals you to take that risk. Keeping in mind that, most of the time, these risks are worth taking when the timing is right.

“When you see a gap, you have to see this as an opportunity to be addressed by you, otherwise, someone else will address it.”

Be Inspired and Continue to Aspire

Entering the tech world can be a bit overwhelming, especially when the industry is dominated by men in the Philippines.

“It is important to surround yourself with people who believe in your brilliant ideas, who believe in your market, who believe in your strategy and share the same core values as yours. Through this, whatever problem and hurdle you will face, you will be able to see it on a positive lens-shifting a struggle to your biggest breakthroughs.”

Study and Continue to Study Your Trade

“You won’t be on a high performance level all the time, sometimes there’ll be lows, so during the low periods you have to study and understand what’s causing the “low” performance.”

Remember that in business, learning never stops if one wants to be on top of their game and remain in the leader board of the chosen industry.

Be Open to Innovations

“I think it is important that your business is open to learning and adapting new business technologies, these are tools and means that can help take your business to the next level.”

This is particularly true to every bit of obstacle faced by Kimstore.

Dream about Your Business, Then Learn from Someone or Something to Make It a Reality

“Continue to dream. It’s very important to have a dream. If you don’t have anything in mind, nothing will happen to you. Idolize someone or maybe follow their footsteps. Study something similar and apply it to your business concept.”

Every successful business starts with an imagined idea and the rest are just processes to fuel that idea into action.

3.15.3.5 Summary and Discussion

This research study on ‘Women Entrepreneurship in the ICT/Smart Technology Industry in the Philippines’ has uncovered and rediscovered the vast untapped Filipino women’s potential in contributing or even leading this traditionally male dominated industry. While gender digital

divide is still persisting, there are some Filipino women who made it to the ICT industry leader board in the member economy. Ms. Kim Lato, the President and CEO of Kimstore Enterprise Corporation, as fully discussed in this research paper, is among them.

As a signatory to the UN's SDG 2030, the Philippine Government and its development stakeholders must take definitive action to promote and utilize ICT as a means to accomplish SDG #5 on achieving gender equality and empowering all women and girls. With easier and equal access to ICT tools and services, Filipino women can have their voices heard in the community and it will help them determine their own ways and means to achieve personal development and empowerment.

It is integral for policy makers and the government leadership to continue encouraging women to enter the ICT and STEM fields and to sustain their careers in these fields as they grow older. And by encouragement, we do not only mean creating opportunities and inviting women to participate, it is also creating lasting policies and enabling environments that will address the issues surrounding gender disparity in the ICT/Smart Technology field as a whole. Seeing more women emerge as leaders in these fields will encourage young girls to pursue such professions in the future.

While many Filipino women are still plagued by culturally dictated gender stereotyping and discrimination practices, ensuring that more women access to ICT to their advantage will provide new opportunities for women's economic empowerment. ICT can be a very powerful tool for women to leverage their stake in fruits of development and mitigate the gender disparity and discrimination. There are many possible ways of infusing ICT and women economic empowerment, such as (1) creating business and employment opportunities for women as owners, managers, and employees of ICT-based projects; (2) improving digital or technology driven services that are run by women; and (3) offering economic opportunities in salaried employment or entrepreneurship in the ICT field, to name a few.

ICT is a proven effective means to grow businesses, and thus it is crucial that women entrepreneurs get proper education and training on the potential of ICT tools and strategies to help them sustain and grow their enterprises. Through this initiative, we help women increase their capacity to earn decent incomes. Likewise, growing businesses will enable women entrepreneurs to open up more economic opportunities to other members of their family and the community through job or employment creation.

Based on numerous development studies, when women are given the opportunity to earn an income, they reinvest almost 90% of this income to the welfare, education and health of their families. Economically empowering women can be a viable solution to breaking poverty cycles

within families. Multiplying economically empowered women and families can help communities, or even the whole economy, to address poverty and other social injustices.

3.16 Case Study of Russia⁹²

3.16.1 Profile of a Woman Entrepreneur



Marina Druzhenets – co-founder of company “Siberian project”

Marina Druzhenets was born in Zheleznogorsk, a town located in the center of Siberia, in Krasnoyarsk region, Russia. This town is included to the list of mono-cities. The term ‘mono-city’ describes a town with dominated economic role of one big enterprise and low diversification of the local economy. This situation was formed due to the specifics of economic development during the Soviet period. Now there are 319 mono-cities in Russia.

Marina’s father was an engineer and the head of department of non-standard equipment, and her mother was the manager in the department of non-standard equipment control of one of the plant. Marina graduated from the Krasnoyarsk State University as specialist in international economy.

Marina’s first workplace was one of the Russian banks. But in a year Marina realized that she had higher potential and started to look for another job. She then found an interesting enterprise with the tunnel building business. It’s a very prospective business especially for the region with many Hydroelectric Power Stations where technology of tunnel building is widely used. She called the company and said that she wanted to work there. Unfortunately, she received a job offer to work there as an assistant. It was not acceptable for Marina, so she asked about carrier requirements and the HR manager advised her to call later. Marina started to do it every week for about 1.5 months until the moment when she was invited to an interview. She finally received the position of purchasing manager. This episode demonstrates Marina’s high motivation, perseverance and insistence.

⁹² This case study was conducted by Irina Saltikova, Technical Director of ANO APE, Ericsson Training Center and Veronika Peshkova, General Director, IExpert, Russia.

The next large project Marina worked on related to road building. It was interesting but the work in the large company was always routing work in which many things were already defined by somebody else. Being a young woman, Marina wanted to have more independence and creativeness in her work, so she wanted to try working in another way.

To this moment her husband and his friend already had some business and entrepreneurial experiences as mobile operators in Siberia region. When she proposed them to organize a company for realization of a new idea, they supported her. Marina finally started up company “Siberian Project”. On the first step, this company served as a distributor of SIM-card, after which they started to develop mobile applications. On the next step, the company started to engage in the project Cardberry.

3.16.2 Profile of a Company



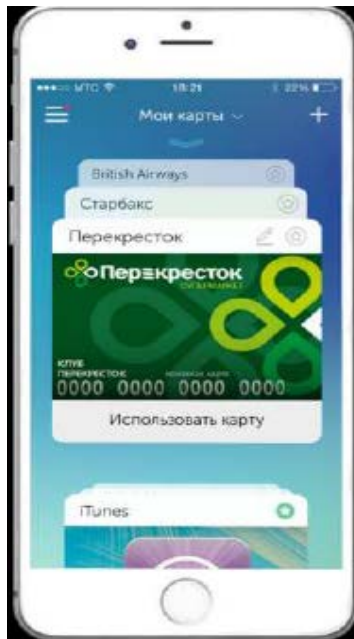
Start Business Model

Marina established her startup with a vision to overcome a problem facing everyone in Russia.

Success loyalty programs generate up to 20% of margin in retail and HoReCa sectors. On average each person in Russia has 11 discount cards, 60% of which are not used. It's impossible to bring all of them every day, so when they are going to make a payment, people usually realize that they left out the discount cards they need at home. In common practice the discount cards are also often lost or broken, so 30% of users are interested in using digital loyalty cards.

Currently, there are many mobile applications of loyalty programs working through with bar-code access (45% of all cards), and more than half of the discount and loyalty cards are to be presented physically for a use in outlets. Thus, the idea of universal card could be viewed as fresh and potentially beneficial. The founders of ‘Siberian project’ started its realization in Y2012 using modern ICT technology allowed creating a universal card that could replace all the electronic cards.

At the beginning in Y2013 the project team formed by Marina, her husband and their friend created mobile application for service payment by QR-code using mobile phone. It was decided to create a product that can come to the market without direct sales affords. The idea was to make a product that customers need and promot themselves. Thus, a universal multi-purpose card that could be used in a variety of retailers and HoReCas finally came into being. Without negotiations with brands-holders or the coalition of brands creation, the team began to distribute the universal cards and a device, which provided the opportunity for the consumers to download the list of discount cards of different brands to form their own list themselves.



The significant problem facing the startup was achieving access to market. According to the business model it was necessary to make retail and HoReCa outlets apply for the software to become the members of the network. However, the team faced the situation when the limited number of consumers registered in the system, which eventually decreased the retail outlets' motivation for application, or vice versa. The limited number of the retailers and HoReCas registered in the network decreased the attractiveness of the application on the part of the consumers. The only opportunity to come over the situation was to conduct direct negotiations with each particular outlet to convince them to make a registration. Unfortunately, being a start-up, they were unable to use this strategy for lack of resources, as there were only 4 people in our team. It pushed to create the unique product – Cardberry.

The business-model transformation provided startup with an opportunity to make promoters from the clients. It turned out that the service provided to the customers made their life easier and more

comfortable. That's why the customers helped business to survive on the one hand and attract the users and achieve co-founder's goals on the other hand in forming the network of retail outlets using the service. Also, as distribution of the universal cards could be promoted through the internet and in social-media, the team created web page: <https://cardberry.com/ru>.



Now Cardberry is an electronic card and mobile app. The complex contains the card reader that allows to read and store any card in the smartphone. In the shop or restaurant, a customer needs just to choose the right card in the mobile app and transfer it to Cardberry. The information is loaded within seconds. Bluetooth is used for transmission, and customers don't need the Internet to use the application. Customers can give the universal card to the cashier and get discount.



Application Cardberry allows to store an unlimited number of cards. Users can see also discount cards of their friends and use them after owner's permission (it's realized with push-notification).

Now Cardberry allows to replace any loyalty cards and access cards (RFID). In the case of common projects with bank, Cardberry becomes a payment card that can replace any banking cards. All transactions can be done through the bank-partner.



Now Cardberry is available for corporate clients as well as for people. Cardberry cards and Cardberry software-as-a-service solution for corporate clients allow to order cards with company's branding, design, and personalized information about customers or employees.

Companies with 100+ employees often have access cards, parking cards and corporate discounts around the office or in the city. With Cardberry, business can manage access cards and corporate discounts of all employees with a centralized, one-click solution. The tool allows to select which discounts and offers are available to which employees. Then it's possible to issue personalized notifications to the employees' smartphones via the Cardberry app.

Cardberry cards provide the users with an opportunity to create their own designs with brand logo and other personalized information, like names and IDs of employees. Universities often have access, identification or membership cards. With Cardberry SaaS they can easily manage:

- student access to individual labs and rooms
- all kinds of student memberships
- discounts for students around the campus or university buildings

A specialized loyalty program can create some additional benefits for businesses, including increased retention, diminished average spending for returning customers and more information about customer behaviors and needs.

Business Model Development

After the formulation of the key business-model elements, it was decided to view users of the universal cards as key target audience. The production of cards was arranged in China, the logistics channels formed and the price was formed at a level of 129 USD/8500 RUR in Y 2016-2017.

FREEMIUM (basic functions for free + optional services for payment (exchange cards with friend, card shop, interest clubs with additional discounts etc.) is to be applied in 2018. Moreover Y2018 it will incorporate sale of consumer behavior data (how often and where they buy something, favorite brands, restaurants etc.) + usage of Cardberry application as channel for communication and PR.

Figure 6. More Than 60 000 Discount Cards in the Database



Users in more than 20 economies

Applicable in any retail equipment

Stable requests from American customers (Income of Fuze on Indiegogo –more than 2 mUSD for 7days)

Brand and individual design

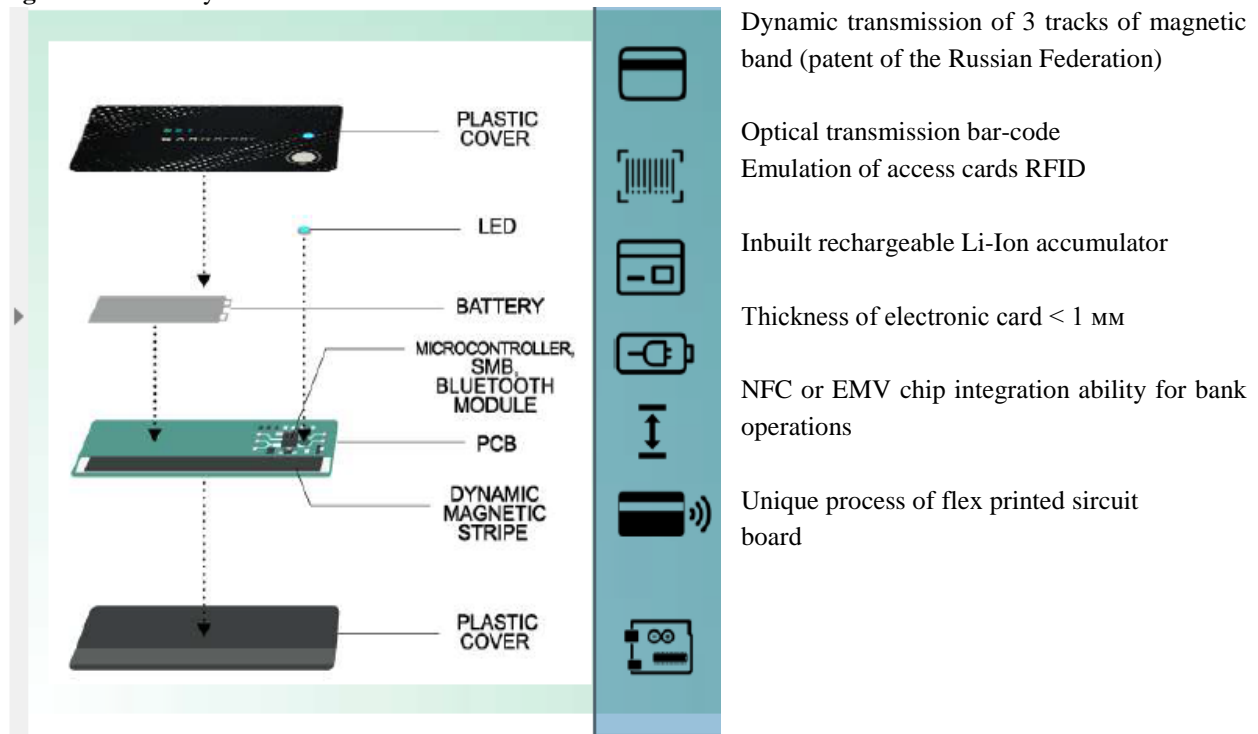
Carberry Technology Advantages

Working principle



The Cardberry SaaS solution allows customers to manage discounts they can get. It's easy to control additional discounts outside of retail chain. When the customer registers other loyalty cards with Cardberry card, it's possible to get more information about their behavior and needs. This information will allow them to deliver better-conceived, more interesting offers via the Cardberry app.

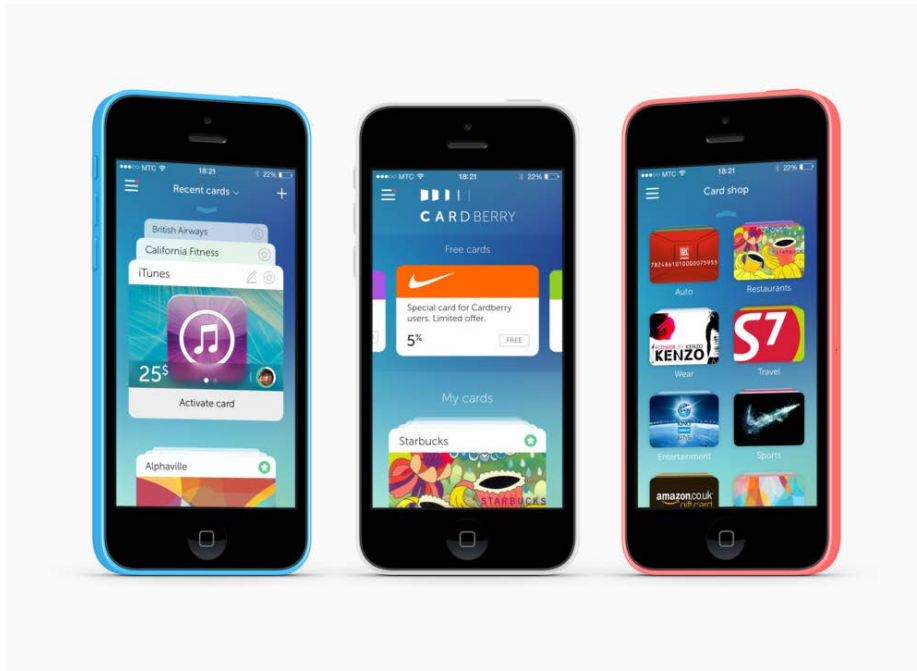
Figure 7. Cardberry Card



Cardberry Reader and Charger

The Cardberry reader is required to read the information from the existing cards and upload it to the Cardberry App. After that, users can forget about the reader till they get a new plastic card to read information from or they need to charge the battery. As a charger, the reader charges the card's battery within one hour.

The Cardberry App



The App can store unlimited number of users' cards. All the data is securely stored in the Cardberry App. available on the App Store and on the Google Play.

Partners and Business Growth Milestones

Marina Druzhenets noted that it's difficult to be in ICT business for women. When she started, even her husband decided not to help her and look after her actions, developers did not want to explain some important things her. That's why she decided to prove to them that she was in her place due to her skills and that not only technical knowledge is important in their business. Communication, marketing and PR are even more important, and her responsibility was to find partners. Her first great victory was her invitation to Skolkovo Fund. After that she found other state programs and funds for developing business, and successfully found partners in China. In a year of her efforts she took the Prize "Breakthrough of the Year"

Customers and Partners References

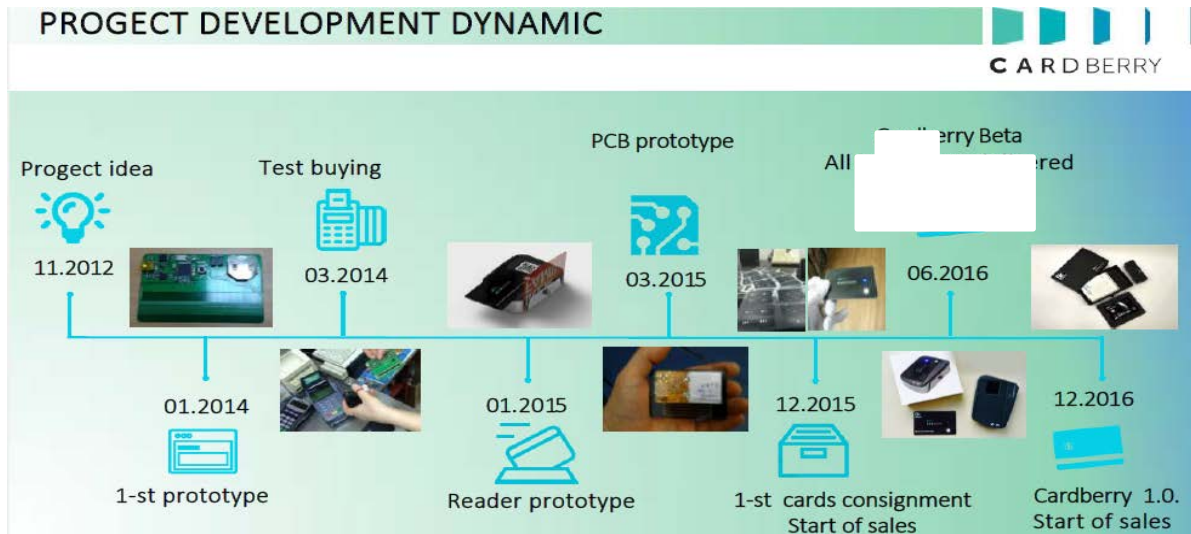
"Meeting compatriots who presented their projects on such exhibition as CES I fill the pride"

"This is a great idea. The abundance of the cards impedes. When you have only one- you understand the advantage"

-Sergey Kachan

“I need to note that Cardberry come later than COIN. But Russia variant is better because they go far and proposed some new good ideas. This variant is quite good and I think it’s important to distribute it.”

-Igor S.



3.16.3 Findings

3.16.3.1 Success Factors

Team Building and Self-Motivation

The key success factor underlined by the interviewee is an appropriate team and its motivation.

“For start up the main important part is the team. Usually start up doesn’t have good access to finance, as it was in this case as well. The basis was the idea, the loyalty of team to the product and the appreciation of the product, the filling of creating the new something that can change the consumer’s behavior. That can be proved by the comparison with the other projects in our sector that raised significantly higher funds as investments, but unfortunately did not provide successful products to the market”

As regards the Russian market, the research subject identified a general level of innovative motivation that helps startups to develop without preliminary raising of investments:

“For example, in America there were several similar projects with higher level of initial resources available than Russian project had, but they couldn’t come to the market, because

they could not create the real product for the consumers. For example, The Coin Company in the USA raised USD 22 millions of initial investments. The Plastic Company raised USD 15 million as investment. Both of them did not present a working device to the market. The initial investment in Cardberry was USD 1 million. So, the main success factor in this case is a team, as starting up the business and creating a product were possible with limited financing”

Marina stressed the importance of relying on the professionalism and enthusiasm of the team and team leader’s efforts to motivate the team members.

“It is important that the team believes in the product and its market perspectives. Like any start-up, we were criticized especially when we started demonstrations of our products and services to potential investors and partners. Our team had gone through the situations many times in which, after the presentation, the potential investors made a conclusion that our business idea is not attractive and they cannot believe in its value. Whenever we encountered this kind of situation, we had to recover from severe disappointment with a belief that someday we could meet an investor who would support our project”

This quote underlined the importance of team leaders’ ability to be self-motivated and to motivate the team members. Any team is expected to follow their leader and share the values and expectations. That means that the team leader must keep the positive attitude to the project, motivation and enthusiasm to successfully implement the project and gain investors’ attraction.

One important factor in terms of team management in Cardberry is that the project was started by a married couple (Marina and her husband) and their friend. At the beginning stage partners did not fully rely on her ability to promote the project, as she came from the corporate environment. But at the later stages, especially after she received the status of Skolkovo Technopark (<http://sk.ru/technopark/>) residency for the company, colleagues increased the level of trust in her.

Innovative Corporate Culture Development

Cardberry’ co-founders created an innovative approach toward creating corporate culture.

“For a startup with the team of 10 people, you don’t need to use any special methods. The main principle is to allow max freedom to employees when they have to make a decision, and to support their confidence in successful results.”

Due to such innovative corporate culture, Cardberry could significantly increase labor productivity and enhance the team members’ loyalty and enthusiasm.

“So, one of the employees can work like five different people. For example, Anna who was employed as HR manager took charge of marketing, public relation, exhibition and supervising of the production. Another employee, who used to be a sales manager, proposed the unique technology of packing the printed boards into plastic case with thick 1 mm, and afterwards he became the senior technologist and take charge of all technological processes. The main feature of startup management is understanding that startup is not a big company with many management levels, heads and subordinates. Startup is a team following the leader, who is not the formal boss. In startup, all participants are equal, have suffrage and initiatives”

Marina highlighted the value of teamwork several times during the interview:

“We don’t have any special motivation system, but there is a principle in our company, that is, we are startup and our resources are limited. Consequently, everything that we can do ourselves we do ourselves”

The use of innovative culture as a major management approach enabled the company to find optimal solutions in attracting access to the market and, at the same time, save sunk and operational costs:

“The team found an opportunity to publicize our materials in media and the Internet free of charge and to participate in conferences and exhibitions getting grants etc. And we can say that in ICT segment of the market this product is very popular though the marketing budget equals to 0 all over the years of our product life”

Enhancing Professional Contacts’ Network



The next success factor of running women's business in ICT is forming the network of professional contacts. The contacts with other start-ups and entrepreneurs helped to obtain necessary information to find the opportunities of market access and investors' attraction. Networking with the non-commercial unions of entrepreneurs and small and medium enterprise leaders enabled the startup to enlarge their professional networks by meeting potential partners, customers and potential investors, and, at the same time, to receive the information on the available resources, for example, state support infrastructure for innovative startups.

Cadberry became a resident of Skolkovo – formed with a combination of public and private funding in an initiative to support innovative startups located in the western part of Moscow suburb. The Skolkovo community is formed on the innovative start-ups in the sectors of IT, medical and bio- technologies, space technologies, energy and nuclear sectors.



Cardberry received a residency-status in Skolkovo Technopark, which provided an opportunity to become a member of the community, to use the infrastructure provided to the residents, and to receive the tax reliefs available for the residents according the Russian legislation. The status of Skolkovo' resident allows startups to use the tax reliefs for the taxation based on payoffs to the stuff. The normal rates of taxation to the economy's insurance funds in Russia are around 30 percent of the salary, but the Skolkovo residents have a 50 percent discount.

In addition to the tax relief it is possible to participate in the community, to present the project on the investment events arranged by Skolkovo Technopark, and to participate in the League of Skolkovo Women' Association. The benefits related to the formed network of contacts and other

informational and infrastructural support is a significant factor for building reputation of the business to promote the project and to sustain entrepreneurial and team motivation.

