DECREASE WAITING TIME FOR A NEW CAR PURCHASE CASE STUDY: HONDA AUTOMOBILE (THAILAND)

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ABSTRACT

This paper aims to study the causes that affect customer waiting time for purchasing a new Honda car and find the recommendation to reduce it. The research was made by interviews about current operation processes, the time consumed and production conditions with staff and managers who work at Honda Automobile (Thailand) Co., Ltd.

The study found that the causes of problems are CKD ordering lead time, production conditions of 30 units per set, information linkage and non-practical Kaizen and TQM. To solve the problems, Honda needs to order CKD by forecasting orders, set a new warehouse outside the factory and sub-sequence parts to be in line with customer orders, share information from dealers to suppliers, use one trailer for delivering cars to many dealers, and finally aim for quality Kaizen within the monitoring system. If the company implements all of the recommendations, the company will be able to reduce the current operation lead time by 3 months.

KEY WORDS: Honda / Supply Chain Management / Enterprise Resource Management / Total Quality Management

24 pages

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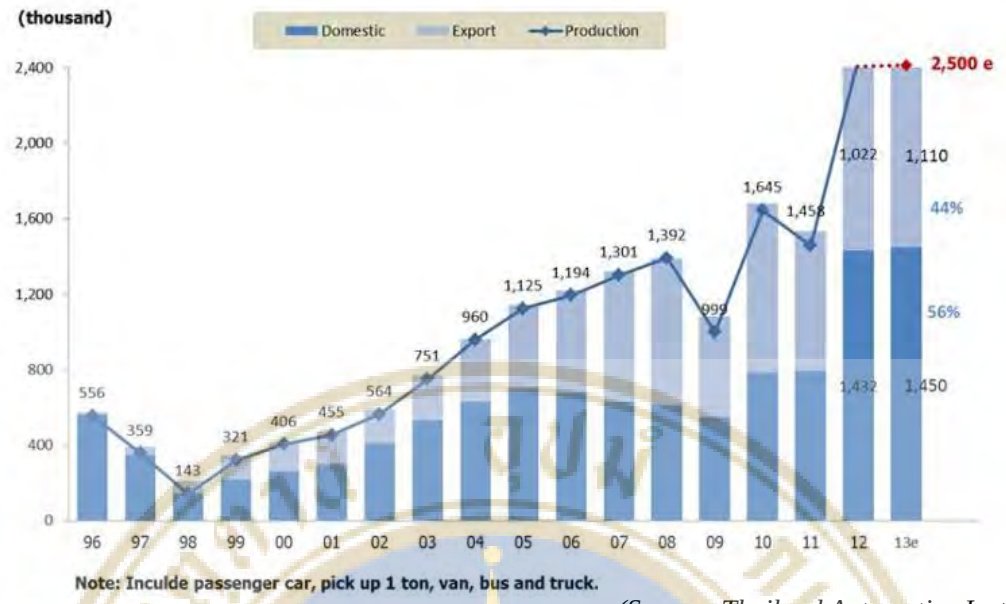
CHAPTER I
INTRODUCTION

Nowadays, cars could be considered as one of the important factors for living. Cars give us convenience for moving from one place to another with shorter journey times, provide more safety on the road and cover us from the rain. The first car was created in Germany in 1885. That means cars were being used by humans for almost 130 years. Cars have been a part of human life. We use cars in everyday life, going to school, going to work and going out to dinner, etc. Without cars, I believe that the world could not be as civilized as it is today.

The first car in Thailand belonged to the Royal family in 1900. After Thai people knew what a car was, the Anglo-Thai Motor Company (joint venture between Thailand and Germany) started the first automobile assembly line in Thailand in the 1960s. At that time only 310 units per year could be sold. Currently cars are in widespread use in Thailand.

Nowadays, the car industry in Thailand faces high competition. Because of the launch of eco-cars, lower prices and government support, sales volume in the car industry had rapid growth in 2012. Moreover, due to low public transportation convenience, the car could be considered as one of the important factors for living in Thailand.

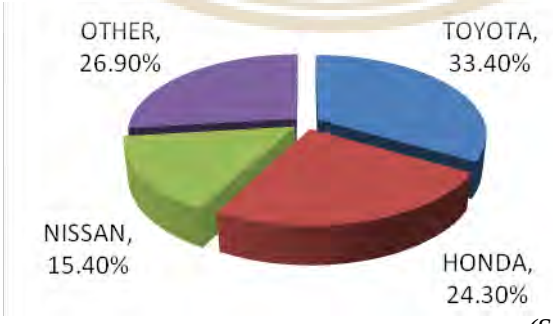


(Source: Thailand Automotive Institute)

Figure 1.1 Thailand Automotive Industry situations

In the figure 1.1 above it can be seen that domestic sales volume has been increasing continually since 2009. It increased dramatically in 2012. The reason for the increase is government support. The government offers 100,000 baht to all buyers if they buy a car for the first time. This encouraged people and created demand for the automotive industry. While demand increased, but production capacity could not increase in the same ratio, it created longer waiting times for customers. In that period, customers had to wait for 8 months to receive a car.

