CHAPTER IV

Accessory business in Asia Pacific and Africa and Case Company's plan

4.1 Introduction to accessory business

Accessory is defined as an extra piece of equipment that is useful but not essential or that can be added to something else as a decoration (Oxford). Vehicle accessories are defined as additional or replacement parts and equipments that put on the vehicle to enhance the vehicle's performance and appearance. The world's accessory business continues to grow but in different pattern in each country. Accessory business has a strong tied with vehicle sales especially at vehicle launch, at vehicle buying decisions making point and at auto shows. There are a lot of vehicle accessories currently available in the market. They can be grouped in many ways as below;

- Grouped as genuine accessories provided by OEMs (Original Equipment Manufacturers) versus after market products which are provided by individual private companies

Figure 38: Genuine accessories provided by Toyota, has Toyota brand (left: www.toyota.com) and after market accessories with manufacturer's logo (right: www.ultimateautoaccessories.com)

The differences between genuine and after market accessories are

1. Genuine accessories can be available right at vehicle launch while after market products needs time to copy and re-engineered after vehicle is revealed
2. Quality standard of genuine accessories usually are higher than after market's. They are also better integrated to vehicle
3. Pricing of genuine accessories can be higher than after markets products because of the higher engineering and development specification and cost, cost of maintenance, warranty, etc.

– Grouped as safety related accessories, performance enhancement accessories and decoration accessories

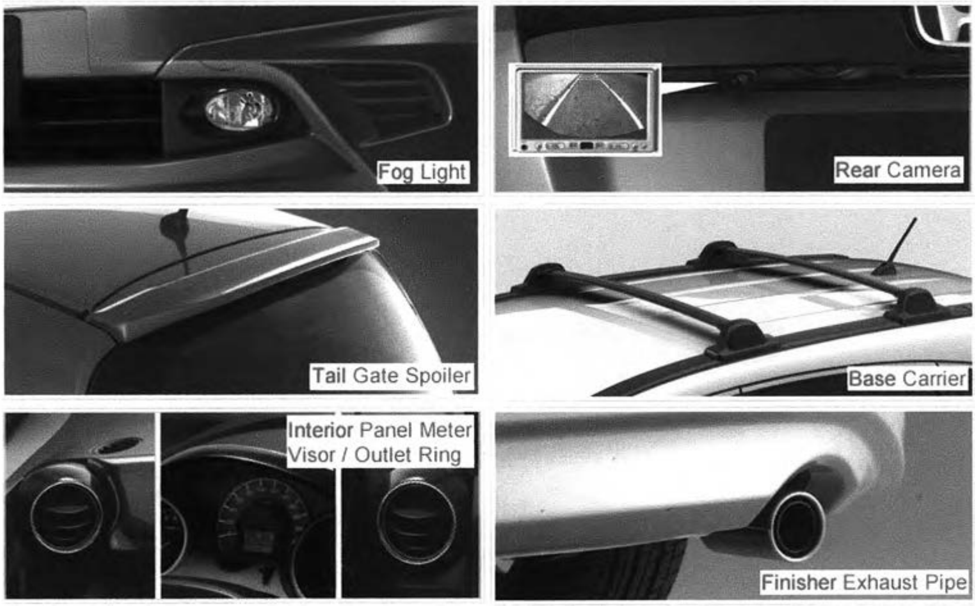


Figure 39: Safety related accessories (top row), performance enhancement accessories (middle row) and decoration accessories (bottom row) (www.hondaaccess.co.th)

— Grouped as high appearance impact accessories and standard accessories

Figure 40: High appearance impact accessories (body skirts) and standard accessories (carpet mat) (www.mazda.co.jp)

— Grouped per length of development timing and resource needs

Accessory development timing ranges from 9 months for simple parts like rubber floor mat and acrylic parts to 2.5 years for surrounding camera system

Figure 41: Rubber floor mat, acrylic part (www.hondaaccess.co.th) and surrounding camera system (www.xenso.com.my)