“Exchange of information and experience creates a great opportunity to save resources which are extremely limited in case of a startup. Our participation in Startup tours arranged by Skolkovo gave us an opportunity to find additional partners in Russian regions... Our contacts with Opora Russia provided an opportunity to present our project in APEC O2O seminar and look at our project from the international point of view”

It is also possible to participate in training programs, exhibitions and conferences arranged by the community and other SMEs unions and organizations. Marina plays an active role in Skolkovo Women’ association and participates in many different activities in order to extend her professional networks, both local and international.

In addition to enlarging network through activities arranged by the SME’ associations and communities, Marina also actively participate in business events of different kinds: conferences, exhibitions, business missions etc. For the past two years, Cardberry actively participated in a number of exhibitions competitions and forums to present their project to potential partners and investors, including the following business events:

- Consumer Electronic Show 2016 Las Vegas
- EU Mobile Challenge (The Final of Competition)
- InnovFest unBound 2016
- Startup Village 2016
- International Student Forum Moscow 2016
- Gitex 2016 and others.



“Each participation in business events provides useful experience and opportunities: sometimes to enlarge the contacts’ network, sometimes to meet a new partner or to attract a

new very perspective employee. We received a residency in Skolkovo after the competition – one of the jury members recommended me to make an application. We did not even think about such opportunity, which gave us a lot of benefits.”

Using Opportunities Provided by SME’ Support Infrastructure

Having analyzed the Cardberry as a case study, it can be concluded that, in addition to the forming of professional network, it is important to use the opportunities provided by the state infrastructure of SMEs support, both financial and non-financial. Some of the publications about the product is as follows.

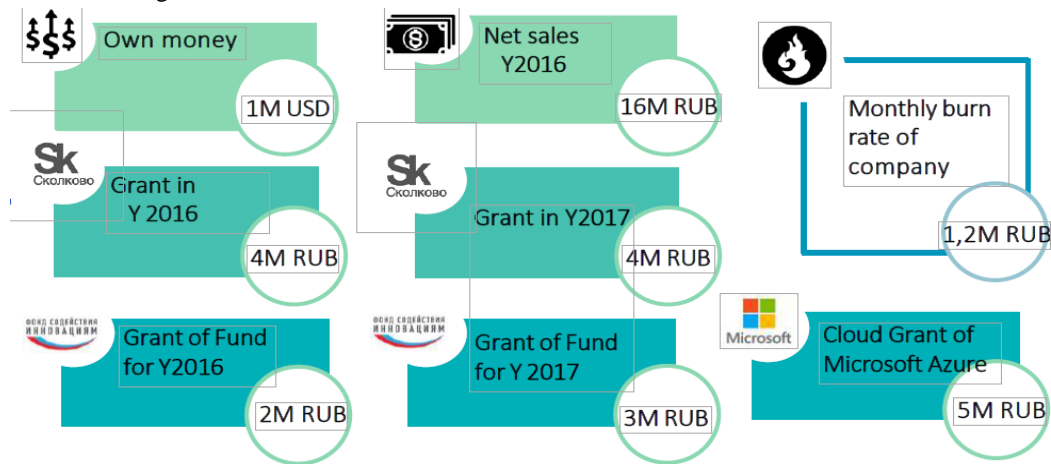
Table 8. Publications about the Product

1	Hi-End Gadgets	September 16,2016	https://www.youtube.com/watch?v=VMgJYZ8AyIk
2	Kik Survey	September 3, 2016	https://www.youtube.com/watch?v=aWp22-8UoJs
3	Vlad Filatov	September 2, 2016	https://www.youtube.com/watch?v=x3aqCByuHoY
4	i Serj	March 21, 2016	https://www.youtube.com/watch?v=lWorZA66dmE
5	Wylsacom	January 11, 2016	https://www.youtube.com/watch?v=pm9KBEmFKkc
6	Startups2016.rbth.com	2016	http://startups2016.rbth.com/
7	techlila.com	April 7, 2016	https://www.techlila.com/cardberry-blends-all-loyalty-cards-into-one/
8	snadmunk.com	January 14, 2016	https://www.snadmunk.com/cardberry-unifies-loyalty-cards-one/
9	Newsland.com	October 17, 2016	https://newsland.com/community/5652/content/v-rossiiskoi-federatsii-sozdali-zamenu-dlia-vsekh-plastikovyyh-kart/5511372
10	Maxpark.com	October 17, 2016	http://maxpark.com/community/5652/content/5511372
11	playground.ru	October 15, 2016	http://www.playground.ru/blogs/other/v_rossii_sozdali_zamenu_dlya_vseh_plastikovyyh_kart-216978/
12	Rg.ru	October 14, 2016	https://rg.ru/2016/10/14/v-rossii-sozdali-zamenu-dlia-vseh-plastikovyyh-kart.html
13	Cont.ws	October 14, 2016	https://cont.ws/post/399528
14	macdigger.ru	October 14, 2016	http://www.macdigger.ru/iphone-ipod/v-rossii-sozdali-umnuyu-kartochku-dlya-zameny-vsex-plastikovyx-kart-video.html
15	Imenno.ru	October 14, 2016	http://www.imenno.ru/2016/10/14/386328/

In addition to market access and promotion, Cardberry used several opportunities of startup financial support provided by public and private infrastructure and support programs.

The cost of funding in Russia is high and it is very difficult for a start-up to obtain necessary financing. In this case the grants and subsidiaries provided by the state and regional organizations are important. Cardberry used several SME’ and startups’ supporting programs to finance the early stage of project development. The financing structure can be viewed as following:

Figure 8. The Financing Structure



There is a special infrastructure of innovative business support oriented on access to finance; however it is not easy to find an appropriate program of state support available. In many cases measures of financial support are oriented on production companies only.

“As a startup we tried to use all free ways of support. In the Russian Federation we have some funds that supports technological startups like Skolkovo Fund and Fund of Innovation support. We used grants from these funds. Moreover, we became residents of Skolkovo Innovation park where we could take the office with the very good conditions. We took the rights to participates in competitions with the money prizes for the business development. We participated in business accelerators, Generation_S, used programs for competitor’s analysis (like similarweb etc.), for business operations (like slack, trello etc.) free of charge. But I need to say that it’s quite difficult to find the information regarding all available support tools. You always need to read, to communicate with different people to find this information”

3.16.3.2 Challenges

Access to Finance

As easily conjectured from the above, the key obstacle facing startups in Russia is the difficulty in attracting necessary funding. The difficulty becomes significant due to the high interest rates on the financial market and significant requirements form that the banking sector request from the potential debtors. As a result, most of women-owned companies are financed from their family or friends at the beginning stages.

The venture investment market is at a low development stage in Russia. The number of potential investors is limited and the institute of business angels is undeveloped. As a result a majority of startups start their business using their own limited funds.

“At the starting period the key obstacle the team faced was related to attracting first investment to the business. It is not possible to receive the necessary funds as a bank loan in the case of startup, as it is needed to provide the information on the revenues for at least last 6 months and trustworthy guarantees. In the case of IT startup, it is impossible. As a result, to attract the first investor is the key obstacle at the first stage. The deficit of funding at the early stage forms the deficit of other resources.”

The deficit in financial resources forces the limitations in development strategies availability:

“One of the main mistake of the founders of this project was the decision not to raise investments from the market at the early stage of project development. If sales started earlier the success of this project would be bigger”.

However, it turned out that the self-funding strategy that Cardberry used in its initial stage was not helpful for the project development at the later stage; it was significantly more difficult to attract the later stage investors due to lack of previous stage experience

“If we start the project now we will start with attracting professional investor at the pre-Seed stage. When you follow the professional investment stages it is significantly easier to find the next investor based on the positive experience with the previous one. We were thinking on keeping the total ownership of the company, but we have lost the growth opportunity”.

While many startups focus on obtaining grants from the state SMEs support infrastructure, Cardberry has received several grants, but this process is very laborious and time consuming.

“If we start the project now, we will not spend resources on interaction with state system of financial support. After you receive a grant you need to follow many rules, which does not correspond with the real needs of startup development. ...if you receive grant from the state-owned fund you spend resources for unproductive reporting process, instead of business development and attracting additional investments. Sometimes it's much more important not to wait until money from the grant comes to the project because time is very important factor especially in ICT business. Sometimes it's much more important to find commercial investments. It will be much faster”

Labor Market Competition

Another significant barrier to start-up development is difficulties in attracting high-level professionals to the team. Startups are limited in terms of resources, and it is thus almost impossible to attract professionals with many experiences and relevant skills to the team. To overcome this

obstacle, many startups, including Cardberry, attract less experienced but very enthusiastic students who have a strong desire to change the world.

“It is extremely important to sustain their motivation by offering attractive targets or rewarding opportunities to grow with the successful projects. At the stage of product development (in case of Cardberry it was a bit less than two years), it was difficult to sustain the motivation of the team and its belief in future success, especially when we phased technological difficulties. Every 3 to 4 months we have reached deadlocks. To keep motivating the team members to overcome such situations is one of the most challenging problems”.

Product Orientation VS Market Orientation

Many ICT startups are more focused on product making than on the sales, especially in the early stages.

“For the long period we were focused on the product itself and viewed programmers and engineers as much more important team-members than PR specialists and sales managers. But in practice we see very successful startups starting from selling the idea of the project, on forming loyal customers’ base. Even in case of bugs, loyal customers stayed with us.”

Difficulties in Access to Market, Including International Markets

“We are originally from Zheleznogorsk. In that town development means entering Krasnoyarsk – one of the biggest Siberian cities. Companies from Siberia are focused on Siberian market and view development as entering Moscow. When you make your business in Moscow, it is very important to be globally oriented, but a majority of Russian companies are domestically oriented. To form appropriate business networks, it is necessary to participate in business events, and it will allow startups to overcome that mental barrier. If I start a new project, I would like to form it as an international one from the beginning, with the focus on international customers and present is to international investors for fund raising”.

3.16.3.3 Policy Recommendations

Link Professional Investors’ Community to Startups

One of the key issues in setting up a new business is to raise first financial resources to begin with. In Russia it is hardly possible for a startup to get a loan from the bank, but the deficit of funding can be viewed as one of the key barriers for starting a new business. So it is important to start dealing with professional investors from the beginning to simplify the process of project

development. In this context, governments should try to form professional investors' community and lead the community to interact with the startups, instead of directly giving funds from the state-owned organizations to the startups.

Create Bank Products Tailored to Women Startups

It is important to create bank products tailored to women startups as a measure of real support of their development. The segment of women startups should be viewed by the banks and other financial institutions as an area that needs special attention.

In this case, women startups should have an easy access to the state and private programs of financial support, but, at the same time, they also need an easy access to the information about such programs, both local and international. To achieve the goal, for example, multi-language electronic resources on funds available for women-startups and the ways to receive the funds should be developed.

Currently, a lot of state support programs for new businesses, innovative startups and other SMEs are in place, but, unfortunately, in many cases, those supports are fragmented, and it takes time and money to prepare for applications. In case of startups sometimes that limits the opportunities.

Create Electronic Resources for Recruiting and Information Exchange

Another significant issue for women startups is attracting talented, enthusiastic people to the company. In general, recruiting qualified professionals in the ICT field is very competitive, but, in case of startups, it becomes tougher. However, it is known that some of the professionals who would appreciate an opportunity to join a startup lack relevant information. Thus, Marina recommended that the government should create electronic resources where useful information about startups can be shared and recruiting opportunities are discussed.

Organize Events to Open a Door to International Markets

Traditionally Russian companies are focused on the local market, but the international cooperation opens better perspectives. It is important to arrange special international events for women-entrepreneurs to provide them with the opportunities to find good partners, investors and customers.

3.16.3.4 Advice for Women Entrepreneurs

Don't use only your own money when starting your business. Remember that there are different levels of investment, and if you skip a low level, an investor in the higher level won't trust you.

Start your business from the idea stage. Do not wait until the moment when you make your product perfect.

Don't stop improving your product in time.

Pay attention to PR managers and sales managers. They are the most important people in your team.

The normal situation for most women, especially for the young mothers who stayed at home and did house obligations for several months, is losing the feeling of the self-confidence.

“I know it from my own experience. After giving birth to my two children, I lost confidence in my success. It seemed impossible to step ahead to create the project. I thought I did not enough knowledge and skills, and the technology was too far away from the place where I was. My English and presentation skills were poor. But as soon as I started to work, my confidence came back. Yes, my first presentations were awful. The first investors didn't want even to hear my words. Nevertheless, I decided not to think about how others evaluate my actions, and not to be afraid of making mistakes because it's an experience that allows me to come to the next level and to take the next step to the higher stage. I decided to concentrate on my goal and the road map to achieve it.”

In many cases being a woman should be viewed as a benefit, especially in the ICT sector.

Discuss your ideas with as many people as you can

“Do not worry that potential investor may take your idea and realize himself. Most people cannot spend their time realizing your ideas, but they can give you good advice how to improve it”

3.16.3.5 Summary and Discussion

According to the WBI survey conducted in Y2017, 42% of women entrepreneurs in Russia note improved public sentiment towards them. Media, popular lifestyle trends and the celebration of women's business success have helped create a positive narrative around women entrepreneurship. More than three fourths of the respondents to the WBI survey predicted public perception to improve further.

There is also a positive trend in the development of infrastructure to support young mothers who run their own business in Russia. It's essential to keep a focus on building a favourable environment and improving access to preschool child care.

Most respondents (69%) in open sources researches did not, however, expect improvements in the economic environment for startups in the short run. Among negative factors, women entrepreneurs cited a high tax burden, economic uncertainty, a decline in consumer's purchasing power and administrative barriers.

Scarce access to funding was also ranked as a considerable obstacle, as almost half of the respondents said that they preferred borrowing funds from relatives and friends, and less than a fifth applied for funding under SME support programs. However, it is important to start interaction with the professional investors' community from the beginning to simplify the process of raising investment in the later stages. When speaking about barriers to obtaining loans for business growth, women mention the need to provide collateral, high interest rates, complex documentation requirements and the risk that they will anyway be granted only part of the requested amount. These challenges give rise to pessimistic attitudes, with 35% of respondents expecting access to funding to worsen further.

Women who have decided to start a business should be more willing to study and provide training to their staffs compared with other groups. However, 50% say that business education costs are a serious constraining factor. To improve access to business education, free online courses or reduced cost training programs are needed.

It's also important to identify the needs of different categories of women entrepreneurs as part of an integrated approach to fostering women entrepreneurship. Understanding the needs of different groups of women entrepreneurs will help identify more efficient and targeted measures that will bolster the positive trends.

Finally, it should be pointed out that there should be necessary infrastructure and improved access to pre-school child care for young mothers who above all need to free up time for their business.

3.17 Case Study of Singapore⁹³

3.17.1 Profile of a Woman Entrepreneur

Despite her busy schedule, the researcher managed to complete 3 rounds of personal interviews with Ms. Sun Ho, the successful women ICT entrepreneur, each time for more than 4 hours at her office besides the various email correspondences and whatsapp messages between us. The researcher is glad to have the opportunity to get to know Sun and is impressed by Ms. Sun Ho's passion in the education technology business.



Ms. Sun Ho is the middle child in a modest family of 3 siblings. Her father worked 3 jobs including a full-time job, driving taxi during the nights and distributing newspapers in the morning while her mother was a part-time baby sitter. Although her parents were not educated, they still sent her to attend computer class during school holidays while she was 10 years old. She scored full marks for her basic computer class which sparked her interest in computers. Her talent and interest became apparent when she attended Nanyang Girls High School. Sun assisted the teacher in data entry work and was the champion for her inter-class Mathematics competition at 13 years old. Unlike the “typical” girl, she was not interested in Home Economics. Instead, she decided to join the Aero Modelling Club to create aeroplanes. During Junior College, she was one of the two girls who completed computing at A levels. Sun graduated with a Bachelor of Science (Information Systems and Computer Science) from National University of Singapore in year 2000. She did not pursue her honours as she was eager to earn money to support her family.

⁹³ This case study was conducted by Irene Boey, Consulting Director, Integral Solutions (Asia) Pte Ltd, Singapore.

Sun started as an intern developing SAP-based Sales Force Automation software at Toppan Forms. Then upon graduating, she joined WorldGroup Consulting and helped to deploy Onyx CRM onsite at Mobilink in Pakistan before moving to Chicago to work for Tellabs Inc. When the dot.com bubble burst, she returned to Singapore and carry on working as programmer at ST Dynamics.

She joined Hello Technology in 2005 to gain experience in Sales and Marketing and continued as Head of Sales & Marketing till 2009. This opportunity enabled Sun to learn about business related activities like business models, pricing, profit margins, partnerships and particularly how to sell technology products and services, and delivery and sales cycles. Beside account management and servicing of major anchor clients, she led the sales team in understanding and fulfilling customer requirements, often helping customers envision how they can get to the next level. She also drove Hello's new product direction, user interface aesthetics and usability engineering.

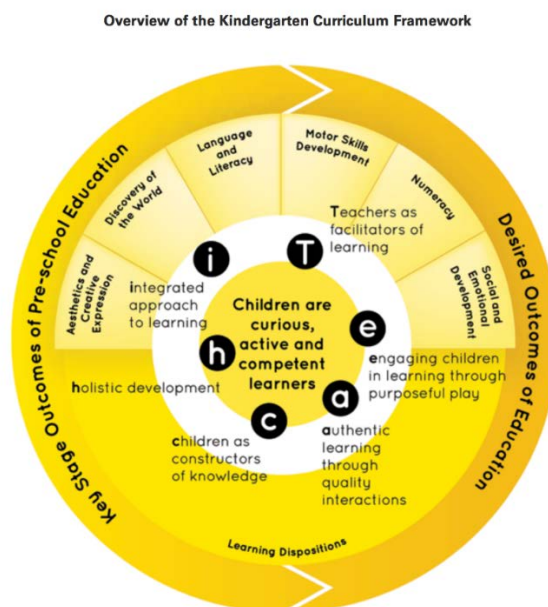
Throughout Sun's working career, her entrepreneurial spirit did not waver. She continued to try out business ideas after work. Amongst the different business ventures including import export business, and fashion related products and services, she started a Board games' café with a few partners but this lasted for less than 6 months before selling her shares to her partners due to differences in management. Through these experiences, she learnt that business partners, talents and business management skills matter a lot in business as well as having a unique product that is scalable and can bring great value to its customers. Sun realised her shortcomings and wanted to learn more about business models, profit margin and selling and marketing techniques. This was also one of the reasons she joined Hello Technology and embarked on Sales and Marketing career. The skills and experience in her working career were very useful for her entrepreneurial journey.

3.17.2 Profile of a Company

Inspired by the power of education as well as Facebook, Sun wanted to use technology to help children connect with each other across borders and to learn from each other through her Social Networking platform. She started working on the prototype with an intern in 2009 but the project did not take off as parents were not in favour of free-style communications amongst children although they liked the idea of learning from each other. They prefer their children to have a safe platform for communication. Instead of losing confidence, Sun decided to offer the Social networking platform to schools instead. She worked with Ministry of Education to offer her platform to primary schools. Primary schools adopted the platform for their upper level students aged 10 and 11 as a communication platform, especially during the school holidays. These experiences have contributed to the building blocks of LittleLives Inc.

Although Sun successfully broke into the education sector, her revenue was below S\$100,000 even with more than 100 primary schools signing up to her platform. With more than 50% market share and due to the low profit margin, she was aware she would not be able to sustain her business as Singapore's education market was very small with only 185 primary schools in total. Moreover, schools were unwilling to pay higher subscription due to the platform being non-academically related and doesn't directly impact the schools' KPI.

While she was feeling worried, Sun was referred to an officer from the Pre-schools division of the Ministry of Education due to her work with the Primary Schools. Unlike Primary Schools, Pre-schools did not merely focus on literacy but on the holistic development of children through 6 learning areas where children acquire knowledge, skills and learning dispositions.



These areas are Aesthetics and Creative Expression; Discovery of the World; Language and Literacy; Motor Skills Development; Numeracy; Social and Emotional Development. This means they will be able to use her platform more extensively. Sun sensed the opportunity and readily accepted the challenge to develop her platform to suit the Pre-schools' needs. Her efforts were rewarded with the adoption of the platform by a group of 50 Pre-schools.



As a result, LittleLives Inc was officially started in 2011.

“Education has a huge impact in my life and is the foundation of my success today. With a degree in Computing and a good career in Technology, I want to invest my time and energy in EduTech. I started LittleLives with the mission to create a world where education inspires children and brings joy in learning, where school allows children grow up with an understanding and love for people around the world. It takes a global village to raise a child” said Sun.

Figure 9. Little Helpers for Parents



The target customers for LittleLives are Childcare Centers and Kindergartens in the Pre-School sector. LittleLives offers a variety of services from their platform which mainly help schools manage their operations. These services can be accessed through their website or mobile application and include attendance and temperature taking, keeping track of learning activities of

children in schools and field trip, enabling parents to track child's progress daily as well as payment to schools.



LittleLives' business model is based on Software as a service (SaaS) which offers services through their centrally hosted platform to subscribers. Customers pay an average flat fee of S\$5 per child per month for the 3 modules including attendance & health; student/staff management and tracking of the child's learning journeys.



Sun describes LittleLives as “an EduTech startup which helps make the complex running of a school simple and enjoyable.” Currently, LittleLives has been adopted by 700 out of 1,800 preschools in Singapore. This means LittleLives has managed to capture 1/3 of Singapore's pre-school market share within 5 years with annual revenue grown to S\$1.1million from S\$100K. The team at LittleLives has also grown to 25 people. The startup is now a successful EduTech company and has already started its expansion plan overseas.

3.17.3 Findings

3.17.3.1 Success Factors

Here are some of the factors that has contributed to the success of LittleLives.

Nurturing Environment and Support System

Sun's early exposure supported by her family to attend computer classes has enabled early discovery of her interest at a young age. Her interest in computing deepened in the nurturing environment of the schools she attended. During her university days, Sun had her first taste of entrepreneurship by selling flowers which she enjoyed. She found her interest and passion as a result. Sun said that:

"Ideas are like seeds which can flower into a beautiful garden in the right conditions. I grew up in an environment that allowed my trial and error to pave way for my success today. To be able to found EduTech startup LittleLives is a dream that I'm always grateful for. The environment in which we flourish may vary for different people. What worked for me was the freedom to make choices, exposure to different ideas, learning to be independent and responsible, combined with availability of high quality education which opened my mind. My family always allowed me to select my schools or courses, my hobbies, my adventures, even if that may sometimes lead to failure. When we were kids, my mum brought us to understand the different religions. She debated on the virtues of different ideals and showed us there is not just one right answer and shared her willingness to kindle discourse and exploration. When I started part-time work as a teenager, that gave me the life skills to thrive later. I learned to connect with people from different communities and be responsible for my performance and decisions. Finally, access to high quality education regardless of our backgrounds, that really provided me the skills to expand my mind and continue learning through life."

Hence, a nurturing environment and support from family and education are extremely important for an entrepreneur to try out ideas, build up confidence and discover her passion.

Supportive Mentor, Passion, Strong Determination and Clear Vision

Managing and growing the business is never easy. Other than the knowledge from education, skills and management experience from her career, Sun continue to actively seeks guidance and learn from mentors, read online materials and management books. She even hired a life coach for support and guidance. Sun elaborated that:

"Many founders have remarked to me that the entrepreneurship journey is lonely. Some have gotten support via founder communities, some from their loved ones while others just trudged through the hard days. During the toughest time in my journey, I sought to find companionship and understanding from various places. While I had a wonderful friend who stood by me, the one that made a great difference to my growth was my mentor and life coach.

Personal and professional life is often not as separate as we like to imagine it. We are human and are affected by things that happen to us and around us. My life coach helped me to learn about myself, my strengths and also my blind spots. Sometimes she would point me to resources, research and books that enlighten me on the troubles I faced. Sometimes, just bringing a different perspective and a kind word helped me break out from the dark to find light in hope. Having wise people by your side who believes in bringing out the best in you while being unafraid to tell you the hard truths is a blessing. I wish everyone will find mentors who guide them along their journey of life."

Other than having deep passion and strong determination, Sun is clear in her vision. She wanted LittleLives to go global within 5 years but does not like the idea of getting her company listed. She hopes to continue adding value to holistic development in children, the smooth operations of school and to help educators and schools through knowledge sharing. A clear vision is important to enable Sun to inspire her team and steer the business in the right direction amidst technological disruptions that are the key feature of the 4th Industrial revolution.

