

Chapter 2

Logistics of ASEAN Automotive Components

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CHAPTER 2

Logistics in the ASEAN Automotive Components Industry

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Introduction

The logistics industry's share of global gross domestic product (GDP) is 10 percent (Japan's share is 7-8%). This figure can increase in large countries. Since the 1990s, logistics vocabulary has become more popular. While formerly simply referred to as distribution, logistics terms such as material flow are now more widely used. The reason why logistics have received increased attention is the more complicated production process so that the movement of components and raw materials has become more important. Furthermore, aspects related to this movement like tools, technology, and efficiency have evolved.

In turn, problems that occurred in these related aspects have increased the need for logistics (solutions). For example, resource security (rare earths), dealing with waste and residual materials (prime example is nuclear waste), rapid increase of carbon dioxide or CO₂ (emissions from ships, airplanes and

trucks), aging society (distance between place of production and place of consumption), or the expansion of mail order and internet shopping.

1. Logistics in the ASEAN Context

1.1. Defining logistics

“Providing the right thing, at the right time, at the right place” is the formula of the Toyota Production System (otherwise known as JIT or just-in-time). Exactly for this reason, Toyota is successful. Applying this definition means that we are adopting a managerial perspective on logistics and supply chains, and not a macroeconomic one. We use this perspective and as a concrete case study in order to highlight existing problems in supply chain logistics and identify whether these issues arise from industrial dynamics, hence the business side, or from regulation and implementation on the state side. Thus, we intend to show the roots of practical problems in nowadays (automotive) logistics in ASEAN and where government intervention could help in solving these issues.

The definition of the Toyota Production System means that the idea of reducing the inventory to zero is pursued through means – called sustainment – even if producers and consumers are geographically and timely separated.

A further meaning of the term supply chain should be explained because the term is often used in a false way. In which situation is it possible to call a supply chain interlinked? If the cooperation between Firm A and Firm B leads to a win-win situation (determining the reason for a win-win situation is difficult). Using a supply chain can create advantages through cooperation such as stabilising production volume through a secure (arranged) quantity of orders (zero inventory), which enables direct business transactions. In a case where the business relation is not limited to Firms A and B then there is no supply chain. If Firms C and D are also included and firms engage their transactions in an open market, there is no supply chain.

1.2. The importance of logistics in the context of ASEAN

Concerning the ASEAN region, logistics possess special importance. The reason for this is that AEC is going to eliminate tariffs, which means that uninterrupted distribution becomes the key for organising business operations. In the automotive industry's case, as a car consists of 20,000 to 30,000 parts the timely supply and smooth customs procedures play especially decisive roles for overall operations. Therefore, the control over distribution planning – read supply chain – necessarily is of crucial importance. In the ASEAN context, Singapore has so far assumed the function of the brain that organises all operations. However, while Singapore will continue to perform these planning and control functions in finance and distribution under the ASEAN economic Community (AEC), manufacturing related functions are increasingly shifted to the actual production centre that is Thailand. This paper will analyse the importance of logistics for business in general and for the automotive industry in ASEAN in particular based on the example of logistics service provider Company V.

2. Case Study: Automotive Components Logistics

2.1. The historic development of Company V

Company V is an integrated automotive components logistics, forwarding, and distribution company founded 1954 in Yokohama as a subsidiary of N Motor to handle logistics. In 1990, the company name was changed to YV and during the management crisis in Nissan 10 years later, the company became independent through a management buyout. Then, the air transport logistics firm TAC founded in 1976 became a wholly owned subsidiary of Company V and was called VWT in 2005. In 2009, Company T, a former affiliate of N Motor, was integrated. However, in 2011 Company H placed a takeover bid so that since 2012, Company V is a wholly-owned subsidiary of company H. Further, Company H reorganised parts of its own sea- and airborne logistics subsidiary HTSSA into present Company HTSVF.

The following sections will rely on information provided by Company V. Its business is mainly related to car logistics for N Motor and delivery from affiliated (or *keiretsu*) suppliers.

2.2. Company V business and locations

Although the company has mainly had N Motor and its *keiretsu* suppliers as key customers since its foundation, it now has Mitsubishi, Suzuki, and Bridgestone as its new Japanese parts distribution customers as well as German companies Bosch and Mahle Filter Systems. Although business with Toyota was initiated, as Toyota is a company that takes *keiretsu* relations very serious, Company V faces several challenges one of which is that its trucks cannot enter Toyota's company property to directly deliver components. As to turnover of domestic operations, 84 percent depend on automotive industry (of which 43% come from the N Motor *keiretsu* and 41% from other automotive industry clients). Furthermore, overseas business has expanded. In 2012, Company V's gross turnover was JPY1.466 million of which overseas companies contributed JPY260 million or 18 percent of the total. Company V handles forwarding, transport, inventory, and packaging for the US, the United Kingdom (UK), the Netherlands, Russia, China, India as well as Thailand, Indonesia, Malaysia, and Singapore in the ASEAN region.

2.3. Company V's strength

The strength of Company V is automotive (parts) logistics, which is based on know-how accumulated through long-term practice. Through relations to the N Motor *keiretsu*, the company understands N Motor's production control and related transport requirements well. However, since N Motor came under the influence of Company R in 1999 and CEO Carlos Ghosn formulated the "N Motor Revival Plan", Company V gained independence and had to compete with cheap, non-*keiretsu* logistics companies. However, regarding automotive parts logistics, packaging must be adapted depending on each parts' type and destination (whether domestic or overseas) and a pure cost-based transport may create a problem and negatively affect the quality of goods. Therefore, the company must achieve cost reductions while maintaining the proper way of components logistics and to develop its role as a pioneer in auto parts logistics even further.