There are a lot of benefits customers and sellers get from vehicle accessories business. The primary value of accessory is that it fulfils the need for personalization. In addition to the appearance and functional enhancement to the base vehicle that fit different customers' requirements, accessories are also used to compensate the less flexibility of base vehicle complexity development and on-line production process limitation with consideration of economy of scale. Sellers usually get a bigger profit gap in selling accessories comparing to the vehicle itself. It is common that passenger cars usually has a wider accessory product line up but providing thinner profit gap comparing to commercial vehicles. Target customers for each vehicle line are also a factor that determines accessory line up and its styling. For example, people who intend to buy truck are usually people living in the urban area and want a vehicle that suits their profession needs. Those people will look for accessories that can aid their day to day work while decoration parts have low impact. Most of the small cars (city cars) are sold to newly graduates or university students. They would want a car that integrates a lot of technologies, exterior styling has big impact and the performance should be fun to drive. The differences between target customer group as well as geographic location determine the accessory business.

Focusing in Asia Pacific and Africa region, there are big areas/group countries that accessory business is focused on. The nature of each group is different.

Japan

Japan used to be the market that dealer visits potential buyer. After the deal, customers expected to get add-on-accessories for free. This process changed 15 years ago when Japanese dealers started up show rooms business for customers to visit. Since then, dealers are trained to include accessories into the sales activity so that it could be offered as a package with the vehicle. Customers in Japan are quality oriented (royalty is high and genuine parts are customers first choice) and with the high living cost standard, customers usually able to obtain a little higher accessory price than other countries in the region. Vehicles that are best sold in Japan are small passenger and environmental concern cars.

Australia and New Zealand

In Australia, accessory business is big. Vehicle manufacturers chose to sell base vehicle that did not equipped with too many options or add on. Instead, they offer customer a wider range of accessories. (For example, spare tire is not offer as a base program feature but customer can choose to buy spare wheel, mini spare wheel or quick repair kit which are released as dealer accessories) There is also a famous retail franchise store called "Autobarn" set up as an aftermarket store to sell automotive spare parts and accessories including paint and repair shops. Australia has free trade agreement with ASEAN and that is a big advantage for them. Accessories could be sourced from lower cost country and delivered back to Australia and as the market price is above APA average, sellers in Australia can enjoy high profit gaps. Vehicles that are best sold in Australia are trucks and big family passenger cars.

China

China's economy and its automotive business are growing very fast. In the first quarter of 2009, China sold 2.7 million passenger cars 0.5 million better than the US (used to be world's biggest automotive market). CNN reports that, even though the global car sale is expected to fall 8% in 2009, China looks forward to the growth of 10%. Not very far that China will become world's biggest automotive market (www.cnn.com). Many car manufacturers decided to set up joint venture company in China to compete with both local manufacturer vehicles and other imported vehicles. There is very little information about competition of accessory business in China. With the regulation on vehicle registration and tax calculation, vehicles seen in the road are already equipped with accessories as series line up, otherwise, customers will buy the car, go to register it with the government to save tax cost then either come back to dealers or other aftermarket shops to buy accessories. There are a lot of low cost accessory manufacturer in China and the labour cost is not very high. The most popular vehicle accessories in China are protection parts for passenger car which are carpet floor mats, rubber floor mats, seat cover, etc. Despite of the regulation, China is still the biggest volume and fastest growth country in the region that accessory business should focus to.

Taiwan

Taiwan used to be the largest and fastest technology growth country for vehicle accessory business since Taiwanese people usually decorates their car with loads of accessory before drive it out on the street. As Taiwan is part of China, many accessories were imported to Taiwan from China at cheap cost. Vehicle accessories can be found easily anywhere including in supermarket and grocery stores. Not until the past two years that the global economic downturn infected Taiwan severely and made the automotive business dramatically dropped. People turned away from owning cars to use public transportation which impacted accessory sales. Even though a lot of automotive suppliers moved away from Taiwan, the economic and automotive industry began to slowly recover with lower industry volume comparing to the industry number before the crisis. Quality products are not the main focus of customers in Taiwan.