In Thailand there are more than 40 automotive brands. Among 44 brands, there are only 3 main brands able to make highest sales volume: Toyota, Honda and Nissan.



(Source: www.headlightmag.com)

Figure 1.2 Sales volumes of passenger cars in Thailand (Jan – Dec 2012)

To buy a car, price is not the only factor to consider. People also consider the product, distribution channel and promotion. Besides that, waiting time to receive the car is also one of the factors. Of the top 3 brands in the market, Honda is the brand for which customers have to wait the longest. For Honda, customers have to wait at least 4 months to receive a car while other competitors were 2-3 months or even receive immediately after purchase. Companies lose customers to other competitors because they do not want to wait or might not be able to wait that long. So this caused the cost of loss of sales to the company because the company could not respond to customer requests. Customers decide to purchase a car from other brands such as Toyota or Nissan instead of Honda. This could be considered as one factor to make Honda lose market share to Toyota and Nissan. If Honda still has a situation like this, Honda will lose competitive advantage to other brands and will soon be caught up by Nissan.

CHAPTER II
LITERATURE REVIEW

In Logistics and Competitive Strategy, Christopher Martin (1998) mentions that time has been one of the visible features in management. End users are more willing to accept a substitute product if their first choice is not instantly available. This has a direct impact on the product's demand. Just-in-time deliveries have become an issue and extended to logistic lead time and cost.

The concept of logistic lead time is how long it takes to convert an order into cash. Martin (1998) identified that the process began when decisions are taken on the sourcing and procurement of material and components through the manufacturing subassembly process to the final distribution and after-market support.

However, there is often the case that integration of marketing and manufacturing planning is lacking. The problem was caused by limited co-ordination of supply restricted visibility. To overcome the problem and ensure timely response to demand, supply chain management is needed.

This paper will study factors and methods to improve company lead time. The topic of the study will be as follows;

2.1 Supply Chain Management (SCM)

They are many definitions of Supply Chain Management

> "Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right location, and the right time, in order to minimize system wide costs while satisfying service level requirement."
>
> (Simchi-Levi, Kaminsky and Simchi-Levi, 2003)

"A supply chain is an interrelationship, through which information, physical goods, and services flow back and forth, consisting of business entities that undertake value-creating activity involved in supplying necessary materials, transforming various supplier into valuable good and service, and distributing the final output to the customer market, SCM is the study of how to manage the supply chain in an optimum way to create the maximum value for the customer."

(Bowon, 2005)

From the above definitions we could infer that supply chain management is the management of material flowing from suppliers, manufacturers, warehouses, and stores to the customer for the highest satisfaction and lowest cost. It is the management of downstream to upstream business flow.

Figure 2.1 Supply chain network *(Source: Martin, 1998)*

Martin (1998) showed Figure 2.1 as the idea of a supply chain network. The firm is at the centre of a network of suppliers and customers. It is not only a chain but also a network because it relates to multiple suppliers and suppliers of suppliers as well as multiple customers and customer's customers to be included in the total system.

Madu and Kuei (2004) noted in their book that to achieve the SCM target, the organization needs to define new alliances with their suppliers, vendors and customers. This required working jointly with suppliers and vendors at each stage of

the chain. This was called a supply chain network and the key to success of a network is information flow. All members of the supply chain network must be able to access timely information flow and information should flow in every direction.

2.2 Enterprise Resource Planning

With a need for timely information and data sharing, ERP (Enterprise Resource Planning) becomes a part. Madu and Kuei (2004) explained that ERP is an organization-wide information system that integrates key business processes to assure free flow of information between the business unit and the firm. The aim of this system is to have centralized information which is easy to access by all the business units and reduces redundancies.

In many firms, information technology provides a competitive advantage to the firm via the SCM system. Information flow between suppliers, manufacturers, and customers is critical for effective supply chain management (Simchi-Levi, Kaminsky and Simchi-Levi, 2003).

