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**Global Precision Engineering Co. Ltd
Thailand**

**HRM Challenges in a
Manufacturing SME**

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The case was developed with the cooperation of Global Precision Engineering Co. Ltd solely for educational purposes as a contribution to the project entitled "Strengthening Human Resource Management System of SMEs for Facilitating Successful Trade and Investment in APEC," conducted under the auspices of the Asia-Pacific Economic Cooperation (APEC). The case is neither designed nor intended to illustrate the correct or incorrect management of the situation or issues contained in the case. Reproduction of this case for personal and educational use is encouraged. No part of this case however can be reproduced, stored, or quoted for purposes other than the above without the written permission of the author(s) and APEC Secretariat.

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Mr Prapan Sodatip, president of Global Precision Engineering Co. Ltd (GPE) in Thailand, was faced with the impending issue of the minimum wage increase (300 baht) per day declared by the Thai government throughout Thailand, starting January 2013. This would translate to a 9.8% increase from the current level of 273 baht. While the policy would affect all the players in the industry, the SMEs in the mould and die industry not only faced the challenge of productivity improvement to compensate for the minimum wage increase but the shortage of skilled workers as well. Only those who could overcome this would be able to survive

For eight years, Mr Prapan managed to survive competition and started to see some progress in production of moulds and dies for the local industry. Starting with seven employees, GPE's workforce increased to 17 over the years and its sales volume multiplied four times, from 5 million baht in 2004 to 22 million baht in 2012. Having reached this level, Mr Prapan, in the medium term, wanted to move to providing parts to the manufacturers where the market appeared to be bigger instead of staying in mould and die manufacturing. However, he experienced difficulty in recruiting and retaining talents for his operation, even with the support from the government sponsored incubation project and from the Thai-German Institute. Given these circumstances, he attempted to test various new measures on human resource management (HRM) at GPE. Since his new approaches were still being tested, Mr Prapan wondered if he could do anything further to ensure his business success.

Mould and Die Industry

The mould and die industry was a core support industry for various major manufacturing sectors in Thailand. In the past, parts were manufactured using dies and moulds imported from abroad, such as Germany and Japan. As industrialization advanced in Thailand and demand for dies and moulds increased, there were moves to transfer the production near the market. The Thai government recognized the importance of this industry and started to accelerate its localization by providing various support mechanisms to industry players. However, the mould and die industry was still at the medium level in technology, serving mostly domestic plastic and metal industries. The comparative reach and technology level of the industry in Asia is shown below.

Figure 1: Technology Level and Supply Market in Asia (Moulds and Plastics)

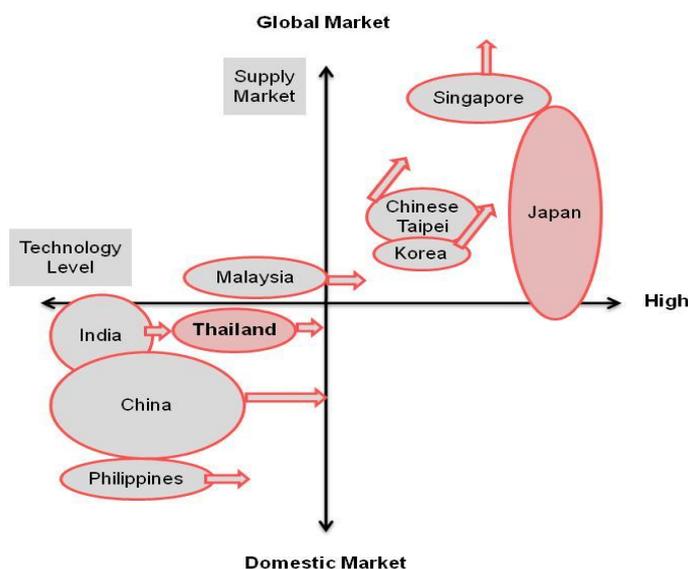
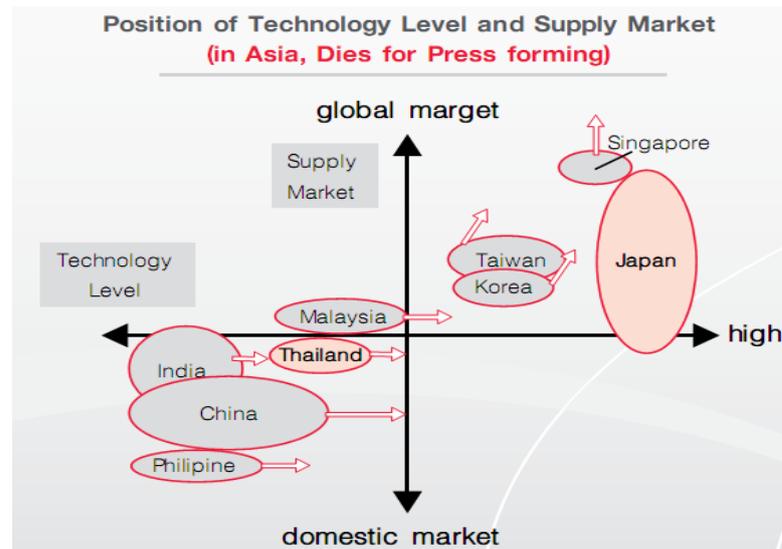


Figure 2: Technology Level and Supply Market in Asia (Dies for Press Forming)



Source: Thai Mould and Die Industry Development Master Plan, 2003.