Value and Culture

While LittleLives is an Education Technology business which designs tech tools to help schools manage their operations, Sun attributes their success to “*High Tech and High Touch*” where they focus on human factors such as unlimited training to give the schools peace of mind. They also share knowledge and experience in management from other schools. She is proud that her team pays attention to customers’ requests and is keen to solve problems for the customers.

Talent Strategy

As talents are major contributor to growing a business, Sun’s growth strategy includes a peer review bonus strategy which is also a staff retention strategy to reward and motivate her team. This strategy involves 360 performance review by the team and team mates voluntarily giving a share of their bonus to deserving team mates. Sun believes in “*hiring people who can think, lead and care rather than minions*” and she encourages the team to give guidance to new team mates. They adopted a flat organisational structure with only 2 levels which encourages team mates to take ownership and responsibilities for their own duties.

In terms of resources, LittleLives secure their talents mainly through referrals and job portals. They select candidates through task-based interviews by requesting potential candidates to do mini projects. They assessed the candidate's aptitude as well as attitude to determine suitability for the job. At different stages of growth, there will be need for different skillsets and capabilities. While it's always great to have team mates who grow as the startup expands, it is also necessary and inevitable to have renewals in the team.

Economy's ICT Policies

Government policies affect business growth. The Singapore government's emphasis on increasing automation for companies to transform their business models has helped to increase motivation from the traditional education sector to adopt technologies. This has provided timely opportunity for Sun's Education Technology business to ride on current wave and penetrate into the Education sector in Singapore. Sun said that:

"The market is where our ideas seek to find a place to blossom. When the ground is soft and friendly, it makes for a better chance for success. The right government policies help soften the ground to encourage entrepreneurship and innovation. We truly benefitted from the vision of the economy's leaders to create a Smart Economy. In place of fear they presented hope of a better economy and lives through the use of technology in areas like healthcare, home, education and more. They created policies and programs to allow innovators to receive support for dreaming big while starting small and showing results. The government also put in place the right measures to prevent abuse and that creates an environment of trust and belief that good ideas and solutions will prevail which present the best outcomes to the people. A forward looking environment that is strong in execution of ideas, that is what helped us succeed thus far in our endeavour for innovation."

Funding

As Sun understands that funding is a very important component for business to succeed, she did not start business immediately after graduation. She worked to accumulate skills and experience as well as funds from her career. With that, Sun could self-fund the business with her own savings of S\$200,000 at the start. With clear vision and proven results, LittleLives was able to attract outside investors. Most of the investors came from referrals and partners who have seen the good work of LittleLives. Since 2012 and as the business grows, Sun has managed to secure more funding from five angel investors and venture capitalists, and thus working capital has grown to \$1,800,000. The funding has enabled the business to continue growing.

Going Global

The need for international expansion is natural for all SMEs in Singapore due to the small domestic market and high cost of business. With an average business costs of more than \$100,000 per month, Sun needed more customers to shoulder the ever-increasing development cost of the platform and other business costs. Moreover, some of her pre-school customers in Singapore have branches overseas and since LittleLives has the largest market share in Singapore for pre-school edutech, Sun and her ambitious team are ready for the expansion.



In 2015, LittleLives set up office in Malaysia and managed to offer their platform to 100 schools in 2 years. Initially, starting a new market proved to be very challenging. To learn about the local education landscape and finding potential clients was an uphill task. Their team basically went door to door to visit schools and often were turned down and kept waiting outside the schools. Eventually their persistence pulled off and the team started getting on track to signing schools and even receiving referrals from happy clients.



LittleLives was also one of the partners that collaborated with MySchool of Life to organise Malaysia's first International Pre-School Conference (IPEC) in Aug 2017 with Deputy Minister of Education as the Guest of Honor. The event aimed to connect early childhood operators and educators with academicians, politicians, practitioners and community leaders in an effort to gather insights and exchange views on the early childhood education system in Malaysia. It brought together educators and leaders representing 1,200 preschools in the region.



Sun was very excited to see educators and leaders sharing ideas in teaching, learning, and using technology to help the schools with operations and communications.



They are also accelerating their expansion plan and have opened offices in Beijing, China and Ho Chi Min and Hanoi in Viet Nam in 2017. Challenges are different compared to Malaysia and the

current challenge is localisation with more obstacles ahead. The team is excited to get started but are aware of the uphill battle they will face.

3.17.3.2 Challenges

The entrepreneurial journey is often challenging and Sun has her share of difficulties especially in starting and growing the business. Driven by her passion and determination, she has managed to overcome these difficulties.

Applying Technology in Real Life Problems

It is one of the most common challenges for technology companies servicing end users. Sun has to improve her platform and application continuously by being on the ground and listening closely to her customers' needs and wants.

Challenge of Balancing Customer Needs with Organisation's Development Goals.

Sun tries to accommodate some of her customers' needs after studying the practicability of the need with her development team to see if the particular need is common for the majority of the customers and whether it is in line with internal development goals.

Predictability of Users

Users of systems will always dream or wish to have new features which are not predictable. Sun tries to improve this by sharing information of the industry as well as other users' needs in the same industry so as to influence user needs and improve predictability.

Competition

There are always other similar technologies available as well as many ways of implementation and trade-offs. Sun improves her competitive edge by developing useful features and serving customers better. The benefit of serving the current pool of 700 Pre-schools gave her precious experience and domain expertise in uniquely designing solutions that can positively impact the sector and individual Pre-schools.

Setting Up Standard Operating Processes and Ensuring Good Communication

As the business grows, it is important to set up proper processes and improve communication channels to ensure that the team works cohesively and effectively. At LittleLives, individual teams come up with their own processes to support their roles and their performances are tracked by matrices. Sun said that:

“Some of the important indicators are tracked via OKRs (Objectives and Key Results) instead of KPIs as it is a more goal driven and advanced way of tracking results. Beyond tracking onboarding of new customers, usage, problems encountered by customers, and feedback from users, OKRs have clear objectives at the company, team and personal levels.”

Improvement of Skills and Knowledge

Other than reliance on experiences, Sun is always on the lookout for relevant online tools to help the developer and finance teams improve their skills, communication, budgeting, and align with industry best practices.

Improvement of Entrepreneur’s Mental Strengths as Business Grows

Entrepreneurs often faced challenges throughout their journey. Sun hired a life coach, who is a psychologist by training, to be her leadership coach. The life coach advises her as a mentor and identifies areas to improve. The life coach gave her emotional support and helped her improve her mental strength. Sun describes her emotional turbulence when running her company:

“the velocity transcending from euphoria to despair is amazing. I really like this recent book I read and recommend to every entrepreneur, The Hard Thing About Hard Things. Ben Horowitz, the author, talks about ‘The Struggle’. It is real. He signed my copy of the book with ‘Sun, stay strong in the struggle!’ warms my heart.”

She has since extended the coaching to her management team which has produced great results. Amongst many areas that improved, the management team meetings with the coach helped identify gaps in the expansion plan and strengthened communications in the team. She believes that:

“Having a dedicated mentor (life coach) for any management team is an important asset as the coach looks after your personal and professional growth while giving independent advice and insights which is sometimes transformational.”

Sustainability of the Business

As Singapore has a very small domestic market and a very high cost of business, Sun is aware that it is not sufficient to find the right industry to develop a niche but to also globalise to develop larger markets to improve sustainability. Sun believes that:

“Due to the small Singapore market, only the top 2 companies in any industry can make some profit and only the top company of an industry can make 50% of the industry profits”.

Even though her company is the top company in the Pre-School industry, she strongly believed that to sustain the business, LittleLives needed to go global to get more customers and grow their market size. They started this by sending one of their directors to set up presence in Malaysia in 2015. He stayed in Malaysia full time to build the business there.

Raising Funds at Initial Stage.

It was not easy for Sun, as a female entrepreneur, to raise funds especially during her initial stage. When the idea of LittleLives was conceptualised in 2007, she found it difficult to get people to take her seriously especially being a young female. As a result, she had to depend on her savings to fund her business as a start. She said:

“The investors prefer to invest in male entrepreneurs especially in the technology business as they believe that females are non-aggressive and less ambitious and may not be suitable to grow technology businesses”.

Sun had to work doubly hard to prove and convince the investors to fund her growing business in 2012.

3.17.3.3 Policy Recommendations

While the business environment in Singapore provides support for entrepreneurship, Singapore’s policies and programmes for entrepreneurship and enterprise development are gender-neutral. Some of the programs that Sun leveraged on are:

iStart Programme by IDA in 2011

IDA has initiated the iStart Programme in 2011 for local infocomm start-ups to gain access to market, connections, funding investments, and high quality international mentors. iStart programme seeks to empower the start-up community by attracting world-class start-up development platforms which provides training and mentorship for startup founders, and an Asia Pacific event which serves as a launch-pad for new products and services.

This gave Sun the chance to explore key overseas markets like Silicon Valley and China to meet mentors & partners. Sun feels that this is a very valuable exposure for young startups.

Spring Singapore’s Innovation Capability Voucher (ICV)

Apart from consultancy, ICV also supports SMEs in the adoption and implementation of pre-scoped Integrated Solutions to improve business efficiency and productivity. This help to give credibility to Sun’s platform and provides reassurance to potential clients interested in their

solutions. The Market Readiness Assistance (MRA) by International Enterprise Singapore (IE) co-funds relevant cost when companies make their first bold step into other markets. It offers assistance in setting up overseas offices. Sun is in the midst of an application to set up more overseas offices.

Sun feels that Singapore government can have

“More cultural type programs that help startups understand and integrate with different local markets. Being Singapore entrepreneurs, our market is small and any help for us to think and succeed globally is a step forward.”

3.17.3.4 Advices for Women Entrepreneurs

When asked for advice that Sun would give to women entrepreneurs/women start-ups, she summed this up by saying

“Set an ambitious vision. Then set a direct path to the first milestone of that vision. To dream big and be strong in execution is what helps us be credible founders.

Our communication skills, ability to inspire and to build an awesome team would be what keeps us going daily. Find meaning in your work can help inspire your team moving forward. Good days are easy, but hard days require more than just grit to get by. A shared meaningful journey is what helps keep the team going. Understand your management team and help them grow personally and professional by investing in them.

And when things fail, communicate more. Be unafraid to seek help. Your vulnerability is not a weakness, but a strength. It allows others to see us as human, just like them. When people are comfortable talking what's not working, then we can start finding solutions that work.”

With information from the above case, we can itemize Sun’s advice to women entrepreneurs and startups as follows.

Dream Big, Have Ambitious Vision and Be Strong in Execution

Big dreams that are based on deep passion are important pillars for successful business to be sustainable. An ambitious and clear vision with strong execution strategy will provide the entrepreneur the strength to steer the business in the right direction amidst technological disruptions that are the key feature of the 4th Industrial revolution.

Ability to Inspire and Build an Awesome Team

An entrepreneur's journey is demanding and lonely and no one can be successful by doing this alone. It is important to inspire the team to join in as "a shared meaningful journey" which can "keep the team going. Understand your management team and help them grow personally and professional by investing in them" to build that awesome team.

Unafraid to Seek Help and Start Finding Solutions That Work

It is common for entrepreneurs to face obstacles and challenges throughout their journey. It is important to understand that "Your vulnerability is not a weakness, but a strength. It allows others to see us as human, just like them". Therefore it's important not to be afraid to ask and seek help or collaborate with others as this is when one is aware of what is not working and start to find solutions that work.

From the above information and many other discussions with various women entrepreneurs, there is no straightforward advice for women entrepreneurs and start-ups since different women face different circumstances. The fact that women often need to juggle with many responsibilities, roles and different tasks all the time for work-life balance, they must have deep strong passion and be prepared to deal with different circumstances and added responsibilities as entrepreneurs to make their dreams come true.

3.17.3.5 Summary and Discussion

Sun is currently only 39 years old. Her opportunity to attend computer class at an early age helped her discover her interest early. Her interest deepened and confidence built up as she acquired her skills and knowledge through data entry work and computer classes at school and won the Mathematics inter-class competition. During her university days, she had her first taste of entrepreneurship by selling flowers which she enjoyed. She found her interest and passion. As per my analysis above, valuable support from family and education as well as nurturing environment are important factors in building strong foundation of entrepreneurship.

Despite having a good career involving technology, Sun's entrepreneurial spirit did not waver. She started various businesses and despite the failures she continued to pursue her passion. She is ambitious, has clear mission and wanted to invest her time and energy in Education Technology business. She was persistent and continued to improve herself by acquiring knowledge from life coach, mentors and online information to improve her skills to manage her growing business.

The Singapore government's emphasis on increasing automation, Artificial Intelligence (AI) and big data for companies to transform their business models has helped to increase motivation from

education sector to adopt technologies. This has provided the opportunity for Sun's Education Technology business to grow in the education sector in Singapore and to gain the credibility. This provided Sun with added confidence to expand her business overseas.

In order for the entrepreneur to be successful, it is important to abide by the 4 fundamental practices according to Larry Farrell, the leading authority on entrepreneurship. These fundamental practices seem to be the contributing factors for Sun's success too.

Sense of Mission

Sun believes that she is creating value for customers, employees, and, herself. She found meaning in her business and her mission is to create a world where education inspires children and brings joy in learning, where school allows children grow up with an understanding and love for people around the world.

Customer/Product Vision

Successful entrepreneurs have a single, integrated vision of customers and products. Sun does this by investing in R&D continuously to improve her platform and application and by being on the ground and listening closely to her customers' needs and wants.

High-Speed Innovation

This is the entrepreneur's ultimate weapon to stay ahead of the competition. Speed and creativity are major competitive factors in our global economy. It is important for the entrepreneur to feel that it is necessary to innovate and Sun firmly believes the only way to win competitors is to focus on developing useful features that served customers better and faster.

Self-inspired Behavior

Successful entrepreneurs love what they do and they're highly committed to their work. They will constantly try to get better at what they do and their performance is high. Sun's persistent attitude, firm commitment and high performance served as the building blocks of her successful entrepreneurial journey.

As we can derive from the above case study, there is no single factor which contributes to success. Other than passion, the women entrepreneur will need to continue to build up relevant capabilities and skills which are needed to manage and grow her business at different growth stages. She will need to have the patience and determination to stay strong in her entrepreneurial journey based on clear, meaningful mission that she believes in order to build a sustainable business.

3.18 Case Study of Chinese Taipei⁹⁴

3.18.1 Profile of a Woman Entrepreneur

Wei-Hsuan Chang, the founder of Womany, is invited to join this case study by sharing her experience in developing Womany along with the struggles as well as Womany's prospects and challenges in the future.

This interview took place on December 15, 2017 in Womany Wonderland, Taipei. After obtaining the interviewee's consent, the two-hour interviewing process was recorded. The interview focused on entrepreneurial success, experiences, and challenges; it did not discuss sensitive issues as operational strategies or financial information.

Womany is the largest female social media platform in Chinese Taipei. It was founded by three co-founders. Numerous articles and coverages are dedicated to its background and purposes; yet this interview targeted at the CEO as the interviewee. By conducting the interview, the researchers obtained more information from face-to-face conversations and analyzed the results of this case study with secondary data.

About Wei-Hsuan Chang

"You shouldn't be afraid of being the light just because the world is full of darkness. You know that you are transforming into a better self."

-Wei-Hsuan Chang, Co-Founder & CEO of Womany

Wei-Hsuan is Womany's Founder and CEO, and she strives to promote the development in gender awareness and freedom in Chinese language. She is well-versed in combining applied technology and issues to build the influence among women social groups. She has been named among the Top 20 Most Influential Women in Chinese Taipei by *Business Next* Magazine. In 2017, she represented Chinese Taipei in attending APEC Women and Economy Forum. She has also frequently represented meetings related to youth participation and entrepreneurship, gender development and other policy consultation meetings, including being invited for a discussion with the President, serving as TED event emcee and speaker, etc.

⁹⁴ This case study was conducted by Lee Li-Hsuan, Researcher, Foundation for Women's Rights Promotion and Development (FWRPD), Chinese Taipei.

Wei-Hsuan graduated from National Taiwan University, majoring in history. She is the second child in her family, so she used “2nd Sister” as her pen name and served as a columnist in the past, writing about her own observations related to gender and society. When she was 26, without any existing network, industry knowledge, and entrepreneurial knowledge, with a strong resolve to create “a media with gender perspective in Asia,” she decided to quit her job and joined two other business partners in taking out their savings to invest in their dream.

In 2011, they started with Facebook fan page as a starting point and gave many talks to promote their ideals. She said, “We choose to face the world with our values and uniqueness.” In 2011, Womany and the three co-founders started their enterprise using Facebook, which was quickly growing at the time. At the very beginning, they did not realize that Womany will become Chinese Taipei’s most influential media on gender perspective.

Now, Womany has been established for 6 years since 2011; however, Wei-Hsuan considers Womany as a start-up. She believes that Womany continues to uphold the spirit of experimentation, as it continues to efficiently undergo cycles of trial and errors to arrive at its correct method. The founders are on the way to use the business model to verify their own beliefs and ideals.

3.18.2 Profile of a Company

“Women are of many kinds, and you are the only one.”

Womany is a start-up focusing on gender as its core, using technology as its tool to serve user’s needs. Womany is also a media and a platform combining with e-commerce and social community.

Established in 2011, Womany starts community operation as a Facebook fan page, providing content that is carefully selected for women, including health, shopping, feelings, self-growth, etc., greatly attracting the subscription and participation of female groups. One year later, Womany further developed an independent website and established a membership system to enhance users’ loyalty.

Just like every single start-up, Womany’s founding stage was filled with challenges. Even though they were filled with passion, the three founders had limited knowledge regarding media, business regulations, financing or business models. Meanwhile, it also challenged receptiveness of the public, which is accustomed to the traditional and modern culture. Wei-Hsuan laughed a bit awkwardly and said, “Over the first few years, there were members that asked to cancel their membership due to our reports on LGBT issues.”

After 3 years of hard work, in 2014, Womany reached its first milestone of surpassing 100 thousand members' mark. 85% of the members are female, 15% are from abroad and there are 220 thousand Facebook fan members that include members from Singapore, Hong Kong, China and Mainland China. There are more than a million daily visitors, and there are venture capitalists who expressed interest in investment.

After its initial success, Womany neither shifted its business priorities nor developed into a shopping platform or traditional media. Womany's major shift since 2014 has inspired by contact with members online and/or offline, and many economic and socio-cultural perspectives have been added to mere feminine issues.

For example, 525 ME Festival held in 2015 was a real-life, fee-charging event that attracted approximately a thousand participants. In 2016, this 525 Festival prompted about 10 thousand people to gather at the Taipei City Hall Square to support the ME Festival.

Step by step, Womany gradually accumulated more than a million readers and users from all over world, supporting and sharing the platform. *"I flew from Hong Kong, China to support you guys," "Because of you all, I was able to survive many difficult days."*

Currently, Womany's partners include public and private sectors as well as other NGOs. The issues covered and discussed also expand from human rights, gender equality, fashion perspective, family life to career development and many more. In addition to further development in Chinese Taipei, they also wish to do more, helping to better this world.

Two Events of Womany

- 016 Code for Gender-based Violence

Based on the UN figures, there are 1 billion women suffering from violence all over the world. On average, 1 in every 3 women has experienced sexual abuse or physical abuse. In Chinese Taipei, there is one gender-based violence occurs every 3.5 minutes. 1 in every 25 persons had been sexually abused. For this reason, ending Gender-based violence is both a local and international issue. This is not just an issue for women but a human rights issue.

In collaboration with Ministry of Health and Welfare, Womany held a series of events on Gender-Based Violence Prevention, including various focus group discussions and gender-based violence prevention hackathons, inviting gender and tech experts to focus on online discussion on gender-based violence, bringing a tech perspective to this issue. Among these events, Hackathon in particular combined with technology, creativity and gender-friendly

awareness. Through focused discussion, design and actual trials, action plans for gender-violence prevention were constructed. These action plans also include using Big Data capacity to analyze language and words used online to increase safety on online dating or to create a map of locations in which women are prone to encounter gender-based violence through Big Data analysis.

- 2017 Gender Impact List

In 2017, Womany took an inventory of the major gender incidents around the world and locally for the first time. Through the mode of “Gender Impact List,” Womany sought to discuss the changes propelled by gender equality perspective around the world. Gender Impact List highlighted 6 major gender movements in the world, 3 influential gender events in Asia, and hundreds of progress on gender equality that help shape a more gender-friendly world this year. These movements include Chinese Taipei’s Constitutional Court ruled in favor of recognizing same-sex marriage, India’s #AintNoCinderella to fight for women’s right to be in public at night, DC’s launch of the movie “Wonder Woman” and Miss Peru replacing body measurements with gender violence figures.

According to Gender Impact List of 2017, it was a year of identifying problems. Sexual harassment, power-based sexual abuse, workplace sexual harassment all garnered public attention. Starting from Chinese Taipei’s “Fang Si Chi’s First Love Paradise” to Hollywood’s Harvey Weinstein incident, Womany believes that gender issues should receive more attention and discussion for gender equality. Womany believes that “gender is not formed by separate and isolated incidents; rather, it is an accumulated change driven by every single case. No one is a bystander; no one is an outsider.”

3.18.3 Findings

3.18.3.1 Success Factors

During the interview, Wei-Hsuan did not feel that she had followed any business rules or tips. But due to her capability of attracting 100,000 members in 3 years to forge the development foundation for Womany, Wei-Hsuan summed up with several successful tips.

Stick to Beliefs and Adhere to User Friendly

“We are neither a group of people who want to start a business, nor a group of people trying hard to come up with a business idea. From the very beginning, foundation of Womany is for

that we are in need of it.”

The foundation of Womany was just for meeting the demands of users. In its early days, Womany launched an online shopping and thematic coverage service for women's products. They wanted to meet the needs of all kinds of women through reading and shopping. However, there were many suggestions from the outside at that time, such as concentrating on online shopping and giving up community management, or that scientific knowledge and capital were not in place, which means it should not enter the online shopping market and so on.

Starting from their own experience and demands, in way of learning by doing, three founders gradually turned themselves from outsider into insiders. Because of its own needs, Womany did not change the original intention of entrepreneurship. Womany gradually found its own positioning with experience and point of view of user friendliness, successfully retaining customers and taking the first step.

Placing Emphasis on Speed, Then on Perfection

“New ideas are not new. What you can think of is probably thought by everyone else. The person who thinks faster, who thinks further, or who has more execution force might be the winner.”

Wei-Hsuan considered Womany as a team formed by members who think fast and ahead. But because the business partner who was in charge of technological issues went performing military service, only 20% of scheduled progress could be made during the period of initial establishment. Or, when a new action idea was formed, the previous action had not been completed yet. These conditions made the founder feel anxious.

“Technology is the same as entrepreneurship, it should be fast moving. It should be so fast that other entrepreneurs know that we have ideas before they take actions; and it should be so fast that the users are satisfied; and it should be so fast that things planned are finished without any delay.”

Wei-Hsuan said,

“Do not worry about the product not being perfect, because there is no perfection. Womany just tried its best to live up to ‘the perfection at that point of time.’ Act first, then make adjustments step by step. Make progress and difference every day.”

Referring to the two-hour conversation and other relevant news reports, several successful factors were also shared by her observations.

Good Enterprise Culture Formed by Good Talents

“We are proud of the culture of Womany which is our greatest feature. As a team CEO, nothing is more satisfying than seeing others being outstanding than me.”

Regarding website or article sharing, readers can feel that Womany likes to solicit new ideas and share innovative ideas. As CEO, Wei-Hsuan hopes to build an environment in which employees can work happily and pursue excellence. Through regular book clubs, workshops, afternoon tea conversations and CEO mailboxes, Wei-Hsuan expects all employees have the opportunities to learn, to share, and to discover the pleasure of working at Womany.

She believes that "culture" is the foundation and connotation of enterprises, while sharing and communication are the means to develop culture. In this process of learning and sharing, she encourages each employee to observe various problems in various ways and then to try to solve them. This method doesn't just help one become better, it also enhances full creativity, making the team better!

Find the Right Partner

“You cannot do everything by yourself. How to divide work, how to find the right partner, and how to integrate everyone's opinions into decisions are challenges.” Wei-Hsuan said: “Faced with these challenges, luckily, I have two great partners.”

In the process of entrepreneurship, reliable partners are indispensable. Since she started her business till now, Wei-Hsuan has seen many business partners left due to their inconsistent ideas and abandoned their entrepreneurial actions. But this is not that partners similar with themselves must be found in entrepreneurship. Each person's expertise is different, and it is important to be complementary. The key to find the right partner is that both parties have consensus when it comes to the company's goals and values. The three founders of Womany once underwent the phase of disagreement and compromise, but they still adhere to the core values of Womany and the companionship lasts till now. Wei-Hsuan repeatedly stressed that “finding someone to work together and grow together is more important than anything.”