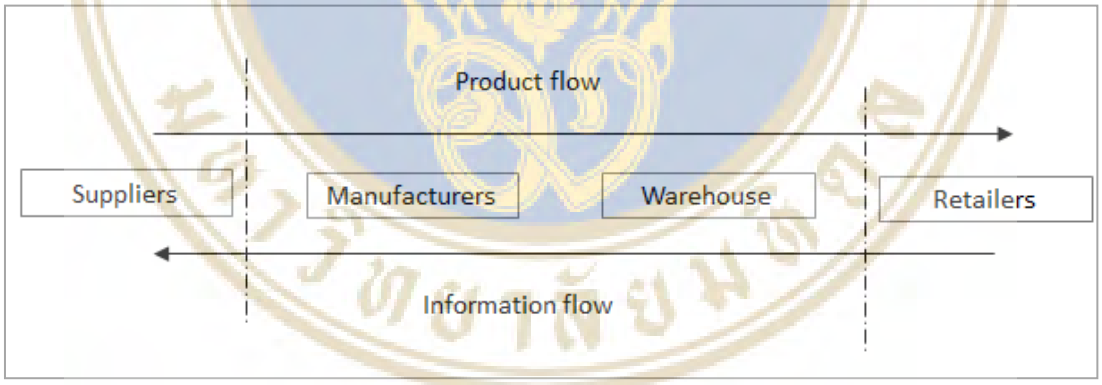


Figure 2.2 Flow of production and information in the supply chain

In figure 2.2, Simchi-Levi, Kaminsky and Simchi-Levi (2003) mentioned that the system for SCM's primary objective is to link the point of production with the point of delivery or purchase so it needs to have a single source of data. The main responsibility of the system is to collect information on each production stage and provide complete visibility for all concerned. Moreover the information should allow

collaboration with supply chain partners. As a result we will be able to carry out planning, tracking and estimating lead time based on real data

2.3 Total Quality Management (TQM)

The research of Vanichchinchai and Igel (2011) found that TQM has a positive impact on SCM implementation and enhances firms' supply performance. The research was a study of the automobile industry in Thailand. They claimed that TQM can directly facilitate the implementation of SCM and indirectly improve firms' performance by lowering costs and increasing customers' satisfaction.

New Era of Management (2012) written by Richard L. Daft mentions that this approach infuses high-quality values throughout every activity within a company, with front-line workers truly involved in the processes. Significant elements of TQM are:

1. Employee involvement
2. Focus on the customer
3. Benchmarking
4. Continuous improvement

Verna and Boyer (2010) define TQM as an umbrella. It is used to describe a quality management system which addresses all areas and employees of an organization, emphasizes customer satisfaction and uses continuous improvement tools. The components of TQM were described as:

1. Top management commitment
2. Employee participation
3. Customer focus
4. Management by fact
5. Continuous improvement

It was different from Daft (2012). However, the similarity between them is that they both identified continuous improvement as the underlying philosophy at the heart of all TQM activities and it is one of the success factors in TQM implementation.

Because customer needs always change over time, continuous improvement of the quality of the product or service is the way to maintain a high level of customer satisfaction. Moreover, the quality of the product and service for the

end user is linked to production and activities behind the stage. Improvement needs to be encouraged for all the company activities, such as product development, support services, marketing and finance, and production. Elimination of waste is also one of the major components of continuous improvement.

Daft (2012) mentioned that continuous improvement was called “Kaizen” in Japanese. It is the implementation of a large number of small improvements in all areas of the organization in an ongoing process. All employees learn that they are expected to contribute a change in their job activities, improving things a little bit at a time, all the time, to have the highest probability of success.

2.4 Success Story: Toyota

Toyota has been ranked as the No.1 in brand value of the automobile industry by Brandz (2012). This shows the potential of the company compared to Honda which has been ranked No.4 after BMW and Mercedes-Benz. Those two are European brands. This paper will introduce Toyota as a case study because it is a Japanese company similar to Honda.

Liker (2004) described the Toyota Production System (TPS) starting with an examination of the manufacturing process from the customer’s perspective. The customer in this term is both an internal customer who is at the next step in the production line and the final, external, customer who is the end user. So it can create value in the customers’ eyes. In an operation process, there are only some processes that bring value. The point is to minimize the time spent on non-value-added operations. They define these non-value-added activities as a waste. Toyota has identified 8 major types of waste as outlined below:

1. Overproduction
2. Waiting time on hand
3. Unnecessary transport or conveyance
4. Over processing or incorrect processing
5. Excess inventory
6. Unnecessary movement
7. Defects

8. Unused employee creativity

For a decade Toyota was applying and improving TPS without any documentation. Toyota Production System is shown in figure 2.3. Liker (2004) said that the goal is the best quality, lower cost and shortest lead time. Two pillars are just-in-time (JIT) and jidoka, which means never letting a defect pass into the next station. More important are the people. They are at the centre of the system. People need to have a common goal and to be mindful of the need for continuous improvement. People have to be trained to sense the 8 wastes and to solve problems at the root cause.

Figure 2.3 Toyota Production System (TPS)

JIT reflects the ideal of one-piece flow, to make one unit at a time at the rate of customers' demand. JIT means removing, as much as possible, the inventory use. Madu and Kuei (2004) defined JIT as a sell-one-make-one system and a supplier-enterprise-co-production system. They claim that the use of kanban (card or signal in Japanese) in production control supports just-in-time production and delivery within the supply chain network. Now electronic kanban signals can be generated by a focal enterprise's computer system to inform its suppliers when to deliver key components.

