

Chapter 7

Manufacturing of Automotive Components in the ASEAN Region

Denise Cheung¹

7.1. Background Information

Company overview

The company represented in this case study is a leading supplier of advanced automotive technology, systems and components for major automakers. Based in Japan, the company has operations in over 30 economies, including eight ASEAN member states, of which six are APEC members.

Global turnover is about JPY 4 trillion (US\$30 billion) on a consolidated basis in FY2013-14. Japan is the company's largest market, accounting for half of its revenues. North America and Asia Oceania each account for one-fifth of the company's global turnover, and Europe around a tenth. The company employs approximately 140,000 persons globally, 27 per cent of whom are located in Japan and 15 per cent in ASEAN economies.

Products

The company has two main product lines, namely OEM (original equipment manufacturer) automotive parts and aftermarket automotive-related products. The former group of products is sold to automakers as intermediate inputs and will not bear the company's brand. These include powertrains, climate control equipment, body electronics (e.g. windshield wipers, horns), safety components, and information and communications equipment (e.g. navigation systems, toll collection systems). The latter product line – aftermarket products – consists of automotive parts and accessories and navigation apps targeted directly at consumers.

ASEAN regional network

The company has factories for OEM components in seven ASEAN economies – Thailand, Indonesia, Myanmar, Malaysia, the Philippines, Viet Nam and Cambodia (Table 7.1). Within the ASEAN region, the company has two regional headquarters, in Singapore and Thailand. Choice of Singapore as a location for RHQ can be explained by the economy's well-developed physical and financial infrastructure. In contrast, the locational choice of Thailand is driven by a large scale of supporting industry, as many major automakers/suppliers have production hubs in Thailand.

Research and Development (R&D) centres have been established in Thailand. The company has designated the R&D facility in Thailand as the core technical centre for the ASEAN region.

There are sales offices in Thailand and Indonesia to sell and distribute in the domestic markets.

¹ Project Manager at Fung Global Institute

Table 7.1. Operations in ASEAN

	Regional headquarters	Production sites	R&D centres	Sales offices
Cambodia		√		
Indonesia		√		√
Malaysia		√		
Myanmar		√		
The Philippines		√		
Singapore	√			
Thailand	√	√	√	√
Viet Nam		√		

Source: Author based on corporate brochure

7.2. Description of the Value Chains

This case study considers two types of value chains – decentralized and centralized – for OEM automotive components. In general, the company adopts centralized value chains for smaller-sized and higher value-added parts and components. On the other hand, decentralized value chains are adopted for bulky parts and components.

In a decentralized value chain, production of the component is allocated among various locations within the region. This is the case for the assembly of heat, ventilation and air conditioning (HVAC) units.

7.3. Services along the Value Chain

This section highlights some of the services that are particularly important in these OEM automotive component value chains. Table 7.2 shows a list of services inferred from the interview with company’s management.

Production planning and logistics

With a large turnover, multiple production sites and multiple markets, careful planning of production volume, inventory control and efficient transportation of materials and products among economies can be significant cost savers.

Research and development

The automotive industry continuously undergoes technological changes. To keep up with demand from automakers and consumers as well as changes in regulatory requirements, the company spends approximately 10 percent of its revenues on R&D.

R&D services are supplied in-house, mainly from the Japanese headquarters but increasingly from the European and North American headquarters. The company creates roadmaps to track the progress of its R&D activities and updates them annually to incorporate market and regulatory changes. The roadmaps are shared among various divisions which are responsible for different stages throughout the

value chain. Decisions about which projects to start, continue, modify or terminate are made based on feedback from different divisions in the company.

Testing and certification

For automotive components, expectations regarding product safety and quality are high compared to many other goods. In addition, customers and regulators have in recent years become concerned about the environmental impact of automotive components. These factors have increased the importance of testing and certification in recent years, pushing up the value contribution of these services to the supply chain.

Testing and certification services are required throughout the value chain. Inspection and sample testing are conducted on the firm's suppliers. Design testing is done to confirm the feasibility of product ideas. Product testing is conducted on protocols and samples of finished products. In addition, the company has adopted the ISO 26262 certification standard for the functional safety of the design process.

The company has also acquired the ISO/TS16949 certification standard for quality management systems. The certification is valid for three years and has to be confirmed annually based on external audit results. On the environmental front, most of the company's subsidiaries have obtained ISO 14001 certification and implemented environmental management systems.