2.4. Company V's new approach

Induced by N Motor's new parts production method called Common Module Family (CMF), the company has realised the necessity of handling module components transport. Therefore, regarding international inter-process division of labour in auto parts production (subsequently mentioned as ASEAN's current state and future task), Company V set up six facilities in connection to N Motor's so-called International Parts Center (IPC) network (of import-export facilities) in the UK, India, Thailand, Mexico, and the US. At these locations, Company V must manage the inventory, and plan and package properly (depending on domestic or overseas shipment) for JIT delivery to assembly plants or directly assembly lines, which must also be adjusted to N Motor's assembly schedule changes. It is worth mentioning that due to the Japanese suppliers' excellence in keeping the schedule, there is no IPC in Japan.

2.5. Future and tasks for auto parts logistics in ASEAN from Company V's perspective

It is no exaggeration to state that in the era of international inter-process division of labour in auto component production, ASEAN is a role-model. Demand for new vehicles in Thailand and Indonesia is increasing. In response, OEMs increase their model range, which also increases competition and simultaneously increases the necessity for precise and complex supply chain management. Now, three examples will be discussed.

First, each car and component must meet increasing quality requirements. In the previous years, a system of reciprocal complementation has been established in ASEAN so that many Tier2 and Tier3 as well as Tier1 parts suppliers have located to ASEAN countries. OEMs have located their assemblies to Thailand and Indonesia but due to the development of intra- and inter-regional integration, OEMs are not just producing for the ASEAN markets but also for Australia or Europe such that different vehicles are produced, which in turn require different supplies and different shipping procedures. Thus, concerning auto parts, production in different locations requires collection from these locations and redistribution, which is made

complicated by the packaging and parts design changes. Therefore, the extension of logistics networks and bases is necessary for supply chain management but companies must simultaneously balance increasing cost from these networks with customers' price expectations. A current concern is the existence of so-called dead stock where parts are stored at a logistics firm's warehouse in anticipation of a shortage, which turns into prolonged storage in the inventory because problems do not occur. As storage creates cost, logistics companies get stuck with these inventories without compensation. OEMs and parts suppliers plan to reduce this unneeded inventory to bring down long-term cost, this is a problem that must be resolved quickly.

Moreover, during parts transport the quality can be affected and deformations can occur. Considering ASEAN's geographic conditions, production and development adjusted to the hot and humid climate would help logistics companies to offer high quality logistics services to customers.

Second, the main issues are infrastructure-related, may it be hard (conditions of roads and ports) or soft (customs procedures or other bureaucratic obstacles).

As the automobile industry has severe delivery requirements to decrease cost related to inventory and overall efficiency, keeping the schedule is a main issue. Regarding automotive logistics in ASEAN and time issue, the most critical problem is the lack of hard infrastructure. While each member country has different conditions, it is no exaggeration to claim that especially improving the road infrastructure for safe passage by trucks is a main challenge in most ASEAN countries. Moreover, as most automotive industry plants in Indonesia and the Philippines are located in close proximity to the capitals, the severe traffic jams are an obvious problem for JIT delivery. Harbour facilities are often overburdened as ships may enter the port, but cannot unload due to lack of port storage capacity. Hence, in order to contain difficulties on the intra-ASEAN system of complementation, improving hard infrastructure appears mandatory.

Regarding soft infrastructure, logistics firms do have concerns with customs clearance delays and complex procedures. So far, only Singapore has a positive record regarding both hard and soft infrastructure. Nowadays, the

customs procedures in Thailand and Malaysia are comparatively smooth. However, bribing officials is still a common problem in some ASEAN countries and India, so that elimination of such practice is a desired and much needed task.

Third, there is the issue of qualified human resources. While every industry has different requirements, automotive logistics need human resources qualified in on-the-spot handling of packaging. As automotive parts trade will increase, it is expected that the need for industry-specific logistics will also rise. Due to these expectations, training and qualifying human resources is an urgent task for Company V.

3. Remaining Issues

Regarding automotive logistics, Japanese OEMs and parts suppliers in ASEAN face many tasks. Multiple ways of diversification and simultaneous price competition are present, which for logistics companies mean that their OEM customers require the construction of IPCs for import-export operations that further creates additional costs. Thus OEMs increasingly apply universal quality standards, which becomes difficult for emerging countries due to the high required level of technology. On the backside, this means that driving logistics cost down may impact on the quality of the product, which in turn could undermine the brand (image).

Furthermore, as OEMs follow a cost-down approach, there is the risk of claims for damaged parts while in transport that will increase as defects usually occur after assembly. In such cases, the formerly lucrative black box (between suppliers and OEMs) of transport costs, has now turned into an additional task for logistics companies.

Conclusion

Finally, regarding future development, Japanese automotive parts suppliers and some OEMs are going to end their dependence on trading companies by creating their own production network. Becoming more actively involved in supply chain management will become increasingly necessary.

As to human resource development, every country has to manage increasing skills level without excessively increasing wages. Regarding the future generation of workers, understanding the requirements of JIT production and delivery are central conditions for working in the automotive industry and related branches. It is also necessary to better understand local customs and work ethics in Japanese OEMs and to find ways of teaching Japanese requirements as this awareness will determine the success or failure in markets in ASEAN and in India.

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