From the information above about the Toyota Production System, we could infer that it is the integration of effective supply chain management and TQM,

which is JIT and continuous improvement. The success in JIT was obtained from the implementation of information systems through the entire enterprise.

CHAPTER III
DATA COLLECTION METHODOLOGY

This paper studies Honda Automobile (Thailand) Co., Ltd., its processes and operations. The study focuses on the flow of domestic customer orders which starts when customers order a car and ends when they receive one. This paper uses an interview approach to gathering data because we need real operation processes and up-to-date data. The interviews were conducted with people who are currently working in each step of the process. It started with salespersons who receive orders from end-users then passed through the logistics staff who respond to deliver the car from the manufacturing site to the customer. Mainly, the questions were about processes and time consumed in each step. Working conditions were also included in the questions. The following are details of interviewees and key questions:

1. **Business Planning staff, Automobile Business Division (ASH)**

   She is a person who gathers customer order forms in the Asia-Oceania region; Thailand, Malaysia, Vietnam, India and 16 other countries. Her responsibility is to summarize orders from every country and prioritize them. She needs to match the orders to production and market conditions then discuss with production control staff from the manufacturing facility.

   Key Questions: Order conditions and prioritization

2. **Planning staff, Production Control Department, Production Control & International Operation Division (HATC-M)**

   His duty is to discuss monthly production capacity with the Business Planning Department. He shares and updates the manufacturing situation and capacity in the meetings. He also uses the meeting results to make an actual production plan and inform all related departments such as Painting, Welding and Assembly Frame.

   Key Questions: Production conditions and timing of each lot of production

3. **Logistics Control staff, Production Control Department, Production Control & International Operation Division (HATC-M)**

He is involved in imported parts acquisition. He orders the parts from overseas to be assembled in the production process. He follows production plans and generates orders to suppliers via the system. He also needs to cooperate with Import staff about capacity and lead time arrival. He needs to arrange and manage parts to supply the production line.

Key Questions: Ordering lead time for assembly parts

4. **New Car Delivery staff, Logistics Department (HATC-S)**

He is responsible for finished goods delivery. He receives finished cars from manufacturing and matches the data with sales data. He controls the trailer fleet. His duties are to arrange the route and destination of each trailer. He could be considered the main person of Honda's logistics system.

Key Questions: Logistics conditions and how to arrange the trailers

CHAPTER IV
RESEARCH FINDINGS

4.1 Company Background

Honda Automobile (Thailand) Co., Ltd. is a regional manufacturer in Asia-Oceania. The production capacity is the 3rd largest after Japan and the United States of America. The manufacturing in Thailand is considered as a key base of global Honda. The company was separated into 2 sub-companies which are Sales and Manufacturing for better organization and focus. The main responsibilities of each are as follows:

- **Honda Automobile (Thailand) – Sales (HATC-S)**

  Main responsibility is for Sales and Marketing operations. This section cooperates with Honda's dealers. They set training schedules, service standard controls and after sales service campaigns. Also, they have to set marketing plan strategies and new product launch timings.

- **Honda Automobile (Thailand) – Manufacturing (HATC-M)**

  Main responsibility is for producing cars at the highest quality and lowest cost. This sector cooperates with all material and component part suppliers. They set product standards and lead times for all suppliers. Also, they take orders and produce cars as HATC-S finalize.

In addition to Honda Automobile (Thailand) Co., Ltd. in Thailand there is also Asia Honda Motor Co., Ltd. (ASH). This company serves as the Asian headquarters. They receive mission and policy from Honda Motor Co., Ltd., Japan, and transfer to all Honda operations in the Asia-Oceania region. They also collect orders from all bases. All transactions of Honda's companies in the Asia-Oceania region need to be done through this company. ASH could be considered as a trader for Honda group and represents the company for Honda Motor Co., Ltd. (Japan).