South Africa

South Africa is combined into Asia Pacific and Africa region. However, geographically, it is closer to Europe. A lot of accessories sold in the region are usually imported from Europe and thus the styling and performance need of the part is a little different to other Asian countries. South Africa is a price sensitive market and accessories were sold as part of vehicle series line up where margins and incremental on vehicle price is available. Sales people in dealership knows how crucial the price is for selling a vehicle and seldom offer free or add on accessories if not necessary. Fleet sales or government/agency bulk sales are seen more than other normal cars. With the tax and logistics assumptions between South Africa and other countries, customers prefer to buy local, low cost, lower quality accessories.

India

India is considered a high industrial growth country in the same group but a little behind China. India's small car industry is very big and there's fierce competition among foreigner companies and India's local car manufacturer. India has a lot of resources that could be found locally, thus, automotive business in India is focusing on low cost competition. Accessory business follows the same direction as its automotive industry. It is a very price sensitive market and product from China and local accessory are dominant players. Delhi is one of the largest local accessory markets in Asia. With the price competition, vehicle manufacturers usually offer lowest option vehicle to customers. As a result, there is a wide sales opportunity for accessories (everything can be offered as accessory, i.e. cigar lighter, mirror kit, active subwoofer). There are trade points easily find throughout the country which sold parts a very low price and make it difficult for importing parts to compete and win the business. Government's tax for import and export is high so there's not many accessories neither imported to India nor exported out of India.

ASEAN

ASEAN (Association of South East Asia Nation) is the current based for many automotive companies as ASEAN has a lot of financial and logistics advantage from free trade agreements (with Australia, Japan, etc.). Many years ago, ASEAN especially Thailand is a base for truck and commercial vehicle manufacturer as it is the biggest one ton pickup truck market in this region. However, as economic shift, people are more interested in city, low cost vehicle and turn their interests to small passenger car. This is good news for accessory business since there is more opportunity for a wider product range than trucks and passenger car customers normally have more money to spend on additional personalize parts. Nevertheless, people in the region are still value to price concern. They usually will pick up accessories that are at acceptable level but lower cost before thinking of the parts durability. There are a lot of after markets parts available for customer and dealers in the region to pick up. A lot of dealers choose to offer aftermarket products to customer when free accessories were asked since they are a lot cheaper than genuine product designed to higher specification. Currently, Thailand has the most leverage on accessory business in this region since the vehicle industry volume is the highest, there are a lot of suppliers (at acceptable quality level) and the craftsmanship of the labours is still higher than other countries. However, Vietnam's economic growth can not be neglected.

The variety of countries and customers makes it very difficult for regionalization product development projects. Compensation/trade off between criteria will be needed. Moreover, benchmarking with North America and Europe solutions might not be the best way to do since the practice and culture are different. One example is that in North America and Europe or Japan, vehicles are designed for 10 years 500,000km but people change vehicle frequently (usually 3 years in Japan) while vehicles in other Asia Pacific countries are also designed for 10 years 500,000km but with localizing, lower specification material in some country and the people usually used the vehicles or turn to 2^{nd} and 3^{rd} hand car throughout its cycle life.

4.2 Questionnaire 1 part one

In order to confirm the understanding of accessory business and customers focus points, questionnaire 1 was sent to marketing, customer service department and some other related personnel who involved in selling accessories in each country. (See questionnaire 1 detail in Appendix A)

Numbers of personnel who responses to the questionnaire are as follow

Japan	Australia	New Zealand	South Africa	China	Taiwan	Philippines	Indonesia	Vietnam	Thailand	India	Total
3	3	1	1	4	1	3	1	2	13	3	35

Note: There used to be more people involved in accessory business in each country. However, since beginning of 2009, the resource reduction plan in the case company is to reduce people in the markets to be only one to two person while keep most of the activities centrally. The central team is currently based in Thailand and will be moved to China next year.