Customer Group Differentiation to Win the Opportunity

“The success of Womany is more than just a service innovation. The innovation of Womany lies in offering its meticulous care and attentiveness to maintain customer relationships in the female market.”

The core value of Womany lies in the fact that "women" are not a collective phenomena. For example, women in New York will not be the same as women in Taipei; pink-collar workers who work in the metropolitan area will not be the same as women who run private residences in the suburbs; and career women are different from housewives.

When starting her business, Wei-Hsuan was not at all worried about the competition of many shopping sites in the market. Because Womany's goal is not to be the number one brand of the best market shares, but to fill the void in the female market. To be more specific, Womany's goal is to become a service website that satisfies women. In the beginning, Womany used customer group differentiation to target its audience. It bestowed refined service on customers, successfully opening up new markets in e-commerce and content service websites.

3.18.3.2 Challenges

With regard to the greatest obstacle in her start-up, Wei-Hsuan said: *“I do not think what I have encountered are setbacks.”* She further explained that the difficulties she encountered on every venture were seen as both opportunities and challenges. Once you overcome them, they are over. She quoted documentary director Shen Ko-Shang as saying:

“Any situation is advantageous, and everything is a good thing. As long as we cherish what we face and try to live better every day, any negative thing can become positive. Of course, those amazing things are good things, too.”

However, she noted several challenges at this stage, for example, what's the next step of Womany, or how to maintain competitiveness and original intention in a fast-paced environment.

Refusing the Temptation of Foreign Investment to Keep Original Intention

It is not easy for entrepreneurs to be successful in entrepreneurship. For venture capital, it is not easy to find a good investment target.

After its initial success, Womany attracted venture capital actively wanting to invest a good sum of money in it. However, after discussion, three founders rejected the opportunity to expand their

capital because they were worried that once the new shareholders are involved, the original business concept might no longer be adhered to.

Wei-Hsuan said

“There must be shortage of capital when starting a business. It was really hard, especially in the first few years. A good sum of capital was really attractive. We considered updating Womany website promptly once we get the capital, and other website functions we wanted could be generated as well. It was very exciting. But eventually, all three of us knew that it was unacceptable. We have the message we want to send to the world. We do not want to accept the investment at the risk of losing the operating autonomy. But it's really hard to say no to it!”

Even now, similar investment advice is often heard. Also, large enterprises hope Womany can help in product marketing, or use fund to buy brands and so on. Business management is really hard, but the founders of Womany not only have a sense of mission, they also have zeal. While generating profits, they are still trying hard to stick to their original intention.

Transformation and Bottlenecks; From Locality to Internationalization

"In 6 to 7 years from entrepreneurship till now, Womany experienced three stages. The first three years were the first stage for laying the foundation by continuously expanding online members and exerting community influence. In the following three years as the second stage, Womany's service went from online to offline, and they established the cooperation network through a variety of physical activities and face-to-face exchange of information with users. In the past three years as the third stage, Womany was ready to go one step further toward internationalization."

Womany made initial success in Chinese circle, but Wei-Hsuan and her companions thought further. They hoped to be on the world stage, allowing Womany to inspire more women to have self-consciousness and more; moreover, they hoped Womany and women could evolve together. They aimed to provide more women with high-quality service experience, thus influencing the world.

Women from different backgrounds also have different demands and perspectives. At the moment, Womany's international readers are mostly from Southeast Asia, Hong Kong, China and Macau due to different geographical, cultural and linguistic reasons. How to bring Womany to the world? How to expand clients and consider the needs of people of different cultural backgrounds? Womany's every decision is accompanied by countless details. As CEO, each decision brings Wei-Hsuan a sense responsibility. However, Wei-Hsuan is still optimistic. She said that *“although it is*

difficult, we are always eager to face challenges.”

3.18.3.3 Policy Recommendations

According to a survey conducted by Professor Vivek Wadhwa in 2013, 86% of the successful entrepreneurs consider that supporting entrepreneur conditions provided by the government are not the first requirements. Entrepreneurs need to work hard to start their businesses; what the government needs is to reduce the barriers. However, there are still policies needed to be made to formulate a better environment. Based on the interview and the current status of women entrepreneurs in Chinese Taipei, the researcher concludes four policy recommendations that could be enforced.

Cultivate Enterprises of Potentials in Development; Provide Resources and Support for the Expansion of SMEs

“More than 90% of Chinese Taipei’s enterprises are small and medium-sized enterprises. It would be great if the government could help the exceptional businesses become stronger and assist talents become more outstanding.”

There are myriad supporting resources for entrepreneurship in Chinese Taipei. Apart from loans and entrepreneurial advice provided by Ministry of Economic Affairs and Ministry of Labor, local governments offer empowerment employment programs, providing services including space and resource matchmaking, business consultants, and startup accelerators. However, these supporting resources are mainly concentrating on early start-up activities, also known as seed stage or startup stage in enterprise life cycle. As the business enters a stable stage, it will begin to seek higher added value and expansion. Yet for the time being, when SMEs start to pursue steady growth and expansion, few resources provided by the government are available.

Wei-Hsuan said that it is really hard to start a business. In addition to funding, the way the government assists small and medium-sized enterprises of potential is of importance as well. The market of Chinese Taipei is small; thus, the resources should come to help those who perform well become well instead of encouraging more people to the same thing.

Once the entrepreneurs survive the initial stage of start-up, their ideas and plans are approved by the market. Therefore, the government need to provide support for expansion of SMEs, including ways to skill up and to find the right connections, along with international event exposure. These resources and support should be allocated for businesses expansion.

Extend Preferred Funding and Establish a Friendly Environment for SME Financing

“As said before, entrepreneurship always needs more money. The government has provided substantial start-up loan, but capital support in operation is also important.”

In Chinese Taipei, the most commonly used resource provided by the government for youth entrepreneurship is Youth Entrepreneurship Loan, while female entrepreneurs also have Phoenix Micro Start-up Loan. Both of these loans give start-up funds to businesses that have been established for two years. Through the cooperation of the government and banks, the government provides mortgage guarantee and supports entrepreneurship with a lower loan interest rate. However, as far as the current status of Womany is concerned, it is not eligible for the application qualification.

Wei-Hsuan said that it is really hard to start a business. Not everyone is ready for business after they acquire sufficient knowledge or capital. Government support is really helpful and important. If micro-small and medium-sized enterprises are provided with loan discount plans in operation, it is the most direct and immediate help for business owners.

Encourage Women to Start High Added Value Business and Enhance E-Commerce Usage Rate

Chinese Taipei boasts its beneficial supporting entrepreneurial conditions and people's entrepreneurial tendency rate is higher than numerous economies. Nevertheless, female entrepreneurship mainly centers in service industry of which the survival rate is lower than that of men's entrepreneurship. The turning point is how to encourage women to engage in industries of higher survival rate, for example, professional, scientific, and technical services industry.

On the other hand, when the digitalization of e-commerce increases, the enterprise's productivity increases. The development of e-commerce in Chinese Taipei has the advantages of complete hardware facilities, high rates of internet usage and online purchase. Thus, the accelerating e-commerce entrepreneurship and e-commerce usage rate will help female entrepreneurs have better income and startup success rate. In terms of support from the government, private sectors and social benefactors should work together to invest high value added industry and to enhance digitalization and e-commerce applications for female entrepreneurs.

3.18.3.4 Advice for Women Entrepreneurs

Believe Your Choice; Believe Your Partners

Being asked of suggestions for people who want to start a business in the future, Wei-Hsuan said with certainty,

“Be sure to stick to what you think and love what you do, and then find like-minded partners to work hard together. The starting point for entrepreneurship is nothing more than identifying problems, addressing solutions, and finding the right ones.”

During the interview, "original intention" and "good partner" constantly brought up by Wei-Hsuan. She said entrepreneurial success doesn't mean the entrepreneur is more talented or smarter. In addition to good luck, the most important thing in entrepreneurship is persistence. Wei-Hsuan believes that starting a business is not easy. To maintain such hard work, it is difficult to insist without enthusiasm and conviction. Therefore, you have to agree with what you are doing from the bottom of your heart in order to persist. And you will be successful!

Female Entrepreneurs Should Take the First Step with Courage

As the founder and CEO of the largest gender issue e-platform in Chinese Taipei, besides sharing her experiences, Wei-Hsuan hopes to encourage more women to believe themselves. “Have faith in yourself! Start with the ideal, and then take actions with courage!”

Influenced by the social and cultural background, many women who want to start their own business are in lack of self-belief and they do not believe they have the ability to start new programs. As Wei-Hsuan found out, females are inclined to evade their own excellence, being humble by notifying “they are not that excellent.” By contrast, males are more likely to accept their own performance, even consider themselves doing pretty well.

“I would like to remind all the entrepreneurs and everyone, especially females, that don't escape from your own greatness. Don't be afraid to be seen. And don't have expectations about your future because of your gender. Your dreams and ambitions are extraordinary!”

Success Is Not a Matter of Luck; Success Is the Outcome of Hard Work

In entrepreneurship, all I have learned and what I have kept in mind is that *“The most terrifying thing is those who are smarter than you are more hardworking and dedicating than you.”* As for those who are really hardworking and dedicating, they are the smart and lucky ones. Due to many factors, we cannot be jealous of others just by viewing the result. People succeed because they are extremely hardworking, not because they are lucky.

Wei-Hsuan always tells the youngsters that there are two basic skills that everyone need to be equipped with whether they want to start a business or not. One is the language skills and the other one is time management skills. Language is the tool for communication; business commerce, social connection, and negotiation all require communication skills. Furthermore, the ability to manage

time is of more importance. Time is equal for everyone; it is the same valuable resource that is used by the rich and the poor. How to use time efficiently is the key factor investing yourself.

3.18.3.5 Summary and Discussion

Womany focuses on e-commerce and community operation. E-commerce is the main source of initial revenue whereas community management serves as a vital platform establishing a stable relationship with the users. With stable click-through rate and community adhesion, Womany has established extensive user system. That is to say, the rapid development of Womany contributes to both internal and external advantages. External advantages include complete infrastructure, the rise of online community, the change of customers' consumption patterns, and the awareness of gender equality. On the other hand, interior advantages include customer group differentiation, benign relationship with users in accordance with media management, and the solid strategy made by policy makers.

Womany's Keys to Success Include Right Timing and Right Environment

In 2011, Chinese Taipei's social media has reached a certain level of development. The complete development of internet and information communication offered Womany good user base when Womany took online platform as its service pipeline.

According to 2017 KPMG Asia Pacific E-commerce Overview, current development of e-commerce mainly centers on three regions: Asia Pacific, North America and Western Europe. These three regional e-commerce markets accounted for more than 90% of the global market. The growth of the Asia Pacific region is the fastest, and it is the world's largest e-commerce retail market. On the other hand, regarding online shopping experience, 86.1% of Chinese Taipei's population has online shopping experiences, ranking 17th in the world and No. 1 in Asia. Even if back in 2011, online shopping population was not much, but it had development potential. Therefore, Chinese Taipei's good information and communication environment, as well as consumers' shopping and internet surfing habits, laid a good foundation for the rapid growth and development of Womany.

In terms of cultural environment, Chinese Taipei's Gender Inequality Index (GII) ranked the fourth in the world in 2014 and the first in Asia. Regarding education laws and regulations, the popularization of basic gender education, the implementation of Gender Equality Act and the one third guarantee principle for female legislators have all made Chinese Taipei more tolerant and open to discuss diverse social and cultural issues. Economically, the economic viability of women has increased, with female labor force participation rates rising for the first time in 2012 to 50%. The participation of women in issues including purchasing power and civil sociality also increased

gradually.

At that time, women's self-consciousness had been gradually awakened, but there were no good communication channels. The emergence of Womany filled the void; for these new women, Womany met their needs in terms of issues and commodities. These changes in social and economic environment provided a good basis for Womany to discuss female issues and to sell female exclusive products. Therefore, creating the right products and service in the right place at the right time for women may be a big part of Womany's rapid rise and success.

Womany, with Quality and Service Differentiation, Establishes a Good Relationship with Users

It is found from the interview, Womany constantly brought up the idea of satisfying the needs of women and resorting to the high degree of service that is delicate and intimate as its emphasis. In cases of vicious competition in the market with serious homogeneity of products and of price wars, differentiated and meticulous services bring the opportunity to form the company's core competitiveness, and to enhance its brand value.

On the other hand, Womany underlines brand quality and advertises its core value to the public. On a regular basis, its website launches spiritual growth articles and celebrities columns selected or analyzed by readers; this attentively creates an interactive atmosphere for readers and Womany. This type of consumption pattern blended with social information cultivates users' online reading and spending habits; consequently, website users and service providers can form a mutually beneficial cycle. These factors lead to a high readership and help Womany earn customer loyalty; what's more, consumption adherence is also much larger than average e-commerce users.

From Online Activities to On-Site Events and from Home to Abroad, Womany Is on the Tide of E-Commerce

Although more than 80% of people from Chinese Taipei have online shopping experiences, the relevant statistics also pointed out that 67% of respondents think that they enjoy the pleasure and satisfaction of shopping at physical stores. As a result, offline shopping has become a casual lifestyle for some consumers. Every year, on the day of 525 Festival, Womany offers face-to-face customer service; it also integrates consumers' shopping, leisure, education and others, enhancing consumption stickiness.

On the other hand, data released by China's Ministry of Commerce show that nearly 90% of sales still come from physical stores, though online transaction of physical goods in 2015 increased by 31.6% over the same period of 2014. It means online consumer market is still growing, but on-site consumption cannot be ignored. KPMG Asia-Pacific e-commerce overview also revealed another piece of information. The Asia-Pacific region has led the growth of global e-commerce markets.

However, the development of Chinese Taipei has slowed down. Therefore, when the e-commerce markets in Chinese Taipei have gradually become saturated, it is time reaching the global stage.

The evolutionary steps of Womany include the first three years focusing on online spending and service, the later years developing on-site lectures and events, followed by internationalization as its latest goal. Each phase of Womany's development corresponds with the environment and market changes. Womany, in the scale of small business, follows the trend of global e-commerce. We are looking forward to Womany's next step and accomplishment in the future!

3.19 Case Study of Thailand⁹⁵

3.19.1 Profile of a Woman Entrepreneur



Woman Entrepreneur: Mrs. Sirinut Chimplee Source: <https://www.ccdkm.org>

The ‘Thai Fighting Fish Online’ is one of the interesting, popular and successful SMEs in Thailand led by Mrs. Sirinut Chimplee. She is from Muang district, Nakhon Pathom province, the outskirts of Bangkok. She holds a Bachelor’s Degree in Business Administration from Sripatum University. She has gained lots of innovation awards, and some of the latest ones include the National Outstanding Farmer Award in 2015 in the category of ‘ornamental fish and aquatic plants’ and the National Smart Young Women Entrepreneurs in 2017. She is the first startup or SME who uses ICT as a main tool to facilitate her startup business. She is the first Thai entrepreneur who exports the LIVE Thai fighting fish abroad.

“I can do this. I sell my fighting fish online globally because I learned from the other global cases. I keep trying till possible and finally win...”.

“Without ICTs, I am quite sure that such a miracle opportunity and income cannot happen to my life, my family as well as my community”.

⁹⁵ This case study was conducted by Kamolrat Intaratat, Director, The Research Center of Communication and Development Knowledge Management (CCDKM), Sukhothai Thammathirat Open University, Thailand.



National Smart Young Woman Entrepreneur Award: Mrs. Sirinut Chimplee Source: www.sirinutbettafarm.com

In 1999, after the ASEAN economic crisis in 1997 after her graduation Mrs. Chimplee came back home because of no job to do in Bangkok. She started to help her family business in a fish farm in “the ornamental fish farm” category. It was just a small family business which focused on only breeding and selling the fighting fish to all the middlemen who came to buy fish from her family with a small pay. She finally got some new ideas to see more market chains instead of only breeding and selling the fighting fish at home. She studied very hard on her own from the internet and also visited various groups of customers to see their real situation, real demands and real problems. Then she got back to develop her own farm with her family, because she found lots of new potential and creative ways to overcome existing challenges and to grow business.

Along the way, Mrs. Chimplee also joined many relevant trainings or meetings and had direct contacts with relevant agencies, partners, and academic institutes, including the Faculty of Business Management of Rajabhat Nakornpratom local university. In particular, she received assistance from the academic institutes as regards the ways of breeding, which is the most important success factor in the ornamental fish business. She said,

“We must select only the best breeder very carefully. Then our fish will keep developing its own breeds. We always can learn to compare our fish with the other breeds either local or global. The easiest way is to study from the internet besides from the physical trail. Then finally, we apply the method into our own local breeding”.

Mrs. Chimplee joined the Ornamental Fish Association of Thailand and became a member of many of the potential Fish Clubs at different levels. These efforts helped her gradually develop a small farm into a more professional farm along with other professional farms and agencies.



Breeding and Database Source: www.sirinutbettafarm.com

3.19.2 Profile of a Company

- Name: Sirinut Betta Farm (Local Thai Fighting Fish Farm)
- sirinutfarm@yahoo.com, www.siribettafarm.com, Mobile: +66 86 176 1228, +66 81 515 3818, Fax: +66 34 970138



Sirinut Betta Farm, Thailand with its 18 years (since 1999)

Source: www.sirinutbettafarm.com



One of the Signature Breeds from Sirinut Betta Farm

Source: www.sirinutbettafarm.com

“The fish breeder is considered to be one among the stable and proud careers. If we continue our learning and developing ourselves all the time, ICT can facilitate all...not only learning but also advertising, PR and marketing”



National Smart Women Entrepreneur Award Winner, 2017

Source: www.sirinutbettafarm.com

If the farmers or the breeders do not keep learning and developing themselves, it will be quite tough because the breeding is very sensitive with all kinds of contexts. ICT, especially internet, is a very important and affordable tool to help in all aspects because without the internet, it would be very difficult to learn any update and even learn from each other. Besides, the internet can easily help in doing all kinds of PR activities especially among all the social media. More importantly, Ms. Chimpee has been using internet for her self-studies especially from all kinds of e-handbooks, as well as training (both physical and e-training) about Online Marketing, the Website Marketing, the Social Media Marketing, PR, and advertising.

“Local Fighting Fish Farm actively uses ICT to facilitate all operational system for both local and global market”.

“Ornamental fish and aquatic plants is like a fashion, so we need to keep updating all the times, and in the process ICT is really the right tool”.

Currently Ms. Chimpee is the owner of one of the famous fish farms in the central region of Thailand. Her fish farm is continuously growing to the extent that it currently has 500 breeding wells with more than one hundred thousand ornamental fishes, managed by herself and her family. In addition, many community members join the farm to help develop this business to the world known.

“My farm keeps growing quite fast because we try to keep learning all the time mostly from the internet”.

Ms. Chimplee and her farm gained all levels of recognition from local to global for nearly 2 decades till currently. Her startup business that she has been running with commitment and confidence is not a benefit only for herself but a benefit for her local community and also for the whole Thai economy.

“At the first start, people thought that I am crazy because I am the only woman with least experiences in this field and especially my education background is not relevant to this field. But I tried to keep studying by myself from all kinds of learning sources both online and offline. Meanwhile, Internet is always alongside with me...along with my farm development”.

She admits that, in the early years, she experienced lots of trials and errors because she never had any knowledge and skills in this field, so she spent several years to test and try all the breeding on her own. Her business started with only 5 to 10 pairs of fish breeding but then gradually increased to the extent that it gained professional recognition locally and globally.

3.19.3 Findings

3.19.3.1 Success Factors

Use of ICT

“One of my great tools for this amazing success is the internet. Without the internet, it must be very difficult for me to do well and grow fast like currently...”

“Without the internet, I am not sure that all the current success of my farm can happen”



Awards from All Levels
Source: www.sirinutbettafarm.com

At the beginning, Ms. Chimplee used only the simple internet to seek all kinds of relevant information especially about the best breeder both from local and international markets, but then she moved on to learn about the ways to develop her farm breeding and farm management skills.

“ICT is one among the main tools, both directly and indirectly, in the development process of my fish business to be more stable, competitive and professional.”

In 2013, her fighting fish was sent to show and join in Australia for a global contest among the other famous farms from all over the world, and till currently, her fighting fish farm is invited to join all levels of events at international, central, and local levels.

“Currently, our small farm has won more than 60 beautiful fish award categories from all levels, from local to global, and it made our small farm gain more and more reputation”.

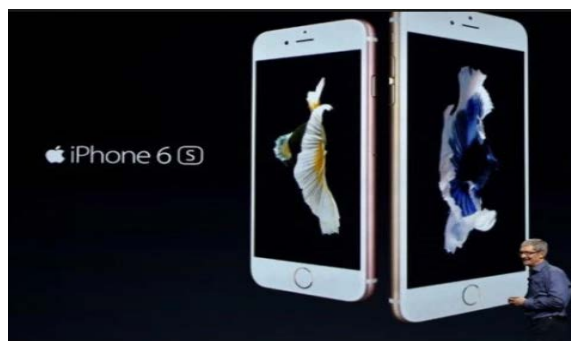
ICT is one of the most important success tools in all kinds of visibility and applicability. It helped her to start up a business with her own small farm. She always takes all kinds of photo to show how beautiful of her new breeding fish to all sectors.

“In the fish market business and fashion, we need to use a very clear and bright photo sending back and forth via the internet channel, especially among all kinds of social media”.



Clear and Bright Photo is a Must
Source www.sirinutbettafarm.com

“ICT can help to create and maintain networks to lessen many kinds of burdens and costs. It can help to share and learn from each other, and most importantly, ICT is a powerful tool to enhance public visibility, marketing accessibility, and professional business management.”



Simple ICT Especially the Smart Phone is Enough

Source: www.sirinutbettafarm.com

Continuous R&D and Learning

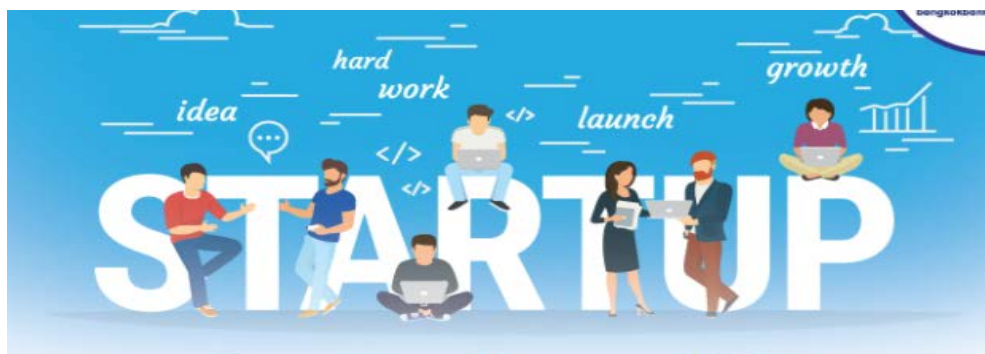
Breeding lies at the heart of Fighting Fish farm business, so the continuous R&D as well as any kind of relevant learning is “*a Must*”. Apart from the breeding, other knowledge and skills about feeding, food, vitamin, logistics requirements, and regulations is “*a Must*” too. Thus, working with both academia institutes and other relevant professional institutes is always necessary.

Partnership Strategies with Relevant Stakeholders

All kinds of partnership with both local and international organizations is very essential for becoming a smart farm because establishing collaborative partnership with relevant stakeholders will help businesses to better acquire necessary knowledge, skills, PR and marketing strategies.

Policy Support

Apart from the partnership mechanism, policy supports is also another key success factor. The Smart Start Ups, the Smart Entrepreneurs under the economy’s Digital Economy of Thailand: Thailand 4.0 policy is one of the key policies to support entrepreneurship.



The Smart Start Ups: Thailand 4.0 policy

Source: <http://www.bangkokbanksme.com/article/20121>

3.19.3.2 Challenges

Selling fish online is its first ever business in Thailand in the past 20 years back, so all kinds of regulations and procedure had to be tackled.

“I myself as well as some of my networks in this business know very little about any regulation, procedure, tax, etc. as well as some of the relevant sensitive issues about inter-culture of each foreign customers, etc. We need this kind of information to avoid any error or mistake”.

Lack of relevant skills and knowledge about breeding was another obstacle to deal with. Also, lack of fundamental knowledge about different cultures, particularly cultures of the economies which import the fighting fish, was a challenge because the “*Fighting Fish*” is one of the cultural symbols of the local and global fashion. For example, people in some of the Arabic countries believe that its radiant red color of the fish will bring all good lucks and happiness to the owner.

3.19.3.3 Policy Recommendations

The Entrepreneurship Academies Should Be Integrated into All Educational Levels and Systems

According to the relevant information of the women entrepreneurs, the age of women entrepreneurs is getting lower into younger ages. Many youths keep entering into the entrepreneur world even in their college or university years, so a policy should be established to integrate entrepreneurship education into all educational levels and systems.