4.2 Process and Operation

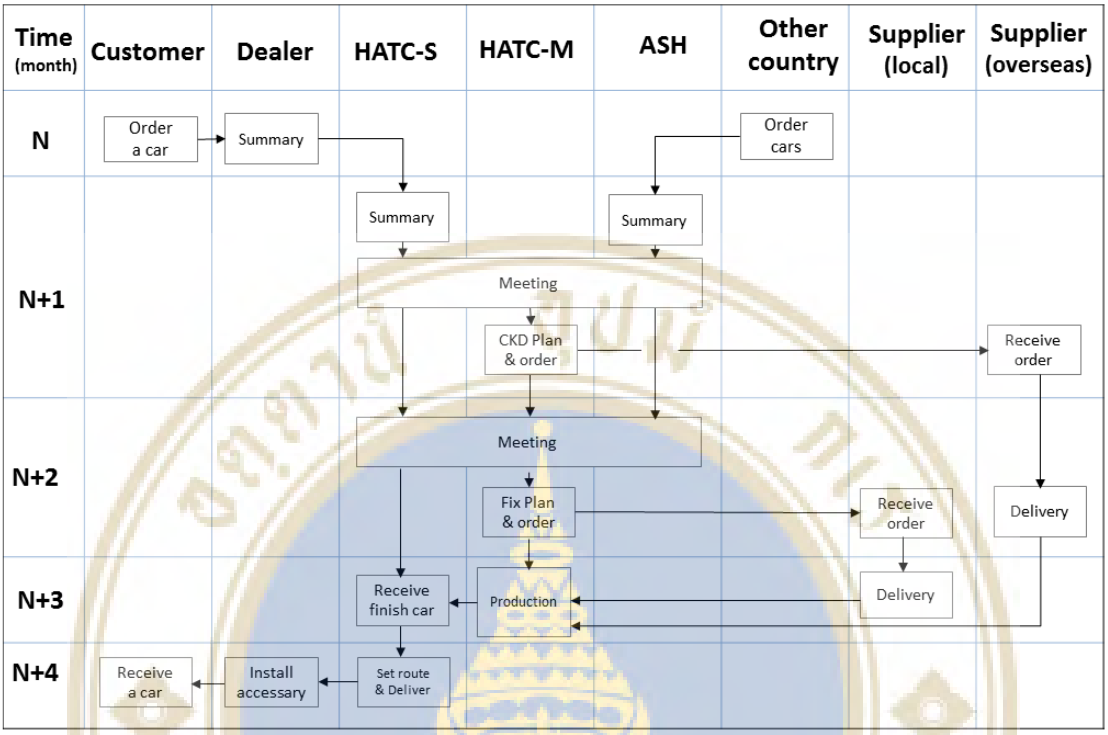


Figure 4.1 Operation flow in Honda Automobile

As shown in figure 4.1, the process is started when customers order cars from dealers. The dealer will summarize customer orders every month then pass to HATC-S at the end of the month. HATC-S receives orders from all dealers in Thailand and prepares for the meeting. The meeting is called Seihan meeting. It is arranged in the beginning of every month. The purpose of the meeting is to set priorities of all orders to be allied with the global strategies and mission. For example, if there is a new model start up, Thailand has to be the first country to launch this model but there might still be old model cars in stock. India will purchase this stock from Thailand so Thailand can change the model as planned. Stock and planning are managed together in this meeting. Direction and operation plans for each month are issued from the consensus of this meeting.

After the meeting the CKD plan will be issued within 2 weeks. The CKD plan is to order component parts from Honda overseas because to build a car, more than 10,000 component parts are needed, many of which are not available in Thailand.

To gain the advantage of economies of scale, some parts are set as strategic parts which have only one plant to supply the whole world. This kind of part needs more time to be transported to Thailand. It needs 2 months to arrive in Thailand because all of them are transported by ship due to the cost of transportation. Ships have the lowest cost of transportation but the longest time of transportation. Some parts need lead time of about 34 days to arrive in Thailand plus 7 days for the customs clearance.

When the CKD plan was fixed, a month later in the Seihan meeting, they discuss further about the Fixed plan. The Fixed plan will go into detail of grade, type and color of the cars. They have to issue a Fixed plan again because there are conditions in the production process. The production line needs to produce cars in sets, 30 units for each set. They need to assemble the same grade, type and color for all 30 units. This condition came from a lack of parts storage. As can be seen in picture 4.1, the rack was designed to keep 30 sets of parts. It is a standard rack which was designed especially for Honda. All suppliers need to supply parts in sets of 30 as in picture.

Figure 4.2 Example rack in production line

Because each grade and type needs different component parts, it is necessary to use all the pieces in a rack before changing to another grade.

The Fixed plan will be issued in the second month of the customer order. The plan will be input into the system every month while orders are passed to

suppliers 2 times a month. So there is a buffer time for emergencies which might occur. The system generates dates and times for supplier delivery. The condition was set as a just-in-time approach for lowest storage cost. Part will arrive at the manufacturing base 2 hours before the production time.

Every supplier of HATC-M needs to have a system called EDI. The purpose of this system is to send and receive orders from the manufacturing base. Suppliers have at least 15 days before the delivery date. The orders are not passed on in the same month of CKD because the plan needs to be flexible. Even when the order is passed a month before, it is still necessary to wait for CKD parts arrival. It will be inconvenient for Honda and the suppliers if an order is changed. Orders always change because of customer requests. Not only domestic customers but also overseas customers change orders due to the marketing situation of their country.