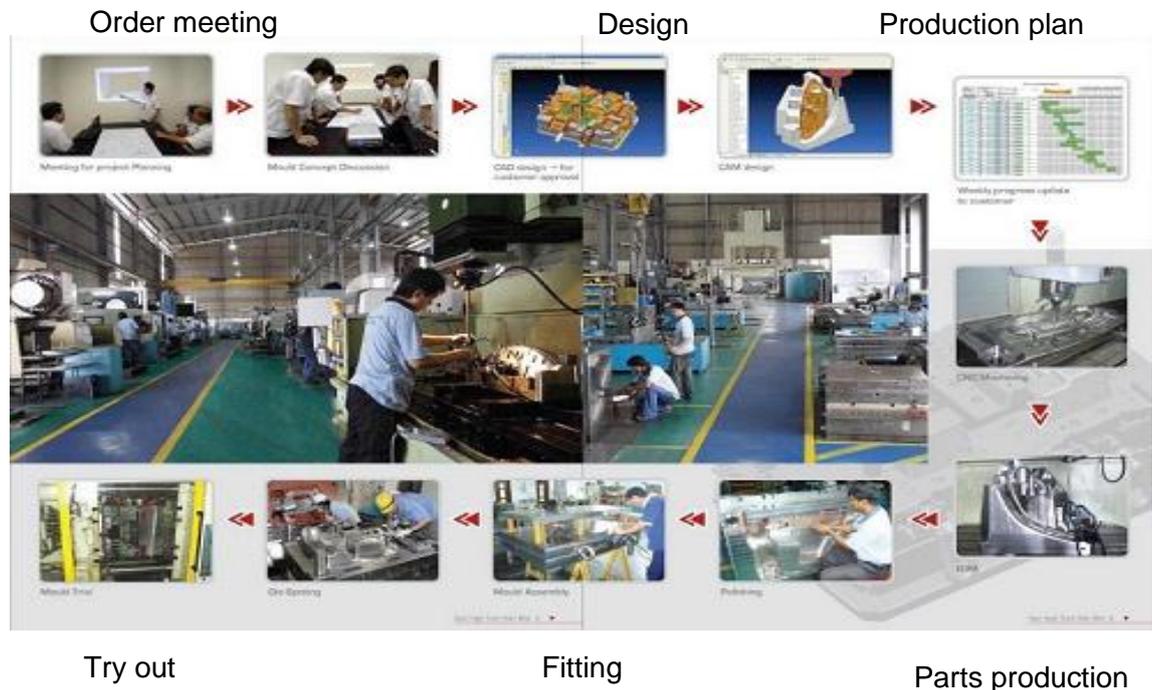
Profile of Mould and Die Industry in Thailand

Majority of the companies in the mould and die industry of Thailand were small and medium enterprises (SMEs). As the Department of Industrial Works (DIW) data indicated, there were 1,097 mould manufacturers, but there existed small factories not yet registered with DIW. The number of manufacturers classified by product consisted of 328 metal, 497 plastic, 10 ceramics, 63 rubber, 10 glass mould and 148 jigs and fixtures manufacturers. There were also seven manufacturers producing mould components. Out of these, 772 enterprises were small enterprises (with authorized capital of less than 50 million baht), 243 medium (with authorized capital of over 50 million baht but not over 200 million baht) and 42 large enterprises (with authorized capital of over 200 million baht). Typically, the educational background of workers in these sectors were high vocational certificate, vocational certificate holders or grade 12 for machine operators. CAD/CAM designers were holders of high vocational certificate or bachelor's degree.

Mould and Die Design and Making Process

The manufacture of mould and die making involved activities such as deciding the materials for parts, designing dies and moulds, developing production plans, producing parts, assembly/fitting, and testing (Figure 3). The companies could obtain higher value if they enhanced their capacity to design the products themselves rather than simply produce them based on someone's design.