“The young should be promoted at their early age to be the smart entrepreneurs because they are born as the digital native...they are very fast learners”

Positive Policy for the Entrepreneurs

Because most of the entrepreneurs, especially the Start Ups, generally begin their business at a young age, most of their businesses are small-scale in nature (86.3% having from 1-9 employees). So, the support from relevant policies should be provided such as the tax system, the loan with free/ least interest, and all kinds of incentive.

“No doubt about the ICT skills among the young Start Ups, but for the policy support is very important for them”.

The Stable and Affordable Internet Networks and Tools

Many research studies found that one of the main tools for business success is the internet. So, a policy should be established to provide the possible and enabling internet system for people. Besides, ICT literacy should also be promoted for doing business and marketing.

“Without internet, my local networks and I could not thrive. Internet is very essential for us as the Start Ups, but internet fee is still quite expensive for our business. The government should try to provide the special internet support for all the Start Ups”.

Online Learning, E-Training

Learning opportunities including online learning should be designed and provided for empowering purposes.

“As the Start Up entrepreneurs, we all have to do everything by ourselves, which gave us difficulties in taking any physical class or training. Applicable e-class or e- training is very important to us”.

3.19.3.4 Advice for Women Entrepreneurs

Access and Literate Yourself to ICT

Although Thai women traditionally have to take care of domestic works, they also have more right to join the formal work force. ICT keeps opening up all the opportunities to develop all kinds of aspects. So, it could say that ICT is currently an effective tool for including women as smart entrepreneurs. Women must keep opening up themselves to access to ICT and to literate themselves with ICT, and make the best use of ICT both for their personal lives and for their startups.

“I myself can’t believe that I will be here today as one among the success Start Ups. It could not be happen without internet”.

Partnership Working

Women entrepreneurs should seek for opportunities for partnership with business partners and the research partners.

“In this rapid world both local and global, we cannot walk alone because it is too slow. We must walk and work along with the others and share together. Then we can grow up together”.

Create Alongside Business

Creativity is an appropriate fit to all women entrepreneurs. Women can create any non-stop business opportunities in any relevant contexts based on their unique experiences as a woman. Possible businesses include a souvenir business and a study visit package tour, apart from the Thai Fighting Fish.

3.19.3.5 Summary and Discussion

“Sirinut betta farm” led by a young smart woman is one of the small startups, which grew up rapidly with the help of ICT. ICT helped the company to create all holistic processes of their business. Besides, ICT helped the company to be more professional too.

“I am very proud that I can use ICT to do my own Start Up, to sustain the Thai pride of this local wisdom: Thai Fighting Fish to the global pride. I can add more value especially the price from local price to global price with global standard Q.C. I can train my local communities as well as the others to care for global standard Q.C. besides from their professional and passion”

Reference

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- <http://www.sirinutbettafarm.com>

3.20 Case Study of the United States⁹⁶

3.20.1 Profile of a Woman Entrepreneur

Krista Morgan: Co-Founder/CEO of P2BInvestor



Source: <http://www.cobizmag.com/articles/entrepreneur-of-the-year-finalist-krista-morgan>

- Name: Krista Morgan
- Work Experience:
 - *Co-founder & CEO* of P2BInvestor: <https://www.p2bi.com/>
 - *Co-host* of Women Who Startup Radio: <http://www.womenwhostartup.com/thepodcast/>
 - *Account Director* at SapientNitro and Story Worldwide
- Education: B.A. degree in Economics & Political Science at McGill University in Montreal, Canada.
- Background: Krista Morgan co-founded P2BInvestor, a Denver, Colorado-based financing company that transforms growing businesses into industry leaders, with her father, Bruce Morgan, in 2012. Prior to co-founding P2BInvestor, Krista Morgan was an Account Director at SapientNitro, a marketing and consulting company that provides business, marketing, and technology services to clients, as well as at Story Worldwide, a digital-first, content-focused advertising agency based in New York City. She is additionally a member of both The Women's Council⁹⁷ at the Leeds School of Business in the University of Colorado Boulder, as well as a member of the Young Entrepreneur Council⁹⁸.

⁹⁶ This case study was conducted by Stephen Ham, Researcher & Editor, and Teri Ham, Researcher, the United States.

⁹⁷ <http://cuwomenscouncil.org/>

⁹⁸ <https://yec.co/>

- Achievements:

Some of the honors that Morgan has received include:

- *Speaker at LendIt USA 2017*⁹⁹ in New York City
- *Speaker at CrowdFinance 2015*¹⁰⁰ in New York City
- *Finalist in ColoradoBiz's Entrepreneur of the Year*¹⁰¹ in 2015

Virginia Santy, Ph.D. Co-Founder/CEO of Women in Kind



Source: <https://www.thebroadviewdenver.com/about/>

- Name: Virginia Santy, Ph.D.

- Work Experience:

- Co-founder & CEO of Women in Kind: <https://www.womeninkind.com/>
- Founder & CEO of Executive Suite Communication (a strategic communication firm): <https://www.execsuitecomm.com/>
- Founder and Editor In Chief of The Broadview Denver (an online magazine and resource for women): <https://www.thebroadviewdenver.com/>

- Education:

- Ph.D. in Communication at University of Colorado Boulder in Boulder, CO.
- M.A. in Communication at San Diego State University in San Diego, CA.
- B.A. in Communication at University of Wisconsin-Madison in Madison, WI.

⁹⁹ <http://www.lendit.com/usa/2017/>

¹⁰⁰ <https://www.prnewswire.com/news-releases/p2binvestor-co-founder-and-ceo-krista-morgan-named-speaker-at-crowdfinance-2015-300148222.html>

¹⁰¹ <http://www.cobizmag.com/articles/entrepreneur-of-the-year-finalist-krista-morgan>

- **Background:** Virginia Santy, Ph.D., co-founded Women in Kind, a coworking space founded, funded, and designed by women for women, in 2015. Santy is also the founder of The Broadview Denver, an online magazine and resource for women, and Executive Suite Communication, a strategic communication firm. Prior to her experience as an entrepreneur, Santy was in academia as a professor and researcher at Metropolitan State University of Denver and University of Colorado Boulder. She holds a Ph.D. degree in Communication from the University of Colorado Boulder.
- **Achievements:** Santy is the recipient of 4 awards for her work in academia, including: “Outstanding Woman Faculty,” “Feminist Scholar Award,” “Professor of the Year,” and “The Best Should Teach Award.” She is also a notable speaker and was one of the panelists at Denver Startup Week in 2017.

3.20.2 Profile of a Company

P2Binvestor

As stated on its website, P2Binvestor, or “P2Bi” for short, is a “marketplace lender that offers asset-secured, revolving lines of credit to growing companies with big ambitions. Secured by accounts receivable (A/R), and in some cases inventory, and ranging in size from \$250K to \$10M, our loans give businesses simple, scalable capital—usually in 10 days.” In an interview, the CEO described the company as one that provides “technology-enabled lines of credit to growing businesses that can’t access bank financing” and has built “a lot of technology to make the underwriting and loan management process easier.”

P2Binvestor leverages ICT through its set of LOC (line of credit) products, which are called Ex-Factor. Ex-Factor includes access to P2Binvestor’s proprietary technology platform, as well as crowdfunding techniques, to deliver cash for clients when needed. P2Binvestor’s proprietary funding platform, known as Lending Hub, provides an online interface for clients that they can use to make funding requests, view incoming payments, and follow the history of funds drawn and discount charged.

Startup Story: Krista Morgan, co-founder of P2Binvestor, described her journey towards founding the company:

“I grew up in Canada... I went to McGill [University], I have a degree in economics and political science, and then I moved to the UK after college and lived there for six years. I worked in advertising, and marketing, and, you know...I never thought about being an entrepreneur. Maybe a year or two before I started the company...I had taken a summer off,

and I kinda thought about starting my own firm, I had this idea, I wrote a business plan. It never really took off, but I just started thinking about it. And then in 2011, my dad and I were talking...he was looking to do something else, and he and I were talking about different business ideas. It was very serendipitous...he had been learning about this type of financing, this invoice financing. It felt like the right move... I didn't love my job, and we were living in the UK, it was kind of a good time...after the recession, to move to the US. In retrospect, it feels like it was a really big decision, but at the time...I just made a lot of tiny decisions that created momentum. And so next thing you know, you're quitting your job, booking a plane ticket to move to Denver...it was like a lot of tiny decisions that got there."

Women in Kind

As described on its website, Women in Kind is a workplace, environment, and community designed for women by women, with support for professional development, meeting space, event space, and mentorship. It is unique from other coworking spaces in valuing women enough to address issues that they face and challenges that they encounter, as Santy put it when asked. As she described, it is important to understand what it means to be a woman and "how can we make things easier for her? That is the whole spirit behind Women in Kind."

Startup Story: Virginia Santy, co-founder of Women in Kind, described her own journey towards creating the coworking space Women in Kind with her co-founder Melanie Ulle:

"We always talked about what would it look like if we built a place to work that really made women comfortable, that really was geared toward women. We would just talk about it for years...right after the presidential election, the most recent presidential election, both of us were feeling a bit downtrodden because we had just campaigned actively for Clinton, and...we were so heartbroken that I called Mel, I think a week after the election, and I said... 'let's do this, this is the moment, let's go forward and do this,' and nine months later we opened."

Management/Leadership Philosophy and Style

Morgan described her approach to hiring and leadership for her company as being different and on her own terms:

"If there was any strategy in my hiring...the one commitment that I made was that we would be 50% women in the company. That was really important to me because... I had spent a lot of my career where it was like not a lot of women, or like all the women were doing all the work, or all the people in leadership were men, and I was like, this isn't what I want. ...If I'm gonna spend the time building a company, I'm gonna have it at least be different."

Specifically, on the subject of setting the direction of her company, she added:

“Our mission is to provide...next generation financing to the next big thing. That’s our goal. The way we do commercial lending, it’s just very traditional and there hasn’t been a lot of innovation that’s come into that space. Our goal is to really push the envelope on that front and say, how can we do things better? ...What things can we push forward with technology?”

In terms of leadership specifically, Santy commented on her own beliefs:

“I really believe in hiring for talent. I don’t believe you need to hire to fill a certain position.”

3.20.3 Findings

3.20.3.1 Success Factors

Grit, Perseverance, and Access to Information

Interestingly enough, the behavioral traits of both women, as opposed to other factors like experience or seed money, turned out to be one of their strongest and biggest assets in contributing to their success. The commitment of both women to take on any challenge and persevere through all obstacles was a pattern that emerged in the research study as playing an integral part in their success. Research has also emphasized the importance of grit and perseverance in creating successful outcomes. One noteworthy researcher on this topic is Angela Duckworth, author of the book *Grit: The Power of Passion and Perseverance*. Duckworth asserts that “Grit...predicts success. Regardless of specific attributes and advantages that help someone succeed in...diverse domains of challenge, grit matters in all of them” (Duckworth, 2016, p. 12).

In line with this statement, the top factor that both Morgan and Santy attributed to their success in business was their grit and perseverance, in taking their idea and successfully forming a business around it. Morgan evidenced this when she shared her journey towards founding her company:

“It took 3 years to raise the first million dollars...to get the company off the ground...”

“I...didn’t have a background in finance... I’ve raised \$10 million dollars from angel investors...\$25 thousand dollars at a time.”

“My dad and I were like, we’re gonna build this. We’re gonna overcome whatever it takes, and we’re willing to make a lot of sacrifices to get there.”

Santy also evidenced this when she shared her experience with Women in Kind:

“One is, can I be the leader who can connect vision and execution, I think that’s very rare. ...I really believe in like, be a do-er and not a say-er.”

“We just trusted ourselves, and we said let’s go for it instead of just talking about going for it.”

“What I’m most proud of is Women in Kind opening. You know, just the fact that we took this thing from idea all the way through and here we are, sitting in the belly of Women in Kind right now.”

Access to information was also found to play a big factor in both of the entrepreneurs’ road to success. In the case of Morgan, she attributed this towards her success as well:

“I would say access to information...the Internet...I started a finance company with no background in finance. So everything I’ve learned I have been able to just research and figure it out.”

Education

Previous research on female entrepreneurs in the US has shown that they are often well-educated and typically hold college degrees at a Bachelor’s or Master’s level, and less commonly at a Doctoral level. This was consistent with both of the female entrepreneurs interviewed, who were both found to hold at least college degrees. In fact, Morgan partially credited her educational background when asked about what superficially stood out as contributing to her overall success as an entrepreneur:

“I would say free Canadian education... I am well-educated.”

Santy also indirectly credited her educational background with giving her the necessary tools and foundations for entrepreneurship:

“I really was, as I said, trained to be an academic. I thought...that was my path. Eventually I would be a tenured, full professor. [Entrepreneurship] was the best thing I could’ve done.”

In addition, Morgan and Santy were similarly consistent with a research study released in 2014 that further revealed that the majority of women entrepreneurs (55%) hold a postgraduate college degree, whether a Master’s or Doctoral degree, while nearly 39% of women hold a Bachelor’s

degree. This 2014 study was further able to qualify the field of study for these women, with 27% of them studying business, nearly 20% studying liberal arts, and 18% in STEM-related fields such as computer science, IT, and engineering (Robb, Coleman and Stangler, 2014). Furthermore, the 2014 study also discovered that first-time women entrepreneurs were predominantly in the 25-39 age range—more specifically, 33% were aged 30-39 and 25% were aged 25-29. The next highest age bracket was 40-49 at 16%, followed by 20-24 at 15% (Robb, Coleman and Stangler, 2014).

As Morgan holds a degree in Economics and Political Science at a Bachelor's level, and Santy holds a degree in Communications at a Doctoral level, and their ages were in the 25 to 39 age range when they became entrepreneurs (the highest combined age bracket reported in the 2014 study mentioned above), this was highly consistent with the research study as well.

Ability to Execute Vision and Look Past Fears

As described earlier, Santy partially credited her success to her “connection between vision and execution.” She further spoke on the topic of fears and not being afraid to face them in saying:

“I’m not afraid of failure. ...I do have a big fear and I think that has also been a component of success for me and that fear is...the fear of having never tried. So, to look back and say like, ‘gosh that was a good idea and I wish I just would’ve tried it.’ And to just stay in the same place and like maintain status quo...is terrifying to me. ...I wish I would’ve just tried. So...that’s a big motivator for me.”

Community Support

Both women further shared that the local community within Denver, Colorado, was a success factor for them as well. Morgan described how her early involvement with the community led to her success, and how she continues to stay involved within the community to give back to other entrepreneurs:

“The Denver entrepreneurial community is very vibrant. There’s a lot of meetup groups. So I started going to events...all kinds of events...and I just started talking to people, and having coffee meetings. Definitely having a community where you could go out and constantly talk to people and be reminded that you are not alone, because it’s very lonely at the beginning. That support system is hugely valuable.”

“I try to give back and go to events and speak and just be available to people. ...I’m a big believer in peer mentorship. I’m a member of two CEO groups. It really helps.”

Santy provided additional information on the groups available within the local community, and how she stays involved within the community as well:

“Denver, I think happens to have... it’s almost like an embarrassment of riches. There’s so many groups that are designated to helping women succeed. They’re networking groups but they’re also a place to...collect resources and share ideas. So there’s Women Who Startup, there’s Women of Denver, there’s Women in Tech, there’s Women In Digital, there’s LadyKillas...there’s Heymama...”

“I do a ton of speaking...probably twice a week at various...meetups or groups. Just in November was Women’s Entrepreneurship Day, and the governor declared it Women’s Entrepreneurship Day in the state of Colorado and there was like a big full-day event.”

Researchers have been noting that this area is a particular issue for women entrepreneurs, as despite the increase of women entrepreneurs in recent years, there are still some large challenges that they face, one of which is the lack of mentors. Since the number of women entrepreneurs is still relatively low today, particularly in ICT sectors, there are a limited number of available mentors to encourage other aspiring women entrepreneurs, and more access is being recommended as an important strategy (Robb, Coleman and Stangler, 2014). It was thus encouraging to see that both Morgan and Santy are actively contributing in these areas.

Social Capital & Coworking Spaces

Social capital, defined as “the benefits derived from an individual’s personal and professional networks,” has been discovered to be an essential factor in the success of entrepreneurs in general. People in these networks can offer legal, financial, or accounting advice, or can be sources of financing, or can offer counsel or other advice or support for entrepreneurs. Women entrepreneurs have rated their professional networks more highly than men, and in fact, tend to rely on them as a source of funding nearly twice as likely as men (Cohoon, Wadhwa and Mitchell, 2010).

In recent years, access to social capital has transformed due to the rise of startups and small businesses, which have increasingly shifted towards a telecommuting workforce. In fact, in 2010, 4.3% of the US workforce (137 million people) was telecommuting compared to 3.7% just five years prior in 2005 (Green, 2014). This has caused a rapid increase in “coworking space,” which typically consists of ultra-short office leases (lasting from a day to a month) that allow people to work independently, collaboratively, or in small teams. Coworking spaces can be further defined as spaces that “connect diverse organizations and individuals, giving them the chance to collaborate, share knowledge, and develop systemic solutions to the issues they are trying to address” (Surman, 2013, p. 189).

It was in this modern climate of coworking spaces that Virginia Santy founded Women in Kind, in line with the aforementioned goal of connecting diverse individuals and giving them a chance to collaborate. As Santy described it when asked, Women in Kind is “a comprehensive coworking community designed to help women succeed in business and the business of life.”

Thus, Women in Kind is a coworking space and community for women that helps to provide and increase access to social capital for its members. On the subject of community and coworking spaces in particular, it has been noted that they “do not form automatically when people occupy the same space. The notion of community carries important connotations: people in a community share social and emotional bonds, recognize their connectivity, and identify some commonality. A strong community has social capital that its members can leverage to serve their individual and shared interests” (Surman, 2013, p. 191).

Women in Kind caters to meet this goal for community among women entrepreneurs as well, and Santy summarized that aspect of her business:

“A large portion of women...small businesses owned by women, are solopreneurs. So it’s just one woman starting this business and she works on her own. Well we also know that women desire community, and kinda social interaction. That’s a really big...factor in their happiness, at work. So that was another thing that fed into what we were doing is we have all these solopreneurs in our community, and how can we bring them together and help address that need as well, that desire for community and social interaction?”

3.20.3.2 Challenges

Access to Financial Capital

Access to financial capital is one of the largest obstacles that every entrepreneur faces, with up to 72.1% of entrepreneurs citing “lack of availability of financial capital” as a challenge (Robb, Coleman and Stangler, 2014, p. 10). This was highly consistent with both Morgan and Santy. In fact, Morgan put it succinctly when asked about her biggest challenges:

“Absolutely, access to capital. You know, being a...whether it was because I was a woman, whether it was because I’m a first-time CEO, whether it was because I...didn’t have a background in finance... I had a really hard time raising money.”

Santy recognized this issue as well and in fact, stressed that access to capital is one of the provisions for her customers who are entrepreneurs:

“If you’re a working woman, if you’re an entrepreneurial woman or a small business owner, access to capital is going to be one of the biggest hurdles that you have to traverse to be successful in the long term. So we do professional development for women around how to get access to capital and various ways to kind of fuel funds into their businesses.”

Scaling

Although not specifically cited to be a challenge in previous studies on entrepreneurs (male or female), scaling a business up was found to be a challenge for both Santy and Morgan. Santy spoke particularly on this subject and stressed it as a focal point in her business endeavors:

“The scale issue has definitely been...that’s been a hard one for us. Like, how do we figure that out, what percentage of our time and resources do we devote to creating processes to help us scale versus bringing on new clients, business development, executing the work.”

Morgan also spoke about issues and challenges she faced with staffing and hiring as growth and scaling became more of a focus:

“What I’ve learned about a startup is you have to accept that the people that are willing to come and work with you at the very beginning...are different than the people that are willing to come work for you when you’re doing like, \$10 million dollars in revenue. Short of you having all the money in the world...you kinda have to take the people that are willing at the beginning, you like...take them with you as far as you can.”

“I think our first official payroll had like four people. And then we went up...today we’re about 25 people. We’ve tried to build technology rather than hiring too many people.”

“We have a more formal process. The first people I hired, it was like I met them. I was like, you seem great. Work for me. Now we have multiple interview rounds.”

In the case of both women, a response to scaling has been to delegate more and bring in subject matter experts. Santy spoke specifically about delegating tasks that she recognized were better left to another person:

“I’m a terrible bookkeeper, accounting person. It has taken me like 5 years to realize, you have to outsource that. Like, you cannot do that on your own. I’ve recognized something that doesn’t interest me that I don’t have an affinity for, so when you identify those things, outsource those things.”

Morgan also spoke of her decision to hire senior executives early, rather than later on:

“I did make the decision to hire pretty senior executive early...like we were 6 or 7 people...and I brought on someone with a pretty significant salary `cuz I was like, there’s no way...I’m gonna need another strong executive to like, help me do this...whereas a lot of people might wait until there are about 20 people before they bring someone like that on.”

Location

Silicon Valley (the metro area surrounding San Jose in Northern California) has long been the top geographic location within the US for tech companies. In fact, it is regarded as having a unique ecosystem of collaborating agents, resulting in an employment concentration 4.5 times greater than the average for all North American metro areas (Devol *et al.*, 2009). Other top-performing geographic locations in the US for tech employment and having a concentration of other knowledge-based industries (such as ICT) include Seattle (Washington), Cambridge (Massachusetts), Washington (District of Columbia), Los Angeles (California), Dallas (Texas), San Diego (California), Santa Ana / Orange County (California), New York (New York), and San Francisco (California).

Morgan spoke about her particular difficulties in gaining financial capital for her company, P2Binvestor, in the state of Colorado and admitted that it would have been easier in California:

“There are some [difficulties] based on location. The fact that we decided to start a company in Denver versus Silicon Valley or New York, I did not realize that was gonna be an issue. But it...no question, had this company been based in San Francisco, it would’ve been easier to raise money and get traction.”

Gender Discrimination and Sexual Harassment

Both women reported various challenges from being a woman entrepreneur, particularly around their gender. In the case of Morgan, she experienced this to a lesser extent than Santy when she shared her story about procuring financial capital for her company:

“Every VC in Silicon Valley took my meeting. You don’t get really...at least, I didn’t...any overt discrimination. I just couldn’t get anyone to take a chance on me.”

However, Morgan shared that her role as a woman CEO turned out to be an advantage in hiring employees:

“I get great talent. I can get amazingly talented women to come and work here because they’re like, I would like to work for a woman. I would like to work at a company that values women.”

Santy, on the other hand, reported experiencing more overt harassment and discrimination:

“You know the whole #MeToo...campaign...I have had really uncomfortable encounters. I’ve had...lunch meetings with men and it seems they’re really interested in hiring me and hiring my firm, and then I get back to my office, and they send an e-mail essentially propositioning me.”

Santy also pointed out that for women, sexual harassment is often tied at some level to women’s financial situations. In fact, as a single working mom, Santy mentioned that she and other women do not always have the luxury or option to walk away from business opportunities based on incidents of sexual harassment. In these cases, women, as sole family providers, often need to turn a blind eye to such egregious incidents of sexual harassment in order to sustain their business:

“To me, having to stomach a degree of that [harassment] is tied to my economic success. Until we can really fix that for women, that’s how it’s gonna be. And so to talk about sexual harassment, free from the economics of women’s lives, is like a complete theoretical exercise. Sexual harassment is so tied to the economics of what it means to be a woman.”

It is interesting and commendable how Santy was able to turn an instance of gender discrimination into a positive effect in her life. In fact, it was gender discrimination that instigated and pushed Santy to become an entrepreneur and make the leap from academia to entrepreneurship. She described an instance from her experience in academia of witnessing a pay gap between her and a new male staff member who was junior to her position. As a feminist and an advocate for women and equal pay, Santy felt it difficult to overlook the notable pay gap between her (in a senior faculty position) and the new male staff member the department was about to extend an offer to.

“...You’ll always have this expanse between what he’s making and what you’re making. That will continue to exponentially grow each year. So...I said, ‘ok, I’ll submit my resignation letter tomorrow.’ And I did. And I refuse to work for anyone that won’t value me...enough.”

3.20.3.3 Policy Recommendations

The main policy recommendations that can be taken away from the case studies are as follows:

Increasing the Availability of Financial Capital for High-Tech Female Entrepreneurs by Ensuring

Access to Bank and Equity Financing

Allocating resources to increase the availability of financial capital would be highly beneficial, particularly in geographic locations that are not as well-funded as others such as Colorado, as the case studies demonstrated. As the reference literature also showed, female entrepreneurs in particular often have less access to financial capital compared to men. This should be modified to level the playing field between male and female entrepreneurs so that each has fair and equal access to such capital, when it has been proven that female entrepreneurs are just as capable as men.