When all components are ready, the production line can start assembling the car as per the customer order. The production line takes only 3 hours to complete a car. The finished car from HATC-M will be transferred to HATC-S within 2 days after the quality check and test run. HATC-S has a New Cars Delivery Center (NDC) located next to the manufacturing base. After HATC-S receives a car, they will check in the system which dealer is the owner and set the route for delivery.

Because of the production conditions about set production, finished cars are not in a dealer order sequence. In one set of finished cars the owners might be 30 different dealers around Thailand. To be able to deliver cars to each dealer, NDC has to wait until at least 4 units are complete because of trailer capacity; one trailer can deliver 4-6 cars per round. Some dealers have to wait for 3 weeks to fill a trailer and receive delivery.

Delivery time from NDC to each dealer is dependent on distance. The longest distance is the south of Thailand. It takes 2 days to reach. Because cars must be undamaged or scratched, speed is limited to 80 km/hour and the trailer needs to avoid tree branches so it takes a longer time compared to other products.

When a car arrives at the dealer's place, the dealer has to install accessories as per customer requests or promotion provisions. Normally basic accessories are sun screen and spoilers. Those take at least 2 days to finish. But if,

unfortunately, the product is out of stock, it might take more than 1 month until the customer is able to receive the car.

Overall, the processes take at least 4 months to complete for one order from one customer. The ordering summary takes 1 month. The longest process is ordering component parts from overseas. It takes 2 months for this process. The delivery process depends on the production plan which cannot be controlled. Accessory installation is dependent on dealer management.

CHAPTER V
DISCUSSION

5.1 Problems Found

From the overall processes we found that Honda tries to use a just-in-time approach to managing the production line. They produce according to customer orders to avoid inventory problems. However, there were still some problems found which caused customer waiting time as follows:

5.1.1 CKD ordering lead time

According to global strategy and advantage of economies of scale, some parts need to be imported from overseas and that consumes at least 2 months to process. This is the longest time consuming step for the whole process.

5.1.2 Production conditions

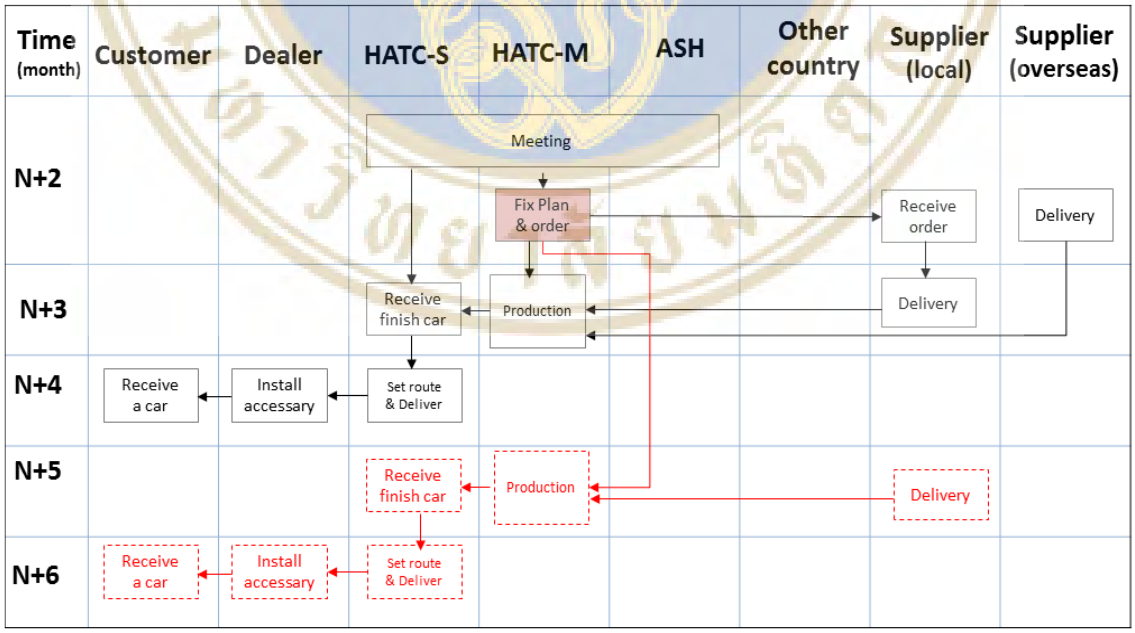


Figure 5.1 Postpone plan for unique cars

The production condition which is 30 units per set is the most important constraint of Honda. This causes postponements in customer orders and over-stock production which is not good supply chain management.

In the case that there are fewer than 30 customer orders, the committees have to decide whether to produce cars or not. If they produce, this will cause over-stock production because the rest of the customer order will be stock. On the other hand if manufacturing does not produce, the order will be postponed for another month. This will cause longer customer waiting times which results in loss of customers for the company in consequence.