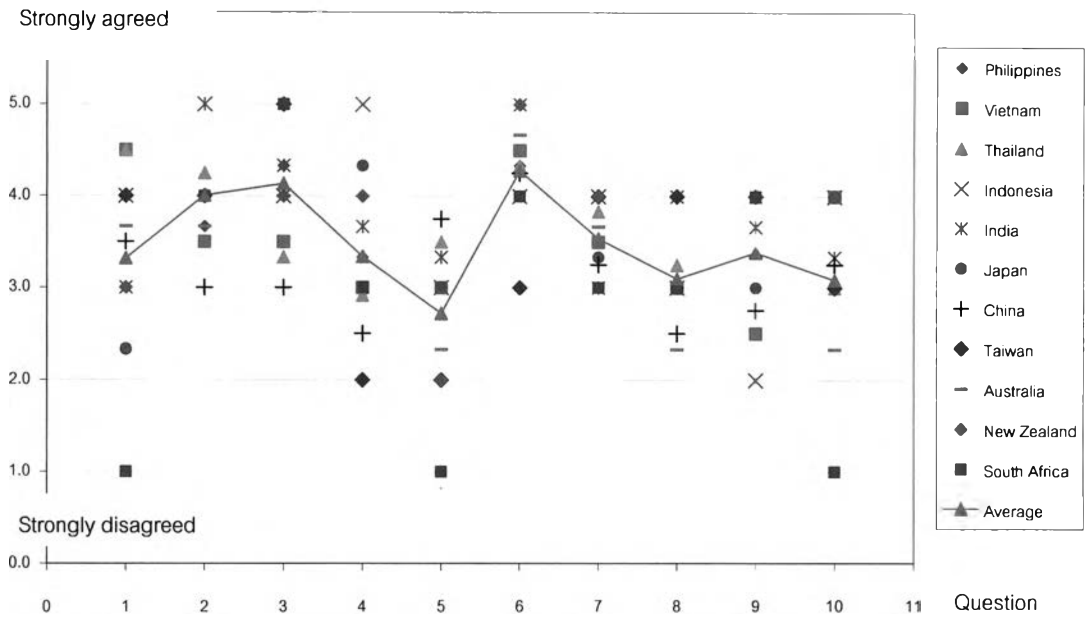


Figure 42: Agreement level to the phrases stated in the questionnaire

Ten statements asking for respondents' agreement and its implication are as follow.

1. Statement: "When people in my country buy a car, they look for accessories as complimentary from dealership."

   Implication: Most of the respondents agree with this statement, only Japan and South Africa disagree. This confirms the discussion earlier that in Japan and South Africa, accessory business is not very popular.

2. Statement: "Vehicle fully equipped or personalized attracts people to buy the vehicle or increase dealer traffic."

   Implication: Most of the respondents agree with this statement, it confirms the main purpose of accessory which is to personalize the base vehicle and pull in attraction and traffic to the vehicle and dealer. It also implies that accessory design needs to go along well with the base vehicle and not to distract the vehicle image and positioning. Different combination of accessories can make the vehicle look different to people in each countries.

3. Statement: "People in my country usually compare vehicle and accessories quality and pricing before buy."

   Implication: Quality level of accessory is not the main reason customers choose the product especially in China, Thailand and Vietnam.

4. Statement: "Accessory brand is important. (i.e. Ford, TRD, RallyArt)"

   Implication: People are not aware or give high important to branding accessories especially in China and Taiwan. In the case that there are a lot of accessories available in aftermarket, customers have more product choices to choose from. As accessories are not the main product customer chooses but add on to the vehicle, vehicle brand is more important to them. Putting brand (either OEM or new set up brand) onto accessories will not affect much to customers' decision.