Providing More Education and Learning Opportunities for Women about Starting and Growing Businesses

Based on this recommendation, it is important for policymakers to think about when and at what age young women or girls should first be exposed to entrepreneurship or role models for entrepreneurship, as mentioned. In fact, this recommendation would appear to be viable and effective if implemented in the US public education system for school-aged girls before they reach adulthood. However, since the US public education system does not mandate any sort of education pertaining to business, leadership, or finance skills related to entrepreneurship, it seems unlikely that these types of enhancements will be made anytime soon (Lusardi and Mitchell, 2007). However, based on the case study findings it would appear that integrating courses and learning experiences would be beneficial to young girls exploring their future career options and would empower them to take proactive steps towards becoming an entrepreneur and an effective one at that.

Providing Greater Access to Coworking Spaces

Given the rapid increase in use of coworking spaces in recent years, it would make sense to capitalize on the trend and provide a greater number of facilities for the diverse workforce that is increasingly working remotely. Due to the nature of these coworking spaces, they adapt well to the needs of entrepreneurs, in that they provide a space where individual people can connect and allow them to collaborate, share knowledge, and build solutions together. Given that there are women entrepreneurs who are now creating coworking spaces exclusively for women and to meet their needs, it would seem that this is a largely untapped market that could provide larger net benefit to other disadvantaged groups of people if properly taken advantage of. As Santy noted, many women entrepreneurs tend to be solopreneurs and therefore need access to a cost-effective professional space where they can operate and grow their business. Additionally, both entrepreneurs and research has reiterated that female entrepreneurs greatly benefit from the social support that these coworking spaces tend to provide.

3.20.3.4 Advice for Women Entrepreneurs

Just Do It

Krista Morgan's advice for aspiring women entrepreneurs was simply to put "one foot in front of the other. It's not hard. It's just...you just can't know...what it's going to be," implying that starting a business is mostly a matter of decisiveness and determination, rather than an insurmountable effort. This advice should provide inspiration and encouragement for women entrepreneurs who may be sheltering feelings of negativity and discouragement.

Additionally, Santy's previous advice to be patient and seek out a support system is inspiring as well. Although a support system may not be conducive or feasible in all geographic areas, particularly in very remote or rural areas, those who can implement such a support system would likely be rewarded with greater success in their entrepreneurial journeys, particularly for those who may be surrounded by supportive men, as Santy mentioned. The aspect of finding supportive men would seem to be particularly key for women who may be predominantly surrounded by men, as might be the case in certain circumstances.

Santy further described when she and her co-founder reached a point where they just had to leap into action, echoing the sentiment of "just do it."

"We [with co-founder Melanie Ulle] would just talk about it for years...right after the presidential election...both of us were feeling a bit downtrodden because we had just campaigned actively for Clinton, and...we were so heartbroken that I called Mel, I think a week after the election, and I said... 'We're serious, let's do this, this is the moment, let's go forward and do this,' and nine months later we opened."

As both entrepreneurs have relayed, the regret of not doing something can often outweigh the fear of doing nothing.

Leverage Local Programs and Aid

Morgan also mentioned various forms of aid specific to Colorado, including the SBA (Small Business Administration), the SBDC (Small Business Development Centers) which "provide all kinds of free resources to potential entrepreneurs," and the Colorado Advanced Industries Grant. On this Grant specifically, she added "We don't qualify for it but there are a lot of people who have been able to start companies because of that."

Santy also agreed with Morgan, echoing her sentiment that Colorado is a great place for women entrepreneurs to find aid:

“Denver, I think happens to have... it’s almost like an embarrassment of riches. There’s so many groups that are designated to helping women succeed.”

Be Kind and Patient with Yourself

Virginia Santy’s advice was similarly focused on both internal and external factors, as she urged aspiring entrepreneurs to:

“Be kind to yourself and patient with yourself. Because you’re just going to learn...a ton. And the extent that you can allow that to unfold and be cool with it is gonna suit you really well.”

Level Up

Santy cited that another tip for success is to surround yourself with a good support system and women who can help bring out the best in you and push you to be better:

“I’d also say find other women who help you level up. ...I think if you can find the women that inspire you, so you can kinda see yourself there...there should be women...I think it’s important to surround yourself with supportive men as well...to see yourself in other women and say like I can do that, that’s not...ten stories above me. That’s the next level. I can get there. And when I meet with them and talk with them, I want to get there. I think that’s really important.”

3.20.3.5 Summary and Discussion

Entrepreneurs have contributed significantly to the current state of ICT in the US, which is one of the top economies in the world in the ICT sector today and was responsible for establishing much of the groundwork in earlier decades. Although not as much historical data has been available for female entrepreneurs in particular, it is heartening to see that they are making larger strides and contributing greater impacts in the ICT sector as time goes on. It will be further exciting to see how quickly women will transform the economy of the future, as well as how quickly change will be catalyzed in other areas to help ensure that women receive fair and equal consideration in all of their entrepreneurial prospects.

It should be noted here however that the US is a large economy, and there are many geographic divisions that can be made within it when considering entrepreneurial activity—whether by region, state, or city—that together contribute towards the economy’s TEA in unequal proportions. As previously mentioned, Silicon Valley has the largest concentration of entrepreneurial activity by far, but other areas in the US are now catching up, and today the Denver, Colorado metro area is one of them.

The women entrepreneurs featured in this case study are reflective of the Denver entrepreneurial microcosm—well-educated, Caucasian, aged 30-39, and from what seemed to be supportive backgrounds. Although some of their struggles were certainly not unique to Denver or Colorado, or even the US, other struggles might have come to light if women entrepreneurs meeting other criteria had been interviewed instead, such as women from another region (the East or West Coast or South, for example), lower socioeconomic status, or those with less education completed. The two women entrepreneurs interviewed certainly had their struggles which they shared, but it is important to note that entry barriers towards entrepreneurship would be far greater for women with low or minimal education, socioeconomic standing, and/or living conditions.

It is the recommendation of the researchers for policymakers at the city, state, and federal levels to begin to effect changes so that entrepreneurship and related topics are more accessible to a wider number of young women across different regions and socioeconomic classes. Such a move should help to significantly increase the number of women in ICT in the US, which would in turn be able to catalyze change in related areas, such as social attitudes and systems, as previously mentioned.

It is encouraging to see the progress and change that women have been able to make over the last few decades, and the increase of women in ICT-related entrepreneurship and coworking spaces like Women in Kind is a step in the right direction. Government policies and programming at every level should be focused on supporting an increase of women in entrepreneurship, particularly in ICT. With the current economy's momentum happening and movements like #MeToo, it is time for real change to be made at all levels. The hope is that through research studies like this one, government leaders and policymakers will have the information they need to address gaps and launch programs that will have a real and meaningful impact. More young women should have the opportunity to be exposed to the knowledge that will give them the ability to choose to go into entrepreneurship, just as much as for men, if not more so. An increase of women in this field will only help to advance the state of technology in areas that only they will be able to offer.

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3.21 Case Study of Viet Nam¹⁰²

3.21.1 Profile of a Woman Entrepreneur



- Name: DANG THI THANH VAN
- Age: 37
- Nationality: Viet Nam
- Email: van.dang@savvycomsoftware.com
- Working Experience:
 - Founder & CEO: *Savvycom Software* (<https://savvycomsoftware.com/>)
 - Mentor: *Charlie Blair Foundation for Women* <http://www.cherieblairfoundation.org/>
 - Vice President: *VNITO Alliance* <http://vnito.org/>
 - TEDx Speaker: *TED Conferences*
- Education background: Bachelor's Degree in Computer Science from University of Sydney, Australia

With the consistent belief that there is a way for Vietnamese engineers to provide global quality services, Van co-founded Savvycom in 2009. Until now, the success Savvycom achieved is the most obvious evidence for her vision: Savvycom has been presented as one of the most brilliant and innovative brands, and was recognized as one of Viet Nam's 30 Leading IT companies in BPO and ITO. With outstanding experience and in-depth understanding of international markets, Van has been offering valuable advice and strong supports to global partners on how to optimize business process through effective off shoring.

¹⁰² This case study was conducted by Nguyen Thi Bich Thuy, Director, Research Center for Female Labour and Gender, Institute of Labour Science and Social Affairs, Ministry of Labour, Invalids and Social Affairs, Viet Nam.

After 15 years of working in ICT, she has achieved much recognition:

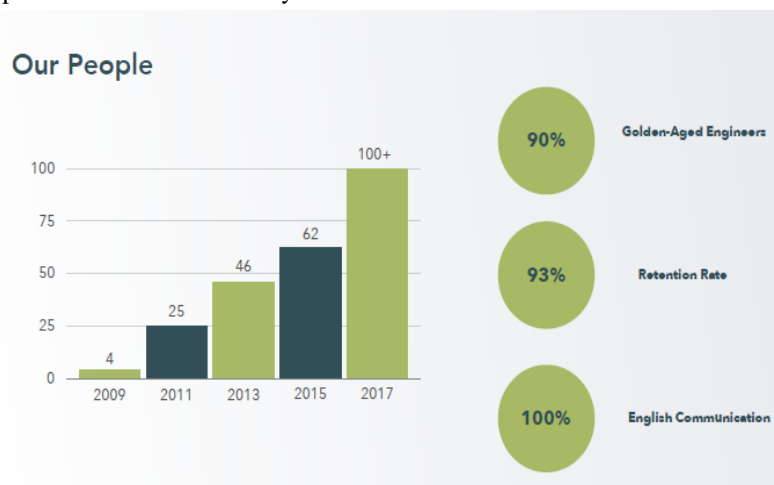
- One of 15 Global Leaders to Watch in 2017 by Forbes
- Top 100 Outstanding Startup Entrepreneurs' hold by VN Young Entrepreneurs Association
- 1st Winner of "Mekong Women's Entrepreneurship Challenge Viet Nam" hold by World Bank
- Hanoi Most Distinguished Entrepreneurs, 2016 by The Youth Union of Hanoi
- Merit of Outstanding Achievement and official mentor of Cherie Blair Mentoring Program

3.21.2 Profile of a Company

How Did I Start?

In 1999, Van was awarded a scholarship from Australia government (AUSAID) to go to the University of Sydney. After receiving the Bachelor of Computer Science and Technology in Software Engineering, she came back to home economy in 2003.

Figure 10. The Development of Workers in Savvycom



Source: Savvycom

Now, Savvycom becomes a leading software development company specializing in mobile and web solutions. After only 8 year of development, now they have grown into a team of more than 100 employees with 65 IT engineers. They have implemented more than 300 projects for more than 50 international clients from North America, Europe and Asia Pacific. Because of long-term strategic partners, 90% of them are returning clients. The products focus on digital solution, enterprise mobility development, health care, e-commerce automation testing, mobile testing and big data integration.

My Success Factors

Van said she had to learn from beginning and continue to learn until now. Because of that, Savvycom always prioritizes on the returning of old clients instead of finding new ones. The company keeps them by its great products and services.

Figure 11. Achievement by Savvycom



Source: Savvycom

My Difficulties and Resolutions

Savvycom has made significant achievements, but it has always faced many difficulties. Savvycom is connected to international market through various channels, including marketing online; develop networking of relevant firms and startups, and through current customers. With the development of IT industry in Viet Nam, the fluctuation in worker is huge, especially for high-tech individuals. The legal disputes arise from misunderstandings among stakeholders but also some clients try to evade their own obligation, such as payment following contract, of some taxes or fees etc. Van said, she “*has to learn*” many lessons from the difficulties. They are also common senses for other IT startups.

Challenges for Women in ICT in Viet Nam

In contrast with the development of ICT in Viet Nam, the participation of women in the field is very limited. The number of entrepreneurs is extremely rare, under 2% of the total.

Recommendation for Governments

In fact, the Vietnamese government always encourages people to start their own business, and provides with incentives for startups and newborn companies in ICT. The government also support women coming back to work after giving birth for long-life learning even though the supports seem to be in common way and less-focused.

“In practice, I suggest establishing official government organizations for women ICT entrepreneurs, which help to create networking, coordinate and connect with economies’ commerce chambers, international groups and promote international trade.”

3.21.3 Findings

3.21.3.1 Success Factors

The Government of Viet Nam Is Aware of the Importance of ICT Industry and Creates Favorable Conditions for the Development of ICT Enterprises/Startups

Coupled with Viet Nam's upward economic trend, the Vietnamese government and businesses are strategizing to upgrade the economy's information technology infrastructure. The strategy is aimed to increase total revenue of the IT sector as a percentage of Viet Nam's GDP. In April 2015, the Prime Minister issued Resolution #26/NQ-CP, instructing all Ministries and local governments to promote the application and development of IT to serve the purpose of successfully developing economy sustainably and integrating internationally. The Prime Minister also stipulated Directive No. 16¹⁰³ on increasing capacity to adopt the Fourth Industrial Revolution with critical solutions on developing IT infrastructure; giving priority to the development of digital content industry, smart agriculture, tourism and urban areas; promoting entrepreneurial and innovation ecosystem; renovating education, vocational training and human resource training to adapt to new production technology trends. There are favorable factors that may create opportunities for Vietnamese ICT enterprises to robustly develop in the coming time.

Figure 12. Development Orientation of ICT Industry in Viet Nam by 2020

According to Ministry of Information and Communications, Viet Nam is targeted to be a leading economy in the world in providing engineering service outsourcing and digital content with high-quality IT human resource by 2020. In details:

First, to grasp breakthrough opportunities from the fourth industrial revolution, Viet Nam will make every effort from now on to 2020 to support, provide training and develop human resource specializing in electronic, communications, IT and information safety. Second, Ministry of Information and Communications will cooperate with other departments, ministries and line ministries within the Government to improve supporting policies and regimes for startups, especially the ones in ICT industry. Third, to deploy 4G network and develop value added services to make ground for high speed data connection, robustly developing digital content services. Fourth, to develop e-Government and enhance operating performance of State administrative agencies. Fifth, to increase State managerial performance in electronic transaction, especially in information verification and confidentiality in electronic transaction. Sixth, to promote information safety.

Source: Ministry of Information and Communications, 2017.

¹⁰³ Directive No. 16/CT-TTg dated 4 May 2017 stipulated by the Prime Minister on increasing capacity to adapt to the Fourth industrial revolution.

Viet Nam Has Been Robustly Integrating into the World, Creating Opportunities for Enterprises/Startups in ICT Industry

World integration helps to attract investments, technology and advanced technique transfers in ICT industry from developed economies to Viet Nam; creating opportunities for ICT workers to improve their qualifications subsequently; and development opportunities for Vietnamese enterprises/startups in ICT industry.

The Need of ICT Workers Is High and Continues to Increase in the Coming Time; Women Have Advantages in Applying to ICT Industry

According to statistics from Ministry of Information and Communications, by 2020, Viet Nam will need approximately 1 billion workers in ICT industry, equivalent to 13% increase in human resource every year, especially in the 2 biggest cities of Ha Noi and Ho Chi Minh.

“As statistical data of Center for Forecasting Manpower Needs and Labor Market Information HCMC, in the period 2011-2015, organizations and enterprises in HCMC only required up to 11,200 IT specialized workers.

As calculated by Ha Noi People’s Committee, in order to reach targets set out by the Ha Noi IT Development Plan by 2020 and its perspectives to 2030, roughly 700,000 IT workers will be needed. Thus, employment opportunities in this industry are massively open.

Big technology groups including Viet Nam Posts and Telecommunications Group, Viet Nam Military Telecommunications Group (Viettel), FPT, Samsung, Microsoft, etc. are expanding their operation scales and therefore in needs of employing a large number of competent workers in the industry.”

-Ministry of Information and Communications

Therefore, women’s advantages in ICT recruitment will be doubled thanks to: (i) high need of recruitment in ICT industry; and (ii) the need of adjusting sex-ratio imbalance in ICT work force. Recruiters in ICT industry, therefore, tend to prefer women workers as a strategy for sex-ratio balance at work. This will be an advantage for women in applying to IT groups/enterprises in the coming time.

Figure 13. How Does a Woman Start in IT Sector?

"I started working in a research institute; the work makes me feel boring. I want to do something more meaningful and think I can do it". So, she moved to work for an IT company in more than 3 years".

"After some years working as a worker, I thought I can do by myself then I start my Savvycom in 2009". At the time, Savvycom was founded with 4 people including Van, a colleague in her ex-company and 02 IT students. The first client was introduced by her friend and the first product was a software application for a small company in Germany".

"Development of a software application does not require much capital or investment, so for a newborn company like us the most challenges were expanding market and finding new clients. I understand that we should go slowly, step by step. We try to provide with products of international quality and reasonable price. From ex-clients, we were introduced and connected with the new ones."

-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds, Founder & CEO of Savvycom Software

It Should Be Noted that Viet Nam's Investment Climate for Women Is Generally Supportive

Viet Nam boasts a long tradition of women involved in business, and compared to many similar economies, Viet Nam has fewer differences between the legal statuses of men and women. Viet Nam's legal system on gender equality is considered as relatively advanced, facilitating women workers in general and women entrepreneurs in particular in equally development with their men counterparts in every field of the social life. Viet Nam is among few economies in the world that launched the Law on Gender Equality (2006) which provides principles of gender equality in all fields of social and family life, measures ensuring gender equality, responsibilities of agencies, organizations, families, individuals in exercising gender equality. Article 12 of Gender Equality Law stipulates gender equality in the field of economy "Man and woman are equal in setting up a business, carrying out business and production activities, managing business and are equal in accessing information, capital, markets and labour sources".

Position of Vietnamese Female in the Labor Force and in the Economy Has Been Improved, Including in ICT Industry

Economic position of Vietnamese female has been increasingly improved with the increase of female quantity and quality in the workforce participation; increasingly contributing to various economic sectors. In Viet Nam, female workers frequently account for nearly a half of the labor force¹⁰⁴; the ratio of female enterprise owners/ leaders kept increasing over the last 10 years and reached 21% in 2014¹⁰⁵. Until 2016, female workers in ICT industry accounted for approximately 1/3 total industry workforce¹⁰⁶; and might continue to rise in both scale and proportion in the industry.

¹⁰⁴ GSO Viet Nam, Labour force Survey (2016)

¹⁰⁵ Based on data from 2014 GSO Enterprise Census

¹⁰⁶ GSO Viet Nam, Labour force Survey (2016)

Figure 14. My Success Factors

“Never stop learning that is the most important; not only learning new technology but also the others. First, I have to learn how to operate an IT firm. I have been participating in some short courses on business management. A thousand of new things that I have to digest, such as management of cash flow, marketing, H&R etc. Then when we work with clients from economies I have to understand legal framework for IT, not only in Viet Nam but also in international market”.

“I only set up short term targets. Of course we have long-term vision but short term targets are focused. Like I said, we go slowly and firmly because of an IT market with new trends and new technologies”.

“When you make decision, just do it”. Van said.

-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds, Founder & CEO of Savvycom Software

3.21.3.2 Challenges

Despite of Many Improvements, Women Participation in IT Industry in Viet Nam Is still Less Than Their Men Counterparts in Both Quantity and Quality. IT Is Still Among Industries that Experience the Highest Sex-Ratio Imbalance.

Employment in ICT industry is of great interest in current and future labor markets thanks to its high income, modern work environment and open career opportunities all over the world. ICT is also a high profitable industry in Viet Nam that attracts a great number of investors and startups. However, IT is still among industry groups that have the highest sex-ratio imbalance. This is the consequence of sex-ratio imbalance in choosing fields of study and fields of work. When choosing fields of study, the ratio of female students applying to STEM fields (STEM - Science, Technology, Engineering, and Mathematics) is considerably lower than that of male students. Whilst selecting fields of work, a proportion of female graduates do not choose to work in this industry.

Gender Prejudice to Employment Is Relatively Tough and Is Still a Barrier for Women in Choosing and Developing Their Careers in ICT Industry

Success in ICT industry may require various factors such as innovation capacity at work; ability to work under pressure; continuously updated knowledge and skills in every field; ability to work in team; foreign language levels of proficiency; etc. In Society, women are still considered to be “worse” than men in most of the above-mentioned success factors in ICT industry. This is the big barrier for women in participating and developing career in ICT industry.

Figure 15. My Difficulties and Resolutions

<p><i>“IT companies always have to expand its market”.</i></p> <p><i>“Keep high-quality human resources”.</i></p> <p><i>“Salary is not key factor but the welfare. We develop company culture so each worker considers Savvycom as their second home. We conduct team building activities, create great working environment at the office, and take care of their spiritual life and their family too”.</i></p> <p><i>“Sometime, we face with legal disputes with clients, especially the international ones. We have to protect our legitimate benefit”.</i></p> <p><i>“We have to acknowledge domestic and international law. I also consider hiring a professional layer.”</i></p> <p><i>“At beginning, if someone guides me, I may have overcome such difficulties with less damage and loss. So now I am ready to mentor other newborns, help them to face with what I had faced. That’s why I become a mentor of Charie Blair Foundation for Women”.</i></p> <p>-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds, Founder & CEO of Savvycom Software</p>
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Gender Prejudice to Female Entrepreneurs/Owners Is a Barrier for Female Entrepreneurs and Startups in ICT Industry

The aforementioned biases – conscious or unconscious – directly impact women entrepreneurs and women-owned businesses.

A number of misconceptions currently affect the profile and growth potential of women entrepreneurs and women-owned businesses. The IFC’s survey ¹⁰⁷ reveals a number of misconceptions currently affecting the profile and growth potential of women entrepreneurs and women-owned businesses. These misconceptions have been summarized and addressed as follows: (i) Women entrepreneurs are more risk averse than men in seeking finance; (ii) Women with children don’t have time to lead a business; (iii) Women have other priorities and are less likely than men to pay back loans; (iv) Another perception about women entrepreneurs is that, once they have a family of their own, they face so many other priorities that they might slip on repayment of their business loans; (v) Women only work in family businesses and most are owned by men; (vi) Women need more financial education than men. A common misperception is that women have

¹⁰⁷ IFC, a member of the World Bank Group, (2017), Report on Women-owned enterprises in Viet Nam: Perceptions and Potential. This study used both quantitative and qualitative research methods. The quantitative research consisted of a demand and supply component, focused on businesses and banks respectively. The demand survey was executed through individual tablet-based interviews of 500 business owners or top managers⁵, consisting of 322 women-owned and 178 men-owned businesses. The supply survey was based on individual interviews with a selected group of bank representatives. This study looks at the specific financial and non-financial needs and opportunities for women owned SMEs in Viet Nam. It quantifies the market opportunity for banks to target these SMEs with strategies that recognize the number of such businesses, annual revenues generated, number of employees, and contribution to the economy.

lower financial management skills and need more financial education. This is a view commonly held among bank staff and even among some women entrepreneurs themselves; (vii) Women don't have time for learning and networking. Women are eager to improve their business skills and are willing and able to make time for it. Women tend to seek advice from women they are not related to more than from male nonrelatives. They are interested in practical capacity building programs to sharpen their business skills (branding, marketing, and managing staff above all) and are willing to pay for high-quality courses.

“In ICT, a female engineer will be easy to be left behind sooner or later if they stop learning and work hard. That's why we have few woman entrepreneurs in ICT. Their limitations are coming from language barrier, self-deprecating, soft skills, low creativity and less communication”.

“To resolve the situation, women should be inspired and mentored to develop their owned career. The role of woman in society should be improved to wipe out the social prejudices and change their mind. They also need to be more independent in family by sharing financial responsibilities with men, receiving support from men in housework to create their own time and space for career.”

-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds,
Founder & CEO of Savvycom Software

The Lack of Sharing in Housework and Caring Responsibilities in Family between Men and Women; Whereas the Lack and Weakness of Social Services in Housework and Family Care Are Barriers to Women Entrepreneurs/Startups in ICT Industry

In the society of Viet Nam, responsibilities in housework and family care mainly belong to women. The “double” workload is a barrier for women in starting up businesses and developing a successful career in ICT industry; as ICT works often have high pressure and require continuously updated information and knowledge.

“For social prejudices, women are not good at technical issues or learning new technologies. Also, they were constrained by the burdens coming from their own responsibility in family such as giving birth, taking care of children and elderly... In their life, women always consider to trade-off between career and others (family, marriage...), so they could not contribute all effort for career.”

“Training is the most important.” The training not only focuses on knowledge and skill but also soft skill and foreign language. Besides, we should increase the acknowledgement of

gender equity for both men and women through training and communication. Job guidance from elementary level will help to orient them in future career with more decisiveness”.