As shown in figure 5.1, customer orders allow quite unique cars such as yellow colour. Orders from all over the country will not reach 30 units so the company decides to postpone the production and produce white colour for other orders. The customer might have to wait for 2 months more to collect the yellow car because orders must reach 30 units before manufacturing starts to produce a car for them. In consequence that customer will be able to receive a car in month 6 after they order.

5.1.3 Information linkage

Data flow is one flow data. The starting point is HATC-S, then to HATC-M and finally back to HATC-S again. The downstream process needs to wait for data from the upstream processes. This caused low efficiency in data management of all parties.

NDC could not plan data before receiving cars and had to wait until the Fixed plan was issued. Suppliers need to wait for HATC-M orders. They could not plan for actual orders and this caused high storage and inventory for suppliers which was recharged to Honda in parts costs. Moreover if they have not produced parts in advance, they will not be able to supply parts for Honda, the production plan will stop and create more delays for customers.

5.1.4 Non-practical Kaizen and TQM

Compared to Toyota, Honda also has Kaizen activity. The difference is that most of Honda's Kaizen is not practical and not continuously implemented. From

the interview, the interviewee mentioned that Honda set the Kaizen target as a quantity rather than quality.

Currently the Kaizen target is 12 topics per year per person. It is a quantity target. So most of them are not able to be implemented for the real production or have a very low effect. Toyota Production System has Kaizen as the centre of the system. If we put Honda into the TPS framework, the centre of this system is very weak. This is one of the causes that make Honda's operation take more time than Toyota.

5.2 Recommendations for Improvement

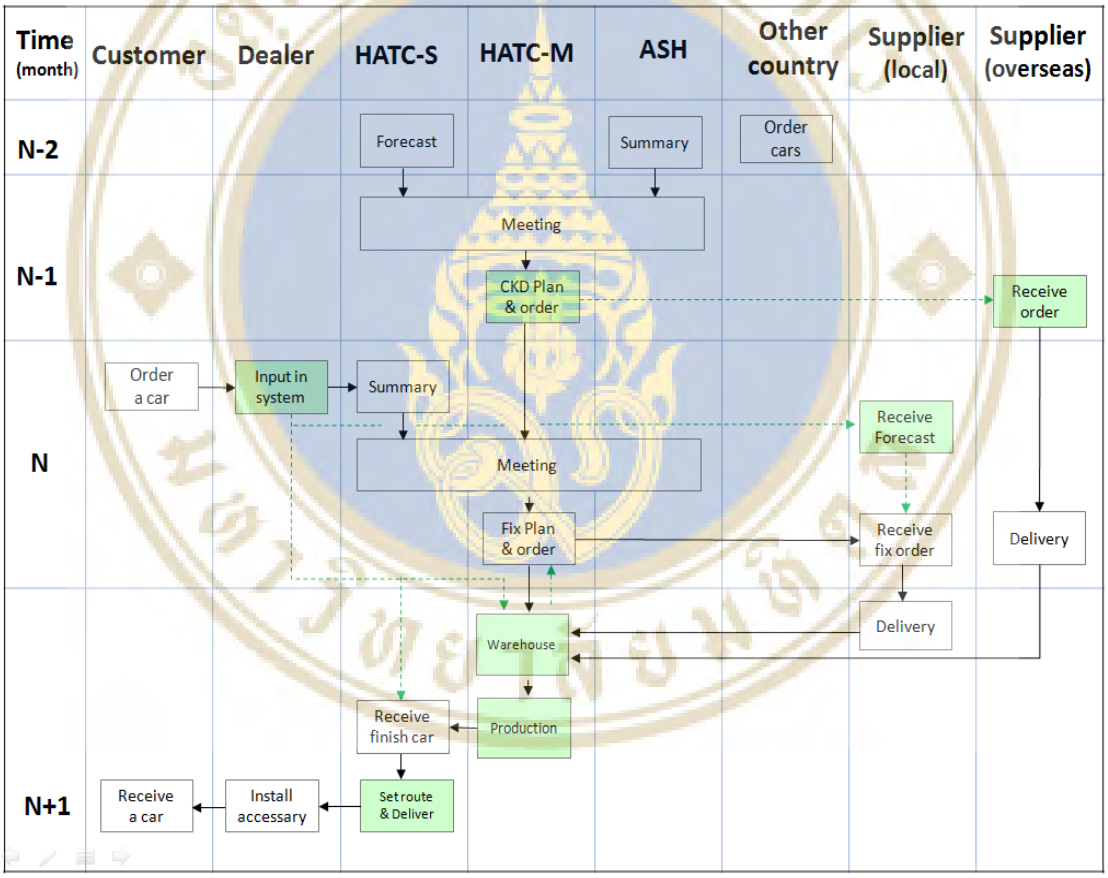


Figure 5.2 Recommendation for new operation plan

5.2.1 Order CKD by Forecasting orders

CKD stands for Complete-Knock-Down parts. They are component parts from overseas. Most of them are engine parts or perform functions which are inside a car. Most of them are common between model and type. That means they could be

switched over in each order. For example, the engine for a Civic 1.8 litre is the same as for an Accord 1.8 litre. It is flexible among models.