5. Statement: "People may complain about accessory after using for a while but continue to use it without claim back."

   Implication: Most of the respondents except China disagree with this statement. It means that the quality level of part should be designed to acceptable level and not too low. Quality data gathered from warranty claim system should be able to use as bench marking data for new product design as customers will claim the product back if they find it at an unacceptable level. This might need to be confirmed by the information of warranty costs occurred to the company.

6. Statement: "There are lots of aftermarket products available, with latest technology and easy to get."

   Implication: It is true that there're a lot of aftermarket products available for customers to choose from in most of the countries. Careful benchmarking information will be needed in new accessory development decision and the positioning of accessories. One of the advantages of OEM comparing to aftermarket product is the launch timing of accessory. In order that the genuine product get promoted and give higher sales, they should be available at vehicle launch when aftermarket company still not ready to copy the design or not yet have vehicle specification to produce accessories. In this case, if the pricing of genuine accessories is at acceptable level, people will turn to choose genuine products. This statement can be confirmed with accessory sales data versus time from vehicle launched.

7. Statement: "People who buy accessory don't care where the part was made or engineered."

   Implication: Not like consumable and health care products, vehicle accessory origin is not very important to customers.

8. Statement: "Trade off between local requirement and regional lower development cost is acceptable."

   Implication: Respondents barely agree or disagree with this statement

9. Statement: "Logistics has high effect to product cost in this region."

   Implication: Logistics cost usually range from 5-20% of material cost depending on the production origin and sales point. In Asia Pacific region (not like one Europe) contains wide geographic area where currency and tax/tariff regulations are different. However, there are also trade agreements between countries that helps to reduce logistic cost and make it possible to import and export from points to points in Asia Pacific. Logistics assumptions can be used in product development financial calculation but will not need to be very accurate since it will not have high impact on the overall cost of the product.

10. Statement: "If part information (recycling ability, material, process, "made in", etc) can be added to the part, will this accelerate customer attention?"

    Implication: This statement confirms again that not like consumable and health care products, vehicle accessory origin and information is not very important to customers. Customers will not look into detail of the part or do not want to know what material or country accessories are produced from. It also implies that even though the product was designed and developed using the best engineering information, it will not appear to be different to customer than aftermarket product. Design and price are more important and are the main factor to accessory sales than quality.

From all the statements responses, it can be concluded that, even though accessories accounted a small part of vehicle sales, it is still an important business a company should keep to serve customers personalization needs. The need of each country is different and to be able to fight with aftermarket products, product launch timing, cost and quality (at acceptable level) (sequences by importance) are important factors.

4.3 The case company's accessory business plan

Current situation

From the beginning of 2008 to October 2009, the vehicle retail sales of the case company in Asia Pacific and Africa region increases slowly. It may or may not relate to the launch of the new vehicles showed in the company's cycle plan below. This is because new vehicles launched through the period are just minor changes and only one new vehicle model has been introduced which causes the peak in December 2008 to January 2009. The vehicle sale volume depends on a lot of factors mainly product, price, place and promotion. While some of the markets economic situation is bad, it was compensated by the other growing markets numbers and thus the overall vehicle sales grow. Vehicle accessory sales shows similar pattern. Accessories are sold when there's new vehicle sold or when new vehicle series line released or there's a motor show or marketing event in the country.