-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds,
Founder & CEO of Savvycom Software

Women Hardly Have Chance to Join Important Decisions in ICT Industry

The ratio of women in ICT workforce is still low; the ratio of female entrepreneurs/startups in ICT industry is also low and concentrates in small and super small enterprise group, etc. These limitations may have negative impacts on women’s opportunities in participating and raising voice in important decisions in ICT industry. At the same time, issues, needs and expectations of women in ICT industry may have few chances to be addressed, concerned and responded timely and adequately.

“Woman workers in ICT are also in very little numbers. Their positions usually are testers or supporting work (clerk, accountant, sale...). Their roles are underestimated or unrecognized and male engineer is more appreciated and welcome than a female engineer with the same background.”

-In-depth interview Ms. Dang Thi Thanh Van, 37 year olds, Founder & CEO of Savvycom Software

A Comprehensive Gender Analysis

A comprehensive gender analysis has not been done to clearly identify opportunities and threats for men and women entrepreneurs/startups in ICT industry in Viet Nam and to project impacts of the fourth industrial revolution on women and men in the industry.

Despite of available gender studies and analyses in economic, labor and employment sector in Viet Nam, there has been no study that analyses gender equality status in a thorough manner to identify gender issues and its reasons, and propose solutions for real gender equality in the industry.

3.21.3.3 Policy Recommendations

Recommendation 1

Enhancing society’s awareness in gender equality as the first step towards gender prejudice in the choice of study and work fields; focusing on gender equality promotion in ICT industry.

Specific solutions:

- To promote gender integration into career orientation activities in the school system, aimed at changing prejudice of students and their parents against female girls studying STEM and ICT fields; consequently, reducing sex-ratio imbalance in the field of study;
- To build a gender-segregated database system of enrolment quota in fields of educations, especially STEM and ICT; of information on the needs of labor market in general and ICT labor market in particular.
- To carry out studies on gender analysis in ICT industry, aiming at being clearly aware of current gender issues and its reasons, and suggesting solutions for promoting real gender equality in the industry.
- To generate and communicate guidance on gender integration into career orientation activities and labor recruitment in IT industry.

Implementation responsibilities: Ministry of Education and Training; Ministry of Labor, Invalids and Social Affairs (Department of Gender Equality); National Committee for the Advancement of Women; Viet Nam Women's Union.

Recommendation 2

Encouraging and supporting women entrepreneurs/ startups in ICT industry, considering them as a vital resource for socio-economic development of the member economy.

Specific solutions:

- To raise a Government scholarship fund to encourage female ICT students;
- To establish a fund supporting women entrepreneurs/startups in ICT industry with the purpose of appraising and providing preferential loans to excellent projects/ initiatives/ ideas of women entrepreneurs/ startups in ICT industry;
- To set up an association/ club for women entrepreneurs/startups in ICT industry. This will be a forum for women entrepreneurs/startups in ICT to inspire and share experiences on every success/ failure; at the same time, providing consultation services, information sharing, technical supports to women who are interested in startups in ICT industry.
- To encourage and create favorable conditions for representatives of the association of women entrepreneurs in ICT industry to participate in the process of developing important policies and plans in ICT industry.
- To create a reward for women entrepreneurs/ startups who succeed in ICT industry; and/or who have great contribution to gender equality promotion in ICT industry;
- To encourage and assist social services development such as kindergartens, preschools,

schools, health care, housework services, etc. in areas/ locations where many women entrepreneurs/ startups and female workers in ICT industry locate.

Implementation responsibilities: Ministry of Labor, Invalids and Social Affairs (Department of Gender Equality); National Committee for the Advancement of Women; Ministry of Education and Training; Ministry of Finance; Viet Nam Women's Union; Vietnamese Women Entrepreneurs Council (Viet Nam Chamber of Commerce and Industry); Viet Nam Cooperative Alliance; Women's Affairs Committee (Viet Nam General Confederation of Labor); Viet Nam Association of Small and Medium Enterprises and other professional associations in ICT industry.

3.21.3.4 Advice for Women Entrepreneurs

Women should make every effort to overcome barriers to develop their careers/ startups in ICT industry. Apart from preparing knowledge and skills in ICT, women should identify opportunities and challenges/ barriers arisen from gender prejudice; and look for supporting and sharing resources to help them overcome difficulties.

Women who succeeded in ICT industry should actively participate in communication activities to inspire female youths in choosing employment and developing career in ICT industry.

3.21.3.5 Summary and Discussion

In the modern society, both men and women should be provided with equal conditions for choosing and developing individual career relevant to their abilities and inspiration. Although the Government of Viet Nam has made every effort in promoting gender equality and Viet Nam is among the economies having many achievements in gender equality, sex-ratio imbalance still exists in a number of industries/ occupations. A typical example is STEM and ICT industry in Viet Nam where women account for roughly 1/3 only. Sex-ratio imbalance in ICT industry results from (i) the prevalence of gender prejudice in family and society in terms of choosing fields of study and future work; in which women themselves have not been confident in their capability in STEM as studying subjects and in ICT work; (ii) policies and service provision system in education and training sector have not been gender integrated adequately, so that real gender equality has not been ensured; (iii) with current gender roles, Vietnamese women still have major responsibilities in housework and caring in the family that create limitations or affect their decisions in choosing occupations, and consequently have negative impacts on the process of their career development; (iv) social services system supporting housework and family care has been developed unevenly and therefore inadequately met actual needs.

The Government of Viet Nam has orientation to strongly develop ICT industry, which is viewed as a vital momentum for economic development of the member economy in the coming period. Enterprises/startups in ICT industry are encouraged to develop in both quantity and quality; therefore, the needs of ICT workers will increase subsequently by 13% per annum on average. However, to make sure that both women and men are equal in taking advantage of this great opportunity, comprehensive intervening solutions should be applied. *First*, communications should be promoted to change gender prejudice in the society regarding the study and work of women in ICT industry; *Second*, the State should have incentive and supporting policies for women entrepreneurs/ startups in ICT industry; at the same time, having incentive policies for the development of social services to reduce the workload of housework and family care for women; *Third*, it is necessary to encourage enterprises and organizations in ICT industry to act towards sex-ratio balance in their workforce; *Fourth*, to support the initiative of establishing an association of women entrepreneurs/ startups in ICT industry, which represents their needs and inspiration; *Fifth*, women entrepreneurs/ startups themselves in ICT industry not only have to continuously improve their professional knowledge and skills but also have to self-equip with necessary skills and experiences in sharing housework and family care with their men counterparts in their own families and the society.

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Chapter 4. Cross-Case Analyses and Findings¹⁰⁸

This section describes results of cross-case analyses with regard to four sectors – success factors, obstacles, policy recommendations, and advice for other women startups.

4.1 Success Factors

Cross-case analyses identified three main themes as success factors of 21 women entrepreneurs – social, economic, cultural context, personal factors, and business strategies. Each theme was further categorized into relevant sub-themes.

4.1.1 Social, Economic, Cultural Context

Broad social, economic, cultural contexts where the women entrepreneurs' enterprises were situated in turned out to have made huge impacts on their business opportunities and directions. Specific contextual factors are as follows.

Government ICT Policies

It is well known that government policies play an important role in boosting economic potentials. In the current knowledge information age fueled by ICTs, a great number of governments are keenly aware of the significance of ICTs and therefore try to actively put forward ICT-related policies. This movement has been working favorably for many successful women entrepreneurs doing businesses in the ICT sector. In 2016, for example, in recognition of the sweeping effects of the 4th industrial revolution, the Vietnamese government announced to strategically upgrade the economy's IT infrastructure and give priority to the development of IT businesses, such as digital content industry and smart agriculture. Government's involvement has created opportunities for Vietnamese ICT enterprises to robustly develop. Policy supports from the Thai government is another example. Policies, such as the Smart Start Ups, and the Smart Entrepreneurs under the economy's Digital Economy of Thailand - Thailand 4.0 policy – contributed to the emergence and growth of ICT industries.

A stronger example is found in the Singaporean case study. The Singaporean government policy that required companies and educational institutions to use more technologies for enhancing automation provided timely opportunities for Sun (Singaporean woman entrepreneur) to ride on the wave and to grow her company. Sun said:

¹⁰⁸ Women entrepreneurs' names used in this section are the ones most frequently used in each case study report.

The market is where our ideas seek to find a place to blossom. When the ground is soft and friendly, it makes for a better chance for success. The right government policies help soften the ground to encourage entrepreneurship and innovation. We truly benefited from the vision of the economy's leaders to create a Smart Economy. In place of fear they presented hope of a better economy and lives through the use of technology in areas like healthcare, home, education and more. They created policies and programs to allow innovators to receive support for dreaming big while starting small and showing results. The government also put in place the right measures to prevent abuse and that creates an environment of trust and belief that good ideas and solutions will prevail while presenting the best outcomes to the people. A forward looking environment that is strong in execution of ideas, that is what helped us succeed thus far in our endeavor for innovation. (Sun, Singapore)

These examples all indicate the importance of proper government policies or government intervention in the emergence and growth of business.

Government Initiatives for Women Entrepreneurship and Empowerment

Women's participation in the economic activities is increasingly regarded as important both for women's economic empowerment and for economy's economic development. Achieving inclusive, sustainable development is almost impossible without women's involvement in economy, particularly in the current situations facing aging and low birth rates. In recognition of this, governments tend to drive initiatives for women's economic empowerment in various ways.

Whereas government ICT policies may benefit both male and female entrepreneurs in the ICT industry, government initiatives for women's economic empowerment put a unique focus on women and provide tailored supports for women entrepreneurs. Such initiatives have potential to bring about positive results in that direction. For instance, the Canadian government has made many attempts for female entrepreneurship and empowerment. In order to facilitate female entrepreneurs' success, the Canadian government established several task forces over time. The task forces aim to put forward diverse policy recommendations for the agenda, including ways to deal with obstacles women entrepreneurs are facing and to expand programs for women entrepreneurs, needs to support enhanced access to capital and technology, and provision of mentorship programs and online information platforms for women. The Canadian government also took an important initiative in female entrepreneur movements by identifying female entrepreneurs' success stories and celebrating them publically in media. Another important initiative worth noting is that the Canadian government is investing funds into women-owned enterprises or for including more girls in science, technology, engineering, and mathematics (STEM) fields.

Viet Nam is another relevant example. As a communist economy, Viet Nam has fewer differences between men and women in their legal statuses compared with many similar economies. According to the Article 12 of Gender Equality Law, “Man and woman are equal in setting up a business, carrying out business and production activities, managing business and are equal in accessing information, capital, markets and labor forces.” This legal approach toward gender equality facilitates women’s economic participation in general and women entrepreneurship in particular in Viet Nam.

Support from Entrepreneur Networks and Ecosystem

Networking is a common and fundamental concept often cited by leaders when it comes to their career success, and the current research study reaffirms this phenomenon. One of the success factors that the successful women entrepreneurs of this study cited most frequently is the availability of networks, particularly women entrepreneur networks, and support from the networks. Networks within an economy or across economies could take a variety of forms, but networking commonly offered women entrepreneurs an important platform where they could be connected with others, collaborate with them, seek information or advice, or gain support.

Van (Viet Nam) expressed her strong belief in the value of mentoring while saying, “At beginning, if someone guides me, I may have overcome such difficulties with less damage and loss. So now I am ready to mentor other newborns, help them to face with what I had faced.” Similarly, both American women entrepreneurs (Morgan and Santy) shared that networking with their local community was one of their success factors. Morgan (the US) added that her early involvement in the community was particularly helpful for her when saying,

The Denver entrepreneurial community is very vibrant. There were a lot of meetup groups. So I started going to events...all kinds of events...and I just started talking to people, and having coffee meetings. Definitely having a community where you could go out and constantly talk to people and be reminded that you are not alone, because it’s very lonely at the beginning. That support system is hugely valuable. (Morgan, the US)

Benefits that the women entrepreneurs of the current study experienced from networking varied. Some of them are as follows:

People in Hong Kong, China are very transparent in giving tips and advice, including touchier subjects like on how to get funding. There’s solidarity in the community. If you ask questions you can get answers! (Gafsi, Hong Kong, China).

Information and experience exchange provides great opportunity to save resources which are extremely limited in case of startup. Our participation in startup tours arranged by Skolkovo gave us an opportunity to find additional partners in Russian regions...Our contacts with Opora Russia provided an opportunity to present the project in APEC O2O seminar and look to our project from the international point of view (Marina, Russia)

Many founders have remarked to me that the entrepreneurship journey is lonely. Some have gotten support via founder communities, some from their loved ones while others just trudged through the hard days. During the toughest time in my journey, I sought to find companionship and understanding from various places. While I had a wonderful friend who stood by me, the one that made a great difference to my growth was my mentor and life coach...My life coach helped me to learn about myself, my strengths and also my blind spots. Sometimes she would point me to resources, research and books that enlighten me on the troubles I faced. Sometimes, just by bringing a different perspective and a kind word helped me break out from the dark to find light in hope. Having wise people by your side who believes in bringing out the best in you while being unafraid to tell you the hard truths is a blessing. (Sun, Singapore)

Jayoung, a Korean woman entrepreneur, is a representative beneficiary of an excellent startup ecosystem newly established in Korea. During her college years, Jayoung developed a business idea and desired to start a business, but she did not know how to start a business. However, she could finally flesh out her business ideas and actually start up a business thanks to precious helps from business mentors and angel investors that she came to encounter while attending a startup accelerator program. Jayoung stated:

I especially remember when I met a venture capitalist, who reminded me of what I could not even think of...It was important to prove that we are the company that leads the market and show visible performance. So the judges have different path of questions. I felt like being tutored when I was asked for data I could not think of, or when I was asked about the meaning of the data. 'Oh, you can use this data in this way' and 'companies that have been evaluated to be growing up have been worried about this.' After returning from a venture capitalist meeting, I recreated their questions, and from then on, I was able to pick up and build up the data requested by the venture capitalists. (Jayoung, Korea)

Jayoung admitted that supports from her mentors, who were a part of the Korean startup ecosystem, helped her to start her business and grow as a woman entrepreneur. Her experience points out an importance of having an open, supportive community for successful entrepreneurship.

Worth noting is that entrepreneurs who experienced benefits from community networks are more open to helping the future generations of female entrepreneurs. Morgan (the US) said, “I try to give back and go to events and speak and just be available to people...I’m a big believer in peer mentorship. I’m a member of two CEO groups. It really helps.” Similarly, Aimi (Brunei) stated her case as follows:

When I mentor them, it is mainly for female entrepreneurs not necessarily linked to ICT. Essentially, mentorship is not about giving them something specific but it is about being there for what they need. For example, they need sounding board for what they want to achieve. I am dedicated to doing that with the real scope to helping women to know that they can be entrepreneurs. In fact they have advantages to being a woman. Relationship building is a lot easier for most women and women networks are actually very good to help you to develop your business and your network. (Aimi, Brunei)

Positive Changes in Social Climates

Overall, social, cultural climates tend to make impacts on business. This point is well reflected in the success stories of the Peruvian and Japanese women entrepreneurs. In case of Peru, particularly due to an expansion of a mobile market, ecosystem that promotes innovative and disruptive technology-based startups has been established under the university initiatives. Government programs and innovation contests were also designed and executed as a means of promoting a technology startup ecosystem. At the same time, the number of smartphone users has been dramatically increasing to the point of 33 percent of the total population, and smartphones started to be used for various purposes in an innovative way. Technology including smartphones has led to sweeping changes in most parts of the world, and Peru was no exception. With a keen awareness of these social phenomena, Nory (Peru) rode on this wave and finally started her mobile taxi service company. Nory mentioned, “The main success factor is the growth in digital startups, especially in the business that I am on now, which is transportation. Technology has opened an important door in our economy...”

Also, shift in socio-cultural priorities in Japan played a critical role in helping Yajima, a Japanese woman entrepreneur, to build a successful business. The 2011 Tsunami earthquake marked a significant turning point in Japanese society. Prior to this disaster, most people placed priorities on money or career, but after the earthquake, they started to question the value of those things and put

priorities on such things that seem more integral to their beings and lives, including nature and human interaction. This shift offered a favorable opportunity for Yajima's company, as more people became interested in products that could represent traditional Japanese culture. Yajima's comment goes as follows:

Of course, handcraft is a little bit more expensive, but, but many young people think about, about...like me...we want to tell our baby and kids about Japanese tradition so...the mind is very emotional and people feel, feel very similar things...so our business is successful I think. Maybe [for a] 20th century company [the] most important thing [is to] earn money. But 21st century is a little bit different I think. Earn money is necessary to do...but the most important things...what is the change [in the] world if the company do. (Yajima, Japan)

4.1.2 Business Strategies

Another theme that the current case study identified as a recurrent, salient success factor is 'the use of effective business strategies.' The following describes what kind of common business strategies were used and how each of them worked in local contexts.

Leveraging ICT Technologies

In the current world, the value of ICT is unquestionable in business and also in individual lives. Its impacts reach literally all sectors of society, including communication, social interaction, commerce, politics, banking, financing, and education. Presently, governments and international organizations, such as APEC, seek to promote active use of ICTs among entrepreneurs with strong beliefs in their economic benefits. To date, benefits of the use of ICTs, particularly for women entrepreneurs or startups, have been well documented. One of the benefits relates flexibility or freedom from time and space constraints, which allows women to take care of their family and children while managing their business simultaneously. Specifically in the current 4th industrial revolution era when creativity and unique experiences are highly valued, women can work as prosumers who can produce and sell viable products or services based on their insights and experiences as women in the online environments.

Most of the women entrepreneurs of this study held a firm belief in the value of ICTs. They actively leveraged ICTs for their business either because their businesses are ICT-based ones or because they strongly believed in the role of ICTS in their successful business. Ms. Kim Lato, who is a founder and CEO of Kimstore Enterprise Company in the Philippines, fully utilized the power of ICT for her online business from the beginning and finally earned a reputation of "The Most Trusted Online Gadget Store." Ms. Kim Lato tried to keep up with the latest technological trends

and integrate relevant technological features into her business. She said,

It is really important to be one of the early adopters of the newest innovation for the simple reason that technology can do almost everything today. Being one step ahead in utilizing the right advanced technology for your business is when you can say that you're on the right track. (Ms. Kim Lato, the Philippines)

In particular, several women commented on the value of online marketing, particularly social media marketing, as a way to reach a huge number of potential customers directly. Ms. Kim Lato (the Philippines) actively used online marketing to create a strong online presence and a positive online reputation. Ms. Yudistia (Indonesia) started her social media business that requires less capital than traditional businesses and heavily relied on social media marketing to reach more customers. She mentioned,

Of course social media allows us to reach even greater. We can interact directly, respond directly, without having to spend too much money as did the company of antiquity. Especially with my busy life as a housewife who must take care of family, children, and home, social media is very easy for me to move more flexible and can reach the maximum target again. (Ms. Yudistia, Indonesia)

Some other women entrepreneurs including Lai (Hong Kong, China), Nur Asyikin (Malaysia), and Ms. Chimplee (Thailand) cited use of social media marketing as a success factor.

Besides social media marketing, ICTs were used for many other purposes, for example, running e-commerce stores (Lai, Hong Kong, China; Ms. Yudistia, Indonesia; Yajima, Japan), getting information necessary for making business judgments and predictions, quickly identifying and responding to customer needs and trends (Lai, Hong Kong, China), and reaching more people through a mobile app (Gafsi, Hong Kong, China).

Working with the Right People

Working with the right people, whether they are business partners or employees, was sometimes cited as an important success factor. In particular, attracting the right kind of people to a startup is one of the most critical tasks for startups because those who a startup hires will eventually shape the culture of the business, its performance, and sometimes even its core values. Regarding this, Valentine (New Zealand) commented,

The objective in a startup should be to attract people who believe in your purpose and vision, who will come at a stage where there's little certainty or security, when

you can't quite pay them market rate. Essentially you are asking them to put aside their own reputation and their own hard work, and join you at an early stage when there is not as much security. (Valintine, New Zealand)

Valintine added that it is necessary to ensure that startup employees are aware of a startup's vision, its business purposes, and its business plan for a shared understanding of startup goals.

Working with reliable business partners is also indispensable in the process of entrepreneurship. Various forms of input from partners with different backgrounds and expertise could serve as critical assets for a company. The Hong Kong, China and Chinese Taipei entrepreneurs of this study shared benefits of forming the right business partnership. Through partnerships, Lai (Hong Kong, China) could scale her business and increase brand awareness, while Gafsi (Hong Kong, China) could manage her business in a more efficient, productive way. Wei-Hsuan (Chinese Taipei) repeatedly stressed that "finding someone to work together and grow together is more important than anything."

Customer-centered Approach

Having a clear understanding of the market demands must be one of the crucial, fundamental keys to business success. Many women entrepreneurs of this study cited a customer-centered approach as a success factor of their business. They made efforts to understand and connect with their customers. While doing so, they could better identify their customer's needs and meet the market demands. Such efforts usually paid off, as evidenced in a high rate of repeat customer business.

Jayoung, who is a founder of a mobile fashion platform based in Korea, is a particularly relevant example of this case. When she first started her platform company, Jayoung embraced a vision of providing consumer-centered fashion information rather than supplier-oriented fashion information service. Since then, she has been working hard to achieve the vision by focusing on customers and their needs, and by constantly improving service features suitable to the users' desire. When the users raised complaints, she shared the complaints with all the employees and tried to address them appropriately. This attempt is in line with Ms. Bernhardt's (Australia) comment, "Hard work, but in the end it is all worth it when your company can experience the satisfaction that your technology ideas meet market demand."

Staying in Current

It is well known that the business environment changes rapidly, and the speed and features of today's technological changes are particularly remarkable. In this context, coping with the changes appropriately and innovatively is perceived as one of the crucial keys to business success. This highlights a need for companies to stay current. With an awareness of this, Ms. Bernhardt

(Australia), for example, regularly reviewed and updated her software development plans and marketing strategies. She said, “I review (and if necessary recast) our marketing, call center, clients and financial plans and measures annually if not every six months.”

4.1.3 Personal Factors

Various personal factors were cited as success factors as well. Examples include passion for entrepreneurship, tendency to stick to beliefs, perseverance, grit, and relevant previous experiences.

Personality Traits

The U.S. case study reported that the behavioral traits of the women entrepreneurs on question, as opposed to other factors like seed money, turned out to be one of the biggest success factors. The women (Moran and Santy) were willing to take on challenges and persevere through obstacles, which contributed to creating successful business outcomes. Similarly, Ms. Kim Lato of the Philippines highlighted the importance of a risk-taking go-getter attitude in business success. She described such attitude as the right mindset for an entrepreneur. She commented:

Entrepreneurs are not born to it, succeeding in business takes a lot of learning about your market, hard work to achieve your goals, and the capacity to innovate in today's fast-changing business climate. Before you throw yourself headfirst into entrepreneurship, first ask yourself: are you ready to take the risk? (Ms. Kim Lato, the Philippines)

Santy (the US) expressed similar thoughts as follows:

I am not afraid of failure...I do have a big fear and I think that has also been a component of success for me and that fear is...the fear of having never tried. So, to look back and say like, 'gosh that was a good idea and I wish I just would've tried it.' And to just stay in the same place and like maintain status quo...is terrifying to me...I wish I would've just tried. So...that's a big motivation for me. (Santy, U.S.)

Passion for Entrepreneurship

Passion for entrepreneurship turned out to be another important personal factor that contributed to business success. Mrs. Aracena (Chile) admitted that “...prior to the company inception, the passion for operating as an entrepreneur was already showing up when tackling the first challenge, namely the design and development of cardiorespiratory monitor...” Similarly, Leody (China) commented on her passion to change lives, which persisted throughout her career as an important success factor. She mentioned, “When I am interested in an idea, after careful argumentation, after

judging the feasibility, when the conditions are ripe, I try. When I decided to do something, it is not easy for me to give up.”

4.2 Challenges

The women entrepreneurs faced a variety of challenges throughout their entrepreneurial journeys. While dealing with the obstacles, the women grew as entrepreneurs and their enterprises grew too though those obstacles posed tremendous challenges to them. This section describes some of the most common, salient challenges encountered by the women. Those challenges were categorized into two groups - external obstacles and internal obstacles - and each group was further categorized into a couple of sub-themes.

4.2.1 External Challenges

Some obstacles arose from contextual factors that lay beyond the entrepreneurs themselves.