Supplier management

With a diverse supplier base, the company pays considerable attention to supplier management. The company holds regular meetings to communicate its procurement policy to major suppliers. In addition, it runs an assessment program for suppliers, which assesses supplier performance based on quality, cost, delivery, management, and environmental and social compliance.

The company realises that without cooperation throughout the value chain, it cannot fulfil its social responsibilities such as safety and product quality, legal compliance, labour protection, and environmental protection. For example, the company has to ensure that its suppliers refrain from using "conflict materials" (raw materials mined from conflict zones whose proceeds end up financing armed forces) in their automotive components. The company requires that its suppliers maintain detailed records of materials used, and this information is audited by the lead firm.

The company is in the process of developing CSR guidelines for its suppliers. Suppliers are asked to self-diagnose based on the guidelines. In the future, the company plans to inspect its suppliers to verify the self-diagnostic results and hold meetings with suppliers to explore ways to improve.

After-sales services

After-sales services are important elements of the automotive component value chain. The company has offices that provide basic repair and maintenance services as well as high-tech service facilities that undertake more advanced diagnostic and repair functions. The latter facilities are equipped with the company's proprietary assets and are staffed by experts who have received specialized internal training and certification. In addition, the company has a recall mechanism to repossess problematic or defective products. This mechanism includes making announcements via newspaper advertisements and the company website, and responding to enquiries via a dedicated toll-free phone number. Finally, after-sales services staff also communicates with customers and auto-dealers for feedback on potential market needs.

Table 7.2. Services entering the value chains of OEM automotive components

<i>Services</i>	<i>Corresponding CPC Rev. 2 code</i>
Raw-materials, input/pre-production stage	
1. Industrial design	83912 Industrial design services
2. Procurement agent for raw material sourcing	85999 - Other support services n.e.c.
3. Customs-related services for imported raw materials	85999 - Other support services n.e.c.
4. Quality assurance services (of raw materials)	83441 - Composition and purity testing and analysis services
5. Freight transportation services (of raw materials) by road, rail, sea or air	Division: 65 - Freight transport services
6. Storage of raw materials – general storage	67290 - Other storage and warehousing services
In factory stage	
7. Production management	83115 - Operations management consulting services
8. Quality assurance and compliance with ISO	83441 - Composition and purity testing and analysis services
9. Warehousing services for intermediate goods	67290 - Other storage and warehousing services
10. Cleaning services for factory	85330 - General cleaning services
11. Security guards for factory and warehouses	85250 - Guard services
12. Sewage water treatment services	94110 - Sewerage and sewage treatment services
13. Industrial waste disposal	94212 Collection services of industrial hazardous waste (except medical and other biohazardous waste) 94339 Other non-hazardous waste treatment and disposal services
14. Repair and maintenance services of machines and equipment	87156 - Maintenance and repair services of commercial and industrial machinery
15. Government inspections on fire prevention, health hazards, environmental protection and other aspects.	91133 - Public administrative services related to mining and mineral resources, manufacturing and construction 91290 - Public administrative services related to other public order and safety affairs
16. Catering services for workers	63393 - Other contract food services
17. Personnel search and referral services - Recruitment of factory workers	85112 - Permanent placement services, other than executive search services

18. Social insurance for factory workers	91320 -Administrative services related to government employee pension schemes; old-age disability or survivors' benefit schemes, other than for government employees 91330 - Administrative services related to unemployment compensation benefit schemes
Delivery and sales stage	
19. Design of Packages	83919 - Other specialty design services
20. Packaging Services	85400 - Packaging services
21. Freight transportation services (of finished goods) by road, rail, sea or air	Division: 65 - Freight transport services
22. Storage and warehousing services for finished goods	67290 - Other storage and warehousing services
Post-sales stage	
23. Customer services – technical support, complains handling and enquiry related to recalls	85931 - Telephone call centre services
24. Repair and maintenance	87141 - Maintenance and repair services of motor vehicles
Operation and Management related services	
25. Auditing on financial accounts	Group of 822 - Accounting, auditing and bookkeeping services
26. Auditing with respect to ISO certification	Group of 822 - Accounting, auditing and bookkeeping services
27. Financial services	71121 - Deposit services to corporate and institutional depositors
28. Internal auditing (including audits of financial accounts and corporate governance)	Group of 822 - Accounting, auditing and bookkeeping services 83118 - Head office services
29. Insurance services for machinery	71334 - Other property insurance services
30. Corporate communications, marketing and public relationship	83114 - Marketing management consulting services 83121 - Public relations services
31. Real estate services	72112 - Rental or leasing services involving own or leased non-residential property
32. Human resources management	83113 - Human resources management consulting services
33. Human resources management - • Personnel search and referral services for back-office staff	8511 - Personnel search and referral services
34. IT and information system management	8314 - Information technology (IT) design and development services 8316 - IT infrastructure and network management services