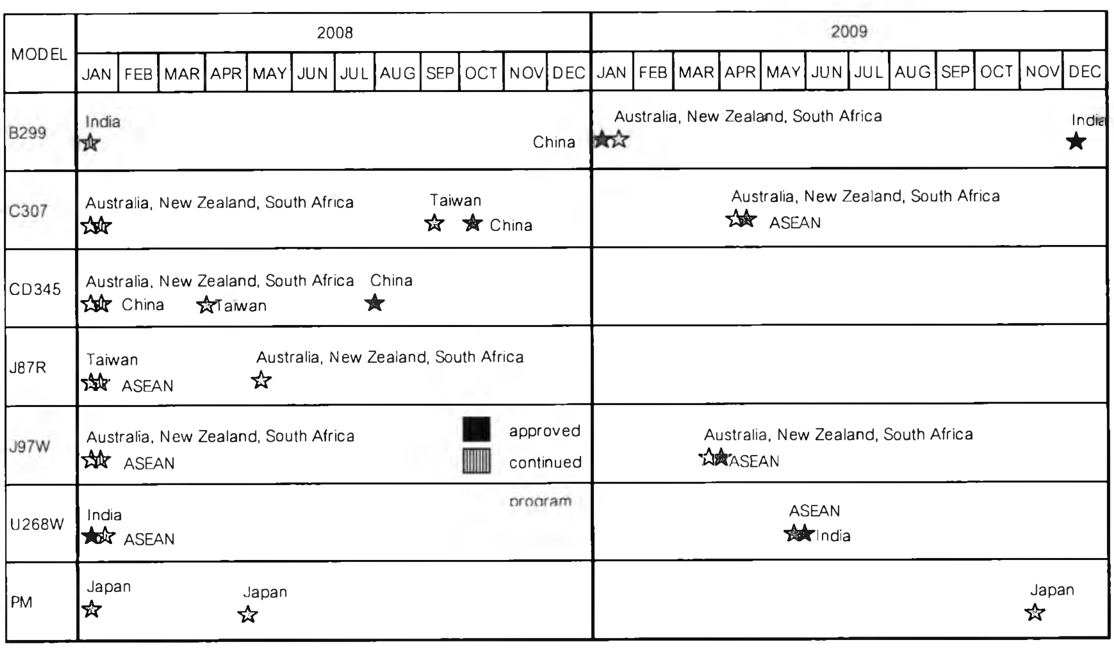


Figure 43: Case company's vehicle launch cycle plan in Asia Pacific and Africa

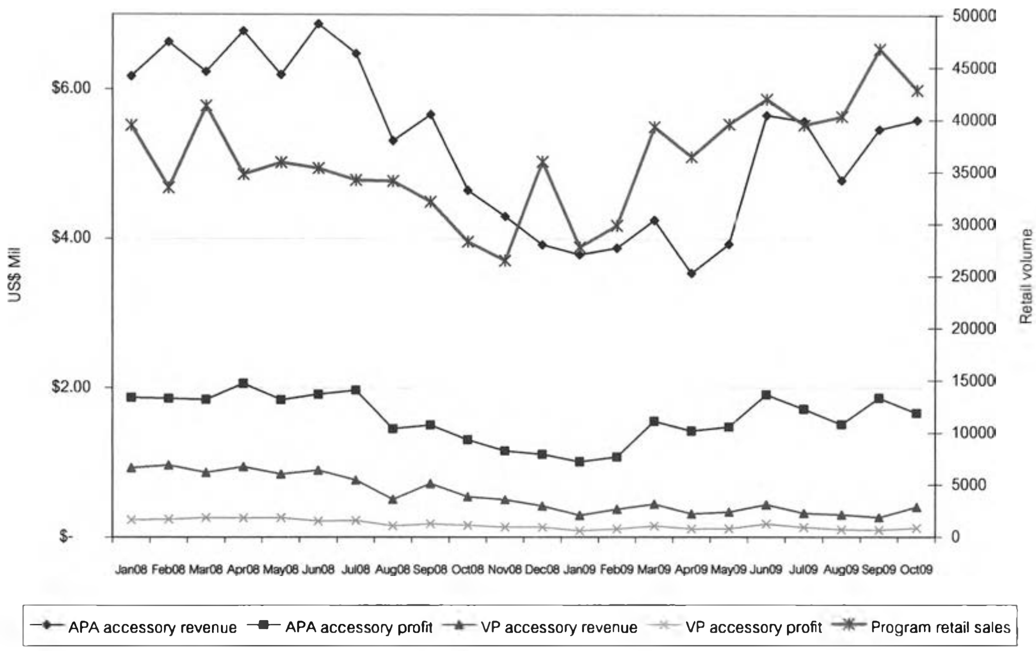


Figure 44: Case company's retail sales volume, accessory revenue and profit

Currently, the company generates accessories revenue of 5.8 Million USD (October 2009). Part of them, 10%, is from accessories developed by regional team or VP team which is quite low. Profit gained from accessories sales is at 28% for VP accessories and 27% for other accessories developed either by the local team or buy it from supplier and sold through dealer channel. Analysing through VP accessory revenue, the revenue continues to drop while the total accessory revenue slightly increases. One of the reasons is from the company's regionalization plan and changes and the resource reduction in each organization thus very few new accessories are introduced. The other is the high accessory cost and delayed of launch timing of products developed by the new regional engineering team.

Even though China contributes about 50% of the overall vehicle sales, Australia contributes the most in accessory business, 34% from both revenue and profit performance. To formulate alternative strategy using Grand Strategy Matrix, it is a challenging opportunity to increase accessory sales (market penetration) in China and India. And as both countries are price sensitive market, "cost advantage" strategy according to Porter's competitive advantage strategy should be pursued. According to

Michael E Porter, to pursue market penetration strategy, there are 6 barriers of entry the company needs to consider; economies of scale, product differentiation, capital requirement, cost disadvantage independent of size, access to distribution channel, and government policy

Rapid market growth

Weak competitive position	Quadrant II Market development Market penetration Product development Horizontal integration Liquidation	Quadrant I Market development Market penetration Product development Forward/backward integration Horizontal integration Related diversification	Strong competitive position
	Quadrant III Retrenchment Related diversification Unrelated diversification Divestiture Liquidation	Quadrant IV Related diversification Unrelated diversification Joint ventures	