Limited Access to Finance

Most women entrepreneurs discussed finance problems as the biggest challenge that they had faced. They suffered from a limited access to funding sources, particularly in the start-up phase of their business. In general, it is difficult for startups to secure funds particularly when bank interest rates are high or requirements for a bank loan are severe. Moreover, these challenges are overwhelming for women entrepreneurs. It is widely known that female entrepreneurs have greater problems in working with banks or financial institutions for getting loans than male entrepreneurs. Generally, women also have limited knowledge of funding opportunities or supports, which results in women's lower access to finance. Eventually, this has negative impacts on women's enterprises. As a result, many women entrepreneurs are self-funded or rely on their family, friends, or networks at the development stage of their startup. Marina (Russia) described her financial challenge as follows:

At the starting period the key obstacle the team faced was related to attracting first investment to the business. It is not possible to receive the necessary funds as a bank loan in the case of startup, as it is needed to provide the information on the revenues for at least last 6 months and trustworthy guarantees. In the case of IT startup, it is impossible. As a result, to attract the first investor is the key obstacle at the first stage. The deficit of funding at the early stage forms the deficit of other resources. (Marina, Russia)

As a way of relieving such burden of securing finance, many governments put diverse grant programs for startups or SMEs into operation; however, it turned out that going through the process is laborious, time consuming, and, unfortunately, often times unfruitful. As regards this, Marina further went on to say:

If we start the project now, we will not spend resources on interaction with state system of financial support. After you receive a grant you need to follow many rules, which does not correspond with the real needs of startup development. ...if you receive grant from the state-owned fund you spend resources for unproductive reporting process, instead of business development and attracting additional investments. Sometimes it's much more important not to wait until money from the grant comes to the project because time is very important factor especially in ICT business. (Marina, Russia)

Gender Discrimination

Another obstacle worth noting is related to gender discrimination. Several women reported various challenges from being a *woman* entrepreneur. Gender-biased misconceptions that the women had to face are limitless: for example, women are 'worse' and less suitable for entrepreneurship than men; women have less abilities to work under pressure or to work in team, up to date knowledge and skills, and innovative attitudes; women entrepreneurs are more risk averse in seeking finance; women only work in family businesses and companies owned by men; women don't have time for learning and networking. These misconceptions put huge barriers in front of women entrepreneurs and negatively work in their entrepreneurial journey.

For example, Sun (Singapore) found it difficult to have people take her seriously as she is a young female. In this situation, she had to work doubly hard in order to prove and convince possible investors. She commented, "The investors prefer to invest in male entrepreneurs especially in the technology business as they believe that females are non-aggressive and less ambitious and may not be suitable to grow technology business." Similarly, Dr. Cabral (Mexico) experienced difficulties in getting accepted into a business community because she is a woman. She mentioned that business men, especially old business men, were most unwilling to accept her as a community member. Santy (U.S.) even said that she had experienced sexual harassment sometime during her entrepreneurial journey.

Lack of Mentors and Coaching Networks

Another challenge often facing women entrepreneurs is the lack of reliable mentors or coaches who could assist startups or entrepreneurs by listening to their concerns and providing advice and emotional support. Yajima (Japan) lamented about the lack of visibility and accessibility of female

entrepreneurs, who could serve as role models. Some women received most of their needed mentoring help from families, friends, or informal networks on how to manage and grow business but not so much from the people in the professional arena. For a lack of supports from reliable mentors, they did not have opportunities to learn business skills more efficiently and effectively. A lack of readily available mentors or coaches was seen as a big challenge.

Hiring

Another common external obstacle was related to hiring. Recruitment was always a big challenge for startup companies, which are working under tight budget and thus have serious problems in recruiting the right people with right skills. Striking an optimal balance between the formation of the most desirable team and the budget allowance is difficult. Yajima (Japan), for example, expressed her difficulties in finding applicants with the right skills needed and who also fitted the company's corporate culture. These difficulties posed more serious problems to entrepreneurs who highly value the team relationship and hope to maintain long-term relationships with employees, like Yajima.

4.2.2 Internal Challenges

Cross-case analyses also identified some obstacles which came primarily from the entrepreneurs' personal factors.

Lack of Skills and Experiences

Several women entrepreneurs of this study admitted that they had faced obstacles for a lack of relevant skills and experiences. One of the entrepreneurs encountered challenges related to leadership styles. When her company started to grow, Jayoung (Korea) was expected to change her leadership style accordingly but then she was not sure about the most appropriate leadership style for new features of her company.

Gafsi (Hong Kong, China) saw this gap – a lack of skills and knowledge – as problematic for women entrepreneurs. She said, “They [women entrepreneurs] have a need to learn how to do business in general. We are actually kind of building a school for how do you speak, how do you negotiate, how do you pitch?” She highlighted a need for training for women entrepreneurs while saying:

...digitally speaking, a lot of women are lacking training. So they want to learn how to do their social media, how to create content that stick with their audience, how to build a website, all those kind of ...skills are very much lacking, and they are very

much lacking of that here. (Gafsi, Hong Kong, China)

Fear of Failure

Some of the most common internal obstacles that the women entrepreneurs faced most frequently include fear of failure, fear of risks (unwillingness to take risks), and doubtfulness of their ability to succeed. Some of the women reported that they had often times suffered from fear of failure. Success of business depends on a myriad of factors, some of which are indeed beyond a control of entrepreneurs. Also, it is well known that business environment is full of uncertainties and keeps changing. Thus, no entrepreneurs are 100 percent convinced of their success when starting or running business, but, instead, many entrepreneurs will naturally face fear of failure during their entrepreneurial journey. Seen in this light, women entrepreneurs' struggling from fear of failure or risks is quite understandable.

Self-doubt, that is, doubtfulness of abilities to succeed, can arise, particularly when entrepreneurs experienced failure, and this feeling of self-doubt may lead the entrepreneurs to feel like giving up. These negative feelings, such as fear of failure, unwillingness to take risks, and self-doubt, should be under control. Otherwise, these feelings may prevent women entrepreneurs from going forward, taking life-time opportunities, and making timely decisions. Regarding this, Valintine (New Zealand) mentioned, "I had huge doubt at times of the scale I could reach. I had doubts I could reach the heights I intended. You need real drive, determination and resilience. You need to remind yourself of your vision every day, and just get up and get going."

Exhaustion and Loneliness

Some women reported that they struggled from physical, mental exhaustion, which posed great threats to them. Startups usually experience extreme exhaustion due to heavy workload. In particular, in the initial phase of a startup, entrepreneurs tend to spend exorbitant amount of time and energy on their business. Valintine (New Zealand) commented:

You are running 100% of the time, all the time, and in most cases you have to take on a lot of extra tasks yourself. You can't leave marketing to a marketing team – you have to do it yourself. You have to take responsibility to sign things. You often have a low income, since every spare dollar goes back into your investment. You have to assess and manage risks, and take advantage of opportunities. The small things that are often taken for granted in corporate becomes more apparent. You are often the one buying the coffee and milk, cleaning the bathrooms, and doing the small things. Ultimately, you are responsible for keeping the wheels turning. (Valintine, New Zealand)

What is worse, some women entrepreneurs suffered from a sense of loneliness during entrepreneurial journey, which sometimes follows exhaustion. Valintine (New Zealand) described the entrepreneurial life as quite a lonely one while commenting as follows.

You are usually working in a very small team, and in this situation most people find it's not easy to talk to colleagues about issues, and as a result they can become quite isolated. It can get quite lonely. You are often in a small team, so you don't want to burden them with personal issues. This means you can get quite isolated, so the support of friends and family becomes even more important. (Valintine, New Zealand)

Dealing with loneliness is difficult but necessary. Some women tried to stay away from their daily tasks and to take a new perspective while refreshing themselves. They also turned to their family or friends who could understand their vision or passion for emotional support.

4.3 Policy Recommendations

This section describes policy recommendations offered by the women entrepreneurs. Policies recommended match well with the success factors and the obstacles described earlier as the women must have had many opportunities to consider policies necessary for business while going through ups and downs of their business.

4.3.1 Build Entrepreneurial Ecosystem, Particularly Gender-Responsive Ecosystem

One of the policy recommendations that the women entrepreneurs made most frequently is building favorable enabling environments for female entrepreneurship. An entrepreneurial ecosystem contains a complex set of actors and factors that influence entrepreneurial activities and outcomes. In order to generate best outcomes, governments need to place crucial actors in the ecosystem, which help to promote entrepreneurship, and mobilize them. An entrepreneurship ecosystem can be made more dynamic and fruitful through many initiatives, for example, by operating business incubators, holding business idea contests, promoting networking (Peru); running startup accelerator programs and business funds for entrepreneurs, establishing policies that make it easier to start up rather than control startups (Korea); providing trainings (the Philippines). Jayoung (Korea) emphasized a need that the government should formulate policies that help to build the entrepreneurship environments and infrastructure from a long-term perspective

Creating an optimal entrepreneurial ecosystem is necessary not only for female entrepreneurs but

also for male entrepreneurs. However, this study highlights a need to make an entrepreneurship ecosystem gender-responsive. Due to widespread gender biases, women entrepreneurs tend to suffer more from limited access to finance and market. This prevents women-led enterprises from reaching their full potential. An entrepreneurship ecosystem can be made more gender responsive in such ways as to include more women, promote female entrepreneurship, and create a conducive culture to support women entrepreneurship through appropriate finance, human capital development, and training supports.

As regards a need to involve women in the entrepreneurship-related policy making process, Ms. Kim Lato (the Philippines) commented,

While rounds of discussions and campaigns happen regarding the development of women entrepreneurs' image in the society, there is still a big gap on the information about the economic impact or contribution of women entrepreneurs. Women are still underrepresented and it's about time to let women get the right to be represented, especially in the 'non-traditional industries' for women. (Ms. Kim Lato, the Philippines)

4.3.2 Increase the Mentoring and Networking Opportunities

Many women entrepreneurs pointed out that governments should try to increase opportunities or channels for mentoring and networking for women entrepreneurs. Their heartfelt need for this kind of government policy is easily understandable in view of the fact that, in this study, availability of mentoring or networking was frequently cited as a crucial success factor while limited access to mentoring as a challenge.

Yajima (Japan) recommended that the government should create more mentorship opportunities and platforms so that young people and entrepreneurs can interact with each other. She highlighted that this attempt would eventually facilitate the achievement of government's ICT and gender agendas. Aimi (Brunei) highlighted that female entrepreneurs, particularly young entrepreneurs or startups, would greatly benefit from good mentorship. Similarly, Mrs. Aracena (Chile) said that, in recognition of the value of mentoring for female entrepreneurship, she is currently serving as a mentor, and claimed for mentoring opportunities arranged for women entrepreneurs. Nur Asyikin (Malaysia) went on to argue for a need for an association only for women entrepreneurs, which can provide consulting service, advice, motivation, or training for female entrepreneurs. In the same line, Ms. Kim Lato (the Philippines) suggested a policy for creating government offices for women entrepreneurs, which can help to facilitate informational seminars, involve women in

policy making and program development decision making process.

4.3.3 Increase Funding Opportunities

Some of the key required policies for women entrepreneurs suggested are related to financial issues. As stated earlier, most of the women entrepreneurs cited the lack of finance as one of the biggest challenges facing them. As the literature and the findings of the current study showed, female entrepreneurs often have less access to financial capital compared with male entrepreneurs. This problem should be addressed so that female entrepreneurs have equal, fair access to capital. It seems therefore like a natural course of action that the women of this study suggested policies for increase in funding sources.

Gafsi (Hong Kong, China) and Aimi (Brunei) claimed that the government should provide more financial supports, such as grant schemes and micro loan facilities, for female entrepreneurs while pointing out the problem of the general lack of available venture capital funding for female business owners. In line with this, Winifred (Papua New Guinea) made comments on specific ways of increasing funding, such as seed funding and venture capital opportunities. Also, both Winifred (Papua New Guinea) and Marina (Russia) perceived it necessary to create bank products or services oriented to women startups as a measure of real support for their development. Wei-Hsuan (Chinese Taipei) also recommended policies that provide entrepreneurs with loan discount plans, which is the most direct and immediate help.

Meanwhile, it was pointed out that preparing funding policies alone is not enough. Marina (Russia) claimed that women entrepreneurs should be helped to get an access to the state and private financial support on the one hand and to have an easy access to information about such programs on the other hand.

4.3.4 Provide ICT and Entrepreneurship Training for Women

Many women of this study recommended that policies should be prepared for providing training, particularly on ICT and entrepreneurship skills, for women. Such training is urgently needed because many women suffer from the lack of ICT skills or business skills and knowledge that are crucial for business success in this digital age. Ms. Kim Lato (the Philippines) emphasized a need for policies related to ICT and entrepreneurial trainings while pointing out the importance of ICT and business skills in the following comment: “While a good head start as a budding entrepreneur is always ideal, not all of us can have it, which is why commitment to education is very important. The right technology and entrepreneurial knowledge and information can take you where you want

to go.” She also mentioned that it is never too early to learn business basics and business values for successful business.

As regards ICT training, for example, Nory (Peru) claimed that the government should try to address the digital divide problems by helping women to get an access to digital devices and the Internet and to acquire ICT skills. While acknowledging the importance of ICT and technology in business, Dr. Cabral (Mexico) argued for trainings for women. Mrs. Aracena (Chile) also agreed on the need for putting ICT training policies in place when saying,

It is fundamental to encourage more women to enter the field on the use of ICT by providing training and empowerment, generating the requisite knowledge and seeking opportunities for job, legal and professional betterment. The objective is for women to increasingly participate in technology, in increasingly relevant roles. It is especially important to encourage women to participate in this area, using as many communications tools and professional networks. When a woman is educated, she becomes a natural replicator in her immediate environment. (Mrs. Aracena, Chile)

As a way of training, Ms. Chimplee (Thailand) suggested a policy for designing and providing online learning or e-training as well as any hybrid empowering activities while saying, “As the startup entrepreneurs, we all have to do everything by ourselves. This gives us difficulties in taking any physical class or training. Applicable e-class or e-training is very important to us too.” Meanwhile, as regards entrepreneurship training, Winifred (Papua New Guinea) emphasized a need for more training centers where women can learn about business skills or entrepreneurship skills, such as basic bookkeeping, marketing, branding, and online connectivity.

4.3.5 Promote Women’s Welfare

Several women entrepreneurs pointed out the importance of policies to promote women’s welfare. For example, Valintine (New Zealand) claimed that government-assisted childcare is one of the areas in which policy change can assist women entrepreneurs based on her mentoring experiences. She commented,

There is a big advantage in having older children. For one, risk-taking becomes easier. Many of the women I am mentoring are in their early 30’s, and have young children. This can place them in a situation where they feel very vulnerable, and feel unable or even guilty for taking risks. (Valintine, New Zealand)

Government policies for childcare will contribute to enhancing women entrepreneurs' work-life balance.

4.4 Advice for Other Women Entrepreneurs or Startups

This section describes advice given by the women entrepreneurs. The women offered many different types of advice for other women entrepreneurs or women who are looking to enter the business sector, particularly the ICT industry as entrepreneurs. The following is a list of most frequently mentioned advices.

4.4.1 Seek for Mentoring and Networking Opportunities

Mentoring and networking is one of the most significant issues that constantly arose in the current study. They were cited as a success factor, or, on the flip side, their absence was cited as a challenge. Considering this, it is natural that many women entrepreneurs gave advice related to mentoring and networking. In recognition of the important role of mentoring and networking, the women strongly encouraged other women entrepreneurs to seek for mentoring or networking opportunities. With regard to mentoring, Dr. Cabral (Mexico) declared herself as a strong advocate for reaching out to all kinds of mentors and learning from their experiences, either from their success or failure stories. In particular, Ms. Kim Lato (the Philippines) highlighted a need to have a role model in her words, "Idolize someone or maybe follow their footsteps. Study something similar and apply it to your business concept."

Also, networking with other likeminded women entrepreneurs was strongly recommended. Through networking, women entrepreneurs could experience different types of benefits can share their ideas, concerns or problems. For example, Valintine (New Zealand) advised that women entrepreneurs should be part of a group of entrepreneurs. She commented, "In this way, you can look out for each other's professional needs, and there is a mutual understanding between all of you. Networking is an absolute must. You can't do it alone." Sun (Singapore) recommended that women entrepreneurs should seek help and collaborate with others because this way they become aware of what is not working for them and start to find solutions that work.

The women entrepreneurs highly recommended mentoring and networking opportunities because they can provide useful, appropriate supports whether physical or emotional. This kind of support is much more necessary for women entrepreneurs who have to deal with prevailing gender biases in society. This point is well reflected in Ms. Kim Lato's comment.

It is important to surround yourself with people who believe in your brilliant ideas,

who believe in your market, who believe in your strategy and share the same core values as yours. Through this, whatever problem and hurdle that you will face, you will be able to see it on a positive lens – shifting a struggle to your biggest breakthroughs. (Ms. Kim Lato, the Philippines)

Significantly, Santy (U.S.) gave the same advice as above and stressed the importance of having a good support system and women who can help bring out the best as in the following.

I'd also say find other women who help you level up. ...I think if you can find the women that inspire you, so you can kinda see yourself there...there should be women...I think it's important to surround yourself with supportive men as well...to see yourself in other women and say like I can do that, that's not...ten stories above me. That's the next level. I can get there. And when I meet with them and talk with them, I want to get there. I think that's really important. (Santy, U.S.)

4.4.2 Take Risk and Learn from Your Failures

Many women entrepreneurs advised that future female entrepreneurs should not be afraid of failures but be willing to take risks with courage. They added that though they fail, they should try to learn from the failures and to keep going. We live in a society where success is highly valued, and partly due to such environments, we are afraid to take risks for fear of failure and thus limit ourselves to our routine, comfortable zone. Regarding this, Valintine (New Zealand) admitted, "I think everybody has the potential, but they have to face fear, and that's probably the biggest challenge they have. It's like saying, "What if I'm wrong? What if people don't like it?" You have to have an amazing amount of self-belief..." Thus, Ms. Kim Lato (the Philippines) highlighted the importance of taking risks, whose feature, according to her, differentiates between successful women entrepreneurs and others. She described successful entrepreneurs as people who did not just dream but tried. Similarly, Lai (Hong Kong, China) put a value on making mistakes while saying, "Don't be afraid of making mistakes. They're the lessons you'll remember most." According to Nory (Peru), failures lead people to continue learning and to enjoy success later. She advised women startups or entrepreneurs "to keep trying and see a failure as an opportunity to show strength and keep learning." Ms. Bernhardt (Australia) gave similar advice, "Learning is a process of change and there is great value in acknowledging our mistakes. Sharing lessons learned and knowledge of past errors leads to innovation."

4.4.3 Keep Learning

Another common advice given was that women entrepreneurs should keep learning so that they can keep up with the current trends and technologies. Ms. Kim Lato (the Philippines) advised that women entrepreneurs should not stop learning if they want to succeed in their business. She commented, “You won’t be on a high performance level all the time, sometimes there’ll be lows, so during the low periods.” They can learn from their failures as described earlier. Gafsi (Hong Kong, China) also stressed the importance of learning by interacting with others, particularly in different environments when saying, “...become friends with people who are not your age. Hang out with people whose first language isn’t yours. Get to know someone who doesn’t come from your social class. This is how you see the world. This is how you grow.”

4.4.4 Form a Solid Team

A couple of women entrepreneurs of this study gave advice to form a solid team, particularly in the initial phase of startups. For example, Jayoung (Korea) highlighted the importance of having a team that can work and go through the tough times of startups together. That is, recruiting the right people who can understand and share the vision and goals of enterprises is crucially important. Wei-Hsuan (Chinese Taipei) also mentioned, “...find like-minded partners to work hard together. The starting point for entrepreneurship is nothing more than identifying problems, addressing solutions, and finding the right ones.”

A related advice is that once a team is formed, efforts should be made to inspire employees and make investment for their education. Sun (Singapore) admitted that an entrepreneur’s journey is demanding and lonely, and no one can be successful by doing this alone, thus she recommended that entrepreneurs should try to inspire the team to join in a shared meaningful journey, which can keep them going. She added that it is necessary to help the team members to grow personally and professionally

4.4.5 Be Passionate and Persistent

The most common advice given by the women entrepreneurs is “Be passionate and persistent.” Eva (Canada) warned females not to doubt themselves on whether they are qualified to enter the business sector or start a business. She said, “If you are passionate about something, that makes you the most qualified...If you have got something you are excited about and something they want to pursue, just do the research, meet with the people and give it a try.” Similarly, Nory (Peru)

commented, “No matter what the challenge is, you just take it. If you really make it with passion, you are going to make the best of it. And inspiring people with what you do is the best way to feel real and happy for yourself.”

However, it is well known that having passion without direction won't work well. Jayoung (Korea) highlighted the importance of having a business item that startups or entrepreneurs can be very passionate about as follow.

If you decide to start a business, you should choose the item that you are most affectionate and can do well. Understanding the field is much more important to understanding consumers than understanding how. You need to be able to find a consumer's pain point and present a solution that can solve that pain point. Most importantly, the founder himself or herself must have an answer to the pain point. (Jayoung, Korea)

Jayoung's comment indicates that having something that startups or entrepreneurs are most passionate about can help them to become knowledgeable about the business sector and to move forward with courage.

Persistence is as important as passion because one cannot expect success immediately in business. No entrepreneur starts the business and become successful easily. It takes a lot of patience and endurance to become successful. In recognition of this, both Nur Asyikin (Malaysia) and Winifred (Papua New Guinea) encourage female entrepreneurs to persevere because, without perseverance, they can easily give up when they encounter difficulties.

4.4.6 Do Not Let Gender Biases Overwhelm You

Unfortunately, gender biases are prevailing in many sectors of society, and such gender biases or inequality may lead women to underestimate their potential and put themselves in a lower position. Thus, women who want to start up a business are often in lack of self-belief and are not convinced that they have the ability to start new businesses. Wei-Hsuan (Chinese Taipei) advised, “I would like to remind all the entrepreneurs and everyone, especially females, that they should not escape from their own greatness. Don't be afraid to be seen. And don't have expectations about your future because of your gender. Your dreams and ambitions are extraordinary!”

Van (Viet Nam) agreed with Wei-Hsuan (Chinese Taipei) when saying that women should identify both opportunities and challenges arising from gender prejudices and look for support systems that

can help them to overcome the difficulties. Van (Viet Nam) went on to highlight a role of successful women entrepreneurs in supporting young females who may be the victims of gender biases. She advised that successful women entrepreneurs in the ICT sector should actively participate in events or activities to inspire female youths to develop their careers in the ICT industry.

4.5 Concluding Remarks

It is claimed that, in the current age, ICT skills and knowledge can serve as effective enablers for women's economic empowerment or entrepreneurship. Benefits of ICTs abound. For example, digital environments have the potential to allow women to participate in economic activities more freely than before. Women can also participate in various forms of e-commerce as entrepreneurs using their unique, rich experiences and insights. Besides, active integration of ICTs into business is strongly recommended as it can boost efficiency and, eventually, productivity. Nowadays when dramatic changes from the 4th industrial revolution are sweeping around the world and disruptive, creative innovations are in high demand, new venues that ICTs can open are limitless.

Meanwhile, promoting women's entrepreneurship is one of the significant initiatives by governments around the world. Its driving force comes from a recognition that women's entrepreneurship is critical to achieving sustainable, inclusive economic growth and to overcoming the challenges from aging, and low birth rates.

Against this background, 21 case studies of successful women entrepreneurs from 21 APEC Economies were conducted at first, and cross-case analyses took place next. The overall goal of this research project was to promote APEC women's economic empowerment by exploring best practices of successful APEC women entrepreneurs in the ICT sector and to thereby prepare APEC women for digital economy in the 4th industrial revolution. Specific purposes of this study were 1) to identify success factors that contributed to the business success of the women entrepreneurs, 2) to understand major challenges they faced, 3) to highlight policy recommendations from the successful women entrepreneurs, and 4) to identify advice that the women would like to give to other women entrepreneurs or women who wish to start up their business in the future.

Findings of cross-case analyses illuminated various significant aspects of entrepreneurial journey of successful APEC women entrepreneurs. As regards success factors, cross-case analysis identified multiple factors including government ICT policies, government initiatives for women entrepreneurship, support from entrepreneur networks and ecosystem, active use of ICTs, customer-centered approach, and passion for entrepreneurship. Challenges that the women entrepreneurs frequently cited include limited access to finance, gender discrimination, lack of mentors and coaching networks, lack of skills and experiences, and fear of failure. Regarding policy recommendations, this research study identified several common recommendations, such as 'build gender-responsive entrepreneurial ecosystem,' 'increase mentoring and networking opportunities,' 'increase funding opportunities,' 'provide ICT and entrepreneurship trainings for women,' and 'promote women's welfare.' The women entrepreneurs offered advice, including 'seek for mentoring and networking opportunities,' 'take risks and learn from failures,' 'form a solid team,' and 'do not let gender biases overwhelm you.'

It is expected that findings of this research study will help to inform women in the APEC region of key features of the current ICT business environments and to promote their entrepreneurship. At the same time, these research findings can also provide policy makers with insights into enabling environments and mechanisms for facilitating women's entrepreneurship, particularly in the ICT industry.