35. Legal services	82120 - Legal advisory and representation services concerning other fields of law 82130 - Legal documentation and certification services
36. Product development/ R&D	81129 - Research and experimental development services in other engineering and technology
37. Visa and immigration services for foreign investors/ employees	91290 - Public administrative services related to other public order and safety affairs

7.4. Policies Affecting Services in the Value Chain

With value chains spanning most of the ASEAN economies, the company constantly faces regulatory hurdles emanating from different policy backdrops. This section discusses some examples of these challenges.

Foreign investment restrictions

In 2014, one ASEAN economy government revised its Negative Investment List for foreign investment, which indicates restrictions placed on foreign investment. The new Negative List explicitly spelled out restrictions on foreign investment in retail services. In addition, the new list tightened foreign ownership in distribution and warehousing services. The tightened restrictions affect some of the value chain's activities in the economy concerned, but offers grandfathering of existing arrangements as long as the subsidiary involved does not undergo any legal changes.

Operational restrictions

When establishing a new subsidiary in this ASEAN economy, the company originally intended the new subsidiary to share certain back-office functions with the group's existing company in the same jurisdiction for cost and efficiency purposes. However, this arrangement was not approved by the government because the law requires any registered company to be completely equipped with all back-office functions and a stand-alone office address. If two companies within the same group were to share certain functions, formal transactions would need to take place, meaning that formal contracts would be required. From the company's perspective, this regulation does nothing but augments costs and lowers efficiency.

Labour regulations

The company used to hire term employees to perform labour-intensive tasks. The company believed this was a win-win transaction for the company and the workers. The company could enjoy more flexibility in response to fluctuations in demand, while the term employees who were mostly rural labour could earn additional income, including during their seasonal downtime.

However, with labour law amendments that came into effect in 2008 in this ASEAN economy, companies are required to provide the same pay and benefits to all workers who undertake the same task. In other words, the firm was no longer allowed to hire employees on different employment terms (i.e. full-time versus casual employment) for the same duty. This has reduced the company's flexibility in adjusting manpower according to workload, leading to seasonal labour shortages and reduced output.

Intellectual property concerns

Counterfeit products are commonplace in the region and have become a threat to the company’s business. However, they mainly affect the aftermarket product lines and replacement parts, which account for a minority share of the company’s turnover. The OEM product lines have not been much affected because the company deals with automakers directly.

To combat counterfeit products, the company has been cooperating with customs departments in its major markets. For example, it provides samples of its products to customs departments so that customs officers can compare imported goods to the genuine product. However, the company thinks that it is also important to root out “production source” of counterfeit products because it is quite difficult to detect and exterminate smuggling.

Table 7.3. Policies affecting services in the value chain

Government policies/services	Authority(ies) in charge	Details	How the policy affects services in the value chain
Foreign investment restrictions	Ministry of Industry	The Negative List 2014 specifies restrictions on foreign ownership in certain industries	The list specifies foreign ownership restrictions on retail and wholesale services
Requirements on established companies	Ministry of Industry and Trade	Registered companies are required to be fully equipped with back-office management functions	The company cannot share its back-office operations among its subsidiaries in the same jurisdiction
Labour regulations	Department of Labour Protection and Welfare	Legislation prohibits discrimination in terms of pay and benefits to different workers performing the same task.	Reduces flexibility in adjusting workforce in response to seasonal fluctuations in workload.
Intellectual property concerns	Customs department	Counterfeit products are commonplace in the region. The company depends on customs departments’ enforcement to combat counterfeiting activities.	The company proactively seeks cooperation with customs departments in its major markets.