Figure 3: Mould and Design/Making Process



Company Background

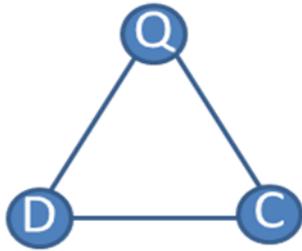
In 2004, Mr Prapan Sodatip established MS Create which was a part of the Mould and Die Factory Incubation project organized by the Thai-German Institute to upgrade design and product development of rubber mould and jigs & fixtures. MS Create was located in the Thai-German Institute for Mould and Die Factory Incubation project site for the first five years. When the company was ready to move to its own factory, it changed its company name to Global Precision Engineering Co., Ltd (GPE) in 2009.

The company started with only seven workers to produce rubber moulds and jigs & fixtures. Expanding the scope of its work every year, by 2012, GPE had 17 workers and had increased its sales volume 4 times over the period. The product lines also expanded to various plastic injection moulds and aluminum and zinc die casting such as automotive parts, electronics and electrical parts and medical parts. All these products served the local customers, who were mainly original equipment manufacturers (OEMs) of automotive parts, electric and electronics products. Roughly 40% of the products were rubber mould, 30% were aluminum and zinc die casting, 15% were plastic injection moulds and the rest consisted of jigs & fixture, and precision machining parts.

Performance and Competitors



Rubber mould was the most important product among GPE's four product lines. The company was especially well-known by customers for its polyurethane polymer (PU) mould for automotive steering wheels, the most



sophisticated mould in the market. However, Mr Prapan thought that the design capability and mould making process in his company required further development to achieve better Quality, Cost, and Delivery (QCD). The results of customer assessment in 2011 showed that the company was rated relatively high on Quality (90%). They however highlighted GPE's weakness in Cost (80%) and Delivery (75%). It was difficult for GPE to tackle these weaknesses, as it required a better working system to improve a QCD triangle of competitiveness. In order to improve Q and D, investment might be needed, raising C.

"The root cause of the problem," said Mr Prapan, "comes from people. Workers with lower skills need more training and development."

There were about 150 mould and die making companies in Chonburi province where GPE was located but only 11 companies were in the field of plastic injection mould and could thus be considered as GPE's competitors. At the same time, each of these 11 companies had its own set of customers due to the long years they had been in the business. Hence, GPE was not worried about local competitors but about Chinese mould and die manufacturers, especially in terms of Cost and Delivery. GPE lost many orders to Chinese companies because the latter offered 20%-40% lower price. To reduce delivery time and address the bottleneck in the mould designing stage, GPE tried to implement the CAE technology, a simulation software for mould design. Mr Prapan expected that delivery time could be reduced by about 50% from a trial and error design that he used. Despite these production issues, GPE continued to grow because many customers focused more on quality than cost. Besides, Mr Prapan enjoyed good relations with existing customers and members of the Mould and Die Cluster of Thailand where he was actively involved.

Strategy to Survive

Mr Prapan had a 5-year plan to develop and expand his business. Within two to three years, he wanted GPE to be able to acquire mould design and manufacturing technology. To achieve this, starting in 2011, he took part in the mould and die industry development project supported by the Ministry of Industry in the area of technology development. He did some R&D and consultancy projects with experts from universities to help him improve GPE's design capacity with simulation technology (CAE) in order to reduce delivery time as well as cost. The target was to manufacture the products according to exact specifications in a single tryout as Japanese mould shops did. Once he was able to achieve it, Mr Prapan was intending to expand his business to cover injection moulding. Because it would be hard to make enough profit by mould making alone, he was thinking of selling products rather than selling moulds. Selling moulds would just be a one-time transaction while selling processed products would be continuous. However, he needed time to find the products that would fit the customer needs.

The strategy to survive could be achieved in two stages: 1) mould and die technology development to strengthen competitiveness; and then 2) product development to expand and secure repeat business. Mr Prapan anticipated that producing end products would require more time, investment and innovation.

Mould and Die Cluster

The Mould and Die Cluster of Thailand (MDCT) was established by the Thai government to bring together and develop a number of SMEs which the Thai-German Institute had organized. MDCT was one of the four area-based clusters developed under this scheme to serve as the core of a supply chain. MDCT was run by the management committee consisting of the president and the consultants group. The consultants group was represented by member companies that had long experience in this field and could include any number of consultants. Since most of the entrepreneurs lacked experience in managing people and in marketing their products, it was considered absolutely necessary to have alliance with the group of professionals who acted as consultants for the group. The support was extended mostly by older members to less experienced entrepreneurs to help them become more competitive. The group was divided into three sub-groups:

1. Plastic injection mould group: injection, blowing, and rubber mould
2. Metal forming die: stamping die, press die, die casting, part machining and jig & fixture
3. Mould and die support: mould and die materials and components such as mould base, heat treatment shop, machine tool, tooling, etc.

At the beginning, there were 94 company members, but during the economic crisis of 2007-2008, only 37 remained. Those who ceased to be members either went bankrupt or had no activities with the cluster. As the economy started to recover, the membership once again increased to 47 companies as of 2012. GPE had been a member of MDCT since 2005 and had benefited from its membership. Some of the benefits included internal member outsourcing, machine time sharing, standard price setting and human resource development.