HATC-M should use this situation as an advantage. It is not necessary to wait for actual customer orders. HATC-S could be able to forecast customer demand in the next month and propose to the meeting. Then the forecast could be used as a base for ordering CKD parts and adjusted month by month with the actual demand. The process will be shortened by 1 month from this method of ordering.

5.2.2 Set warehouse outside factory

According to production conditions on set production, manufacturing has to produce cars at 30 units per set because of the rack or parts packaging. Honda could not change the rack because it needs high investment on suppliers and they refuse to do it.

To improve and eliminate this condition, HATC could set a warehouse outside the manufacturing base. Change the logistics route of suppliers. All suppliers will deliver parts to the warehouse instead of to manufacturing. The warehouse contains staff of HATC-M or outsource staff. They will rearrange parts to the customer order sequence.

This method also needs high investment but it will be HATC-M budget. Suppliers do not need to invest in anything. In the meantime some suppliers receive the advantage of shorter delivery distance. This could decrease their transportation cost. HACT-M needs to negotiate for parts cost reductions to compensate for the warehouse investment.

Production will be able to assemble cars by customer order sequence. Manufacturing does not need to produce over and above the real customer order and unique orders do not have to wait for 30 units to start the production.

5.2.3 Share information from dealers to suppliers

The information should be shared all along the supply chain. The information starts from dealers who are considered as downstream while suppliers who are information users are considered as upstream.

Before suppliers receive the Fixed order from HATC-M, they should receive actual orders from dealers too. With data sharing all suppliers will be able to plan production before actual orders. Their forecast operation plan will be more accurate and reduce the possibility of delayed delivery.

5.2.4 One trailer, many dealers

To be more flexible and decrease waiting time in finished cars delivery, NDC should set new conditions for trailer routes. One trailer could be loaded with cars for many dealers. When finished cars come out from the production line after the quality check, they could be loaded to the trailer immediately without waiting for more cars for the same dealer.

NDC could not plan the trailer routes because they needed to wait for information from the meeting. Information about customer orders and production sequences should go as a network, not a one-way flow.

NDC need data of all dealer locations so they could set routes for trailers. Previously NDC waited for information from the Sales Department and matched with data from Manufacturing when the cars were finished. For this new method, NDC needs to set all routes before the cars are finished and reflect into the production plan also. If this is possible, the operation flow will be reduced by 1 month.

5.2.5 Aim for quality not quantity of Kaizen

Honda should set a new target for Kaizen achievement. The management should set a quality goal instead of quantity. All Kaizen should be given a score by the committee. The target should refer to this score. Each staff member must receive at least 20 points per year per person.

In addition to the new target, monitoring of the real implementation is also important. The Kaizen committee should monitor the result of implementation and audit it from time to time. This could ensure that the Kaizen have been implemented and affect the company.

CHAPTER VI
CONCLUSION

Regarding the longest customer waiting time for a new Honda car, it causes the cost of lost sales to the company. The company lost a competitive advantage to competitors. This problem was caused by 4 issues.

The first issue is CKD ordering lead time. The company needs to take about 2 months for the parts to arrive. The company could solve this problem by make a CKD plan one month before the Fixed plan. This plan might cause some inventory cost but the company could balance the stock in the following month.

Second is the production conditions. Due to the production conditions, some customer orders need to be postponed to another month which causes longer waiting times. This problem could be solved by establishing a new warehouse outside the manufacturing and destination of component parts delivery. All components will be delivered to this new warehouse. In this warehouse all parts will be revised into the sequence as per actual customer orders before being sent to the assembly line. Manufacturing will assemble the car as per actual customer orders even if the order is unique.

The third issue is information flow. Because of the single way of information flow, NDC could not plan for finished car delivery and this extends customer waiting time by one or two weeks. Information should go as a network. The centre point is Sales, then the meeting place and NDC. With the information, NDC could plan for many dealers in the same trailer. Dealers which have a low order volume will be able to receive finished cars faster.

Last is about improvement. Honda has no real improvement from employees' ideas. This made Honda's operation time have no decease. Honda should aim for practical improvement and monitor the implementation for the result of effects. This will increase productivity more or less.

If the company is able to implement all 5 recommendations, the company will be able to reduce operational processing times by at least 3 months and customers will be able to receive a new car within 2 months.

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