HRM in Mould and Die SMEs in Thailand

Most SMEs in the industry faced difficulties in recruiting new employees with the desired knowledge, skills and experience. Those with skills had opportunities to choose a job with large companies at higher pay and better welfare. Hence, the SMEs usually had to settle for new employees with less qualification and education and with little technical skills. Training these employees took a great deal of money and effort, and when the same employees acquired enough skills, they tended to look for another job with higher pay. SME owners, therefore, were generally reluctant to develop people.

Offer to Buy GPE

At the end of 2011, one of GPE's large customers offered to buy GPE, including the property and all employees. Mr Prapan was offered a factory manager's position because this company wanted to set up a mould shop at the shortest time. After careful consideration, Mr Prapan decided to continue running his company because it had always been his dream to own his business. Explaining his decision, he said, "I know all my headaches will be gone if I sold the business, including those issues on HRM. But I have always wanted to run my own business."

Assistance in Human Resource Development (HRD)

To continue his own business meant that Mr Prapan had to deal with human resource issues, especially because the government was raising the minimum wage to 300 baht per day. In Chonburi, the current rate was 273 baht per day. Since GPE had to follow the minimum wage guidelines, workers' productivity must increase as well to compensate for the wage increase.

In most SMEs, business owners, who often had little knowledge and expertise in human resource management were also the HR managers. Whatever system they used would have been developed through their experience at work in the past. Most of them just checked attendance, tardiness, compensation, and often had no formal evaluation system. Mr Prapan was fortunate because he attended the Mould and Die Factory Incubation project and was also a member of MDCT, where he had been trained on business administration and human resource development systems. He tried various measures such as setting the objective of human resource development in accordance with the competency standard of the Thai Tool and Die Association. The standard divided workers into seven levels from T1 to T7 (See Exhibit 2), from an operator assistant to management level position. He conducted a gap analysis of the knowledge and skills of individual workers to determine the appropriate course and training method that could develop the competency of a worker from T1 to T7.

GPE was developing the Individual Development Plan (IDP) to manage training. The IDP would be monitored and a final evaluation to get feedback would be conducted. However, because of the resource constraints, GPE had not been able to fully implement its IDP. Most of the training programs included on the job training (OJT). Being a member of MDCT, he would be able to avail of the more systematic training it offered, as the cluster had established a training center to develop workers of member companies. It was expected to start the first course in August 2012 to correspond to the competency standard of T1-T7. With this HRD assistance, he thought human resource development issues, particularly developing workers, would no longer be major problems for the company.

Retention: A Big Issue

To Mr Prapan, the major problem particularly for most SMEs was "when workers get higher skills and improve their capability, they tend to move to other companies for a little higher pay." Alternatively, they would ask for a pay raise. In GPE, turnover of workers tended to be higher among workers with vocational certificates and most of those at the operator level. On the other hand, high level staff such as technicians and engineers had been working for a long time with the company. The few who left GPE did not move to another company, but started their own business. In Thailand, people's preference to be on their own and to be the head of their own company was widely shared. Considering his own experience, Mr Prapan had to contend with this underlying characteristic of the Thai people.

Under these circumstances, Mr Prapan was determined to address some of these issues in the following manner:

1. Instead of Vocational Certificate holders, who were limited in supply but were in high demand by the industry, hire Middle/High School graduates and spend more time to develop them.
2. Hire all employees on a monthly salary basis, instead of on daily wages.
3. Show a clear career path early to inform employees of the steps T1-T7 and how compensations would be affected.
4. Provide an annual bonus plan to reflect the roles and performance of workers.
5. Manage the employees like family members; take care of everyone, keep an eye on them, and inquire about their personal problems, including the problems of the family members and their finances. Give assistance, if necessary, and all the care that a big company might not be able to provide.

Headaches Continue

In spite of the measures that Mr Prapan had taken, the turnover of operators after one to two years of employment still persisted. With the Thai economy starting to pick up, the trends might worsen in the future. Mr Prapan started to review his company strategy, which was to move to the manufacture of end products rather than produce just moulds and dies, in relation to GPE's HRM practices. Being a member of MDCT, how could he effectively utilize the linkage to overcome the three big challenges of SMEs — recruiting, developing and retaining good performers?

Exhibit 1: Sales Growth and Number of Employees (2009 – 2012)

Year	Sale (10 ³ THB)	Employee
2009	14,000	11
2010	19,000	12
2011	12,000	14
2012	22,000	17

Exhibit 2: Mould and Die Skill Standards

Skill Level	Competency
T1	Semi skill
T2	Skill
T3	Technician
T4	Designer
T5	Expert
T6	Shop Floor Management
T7	Manager

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