Slow market growth

Figure 45: The case company is currently in Q2 in Grand Strategy Matrix

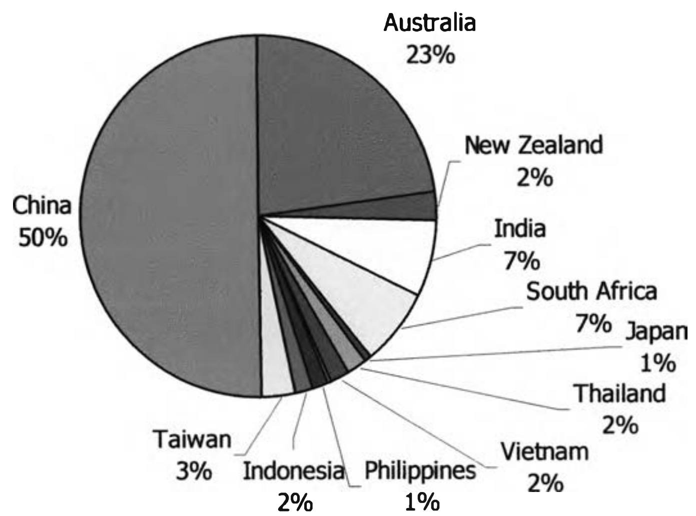


Figure 46: Case company's vehicle retail sales volume - markets contribution

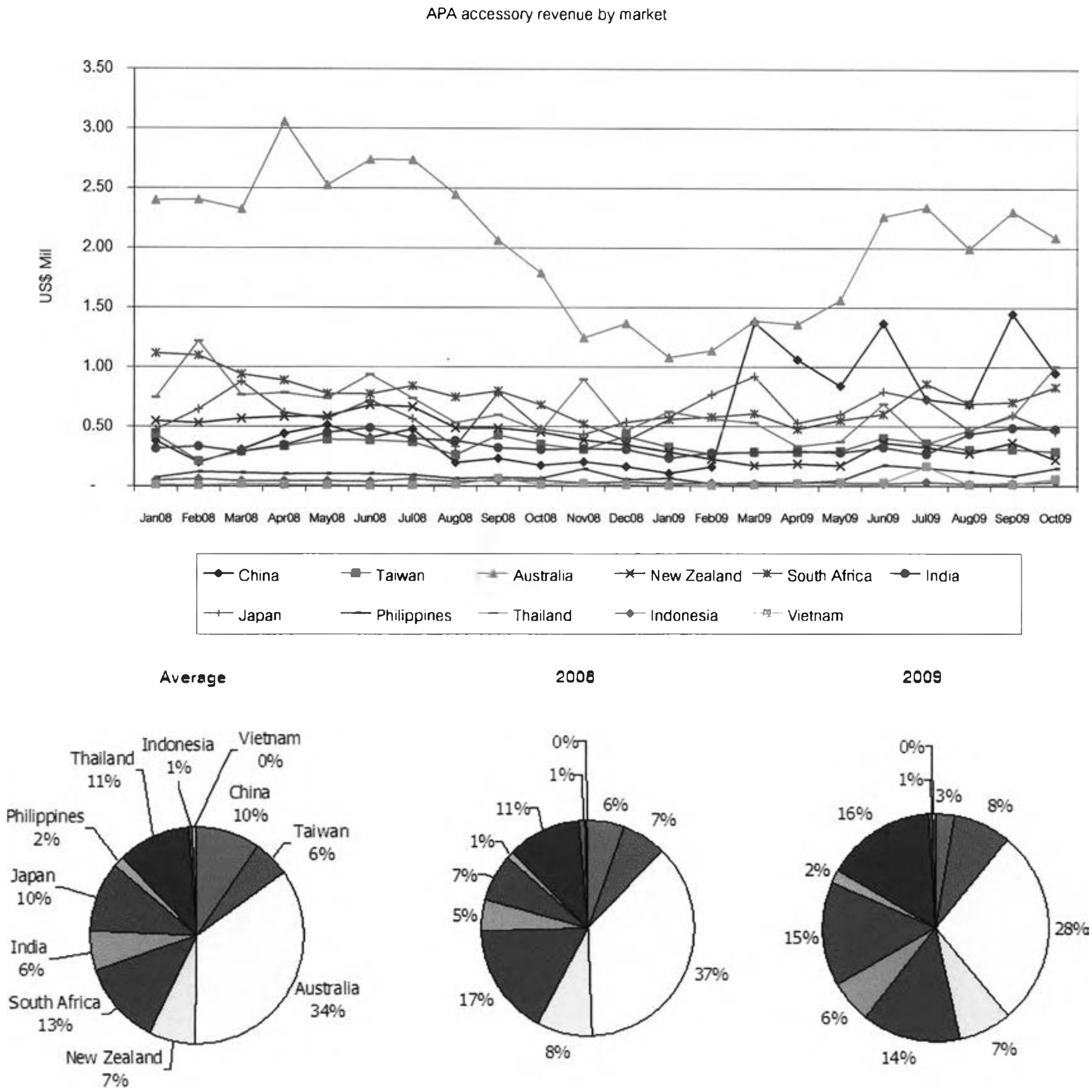


Figure 47: Case company's accessory revenue by market

From accessory sales and profit data, the growth countries are Thailand, Japan and Taiwan while shrinking countries are Australia, China and South Africa. Except Taiwan, accessory revenue trend reverses the vehicle sales curve which is not a good sign. It can be implied that either customers do not purchase any accessory (reduction of personalization need) or dealers are selling aftermarket products which is not captured by the company. Profit analysis provides the result that Australia is still the largest profit generation country while India is selling accessories at no profit or loss. Competitive price list and benchmark information is needed to be able to analyze and improve India's profitability. It also lead to the same conclusion that the parts sold by the company may still be higher than market price. Or dealers in India offer the parts to customers for free.

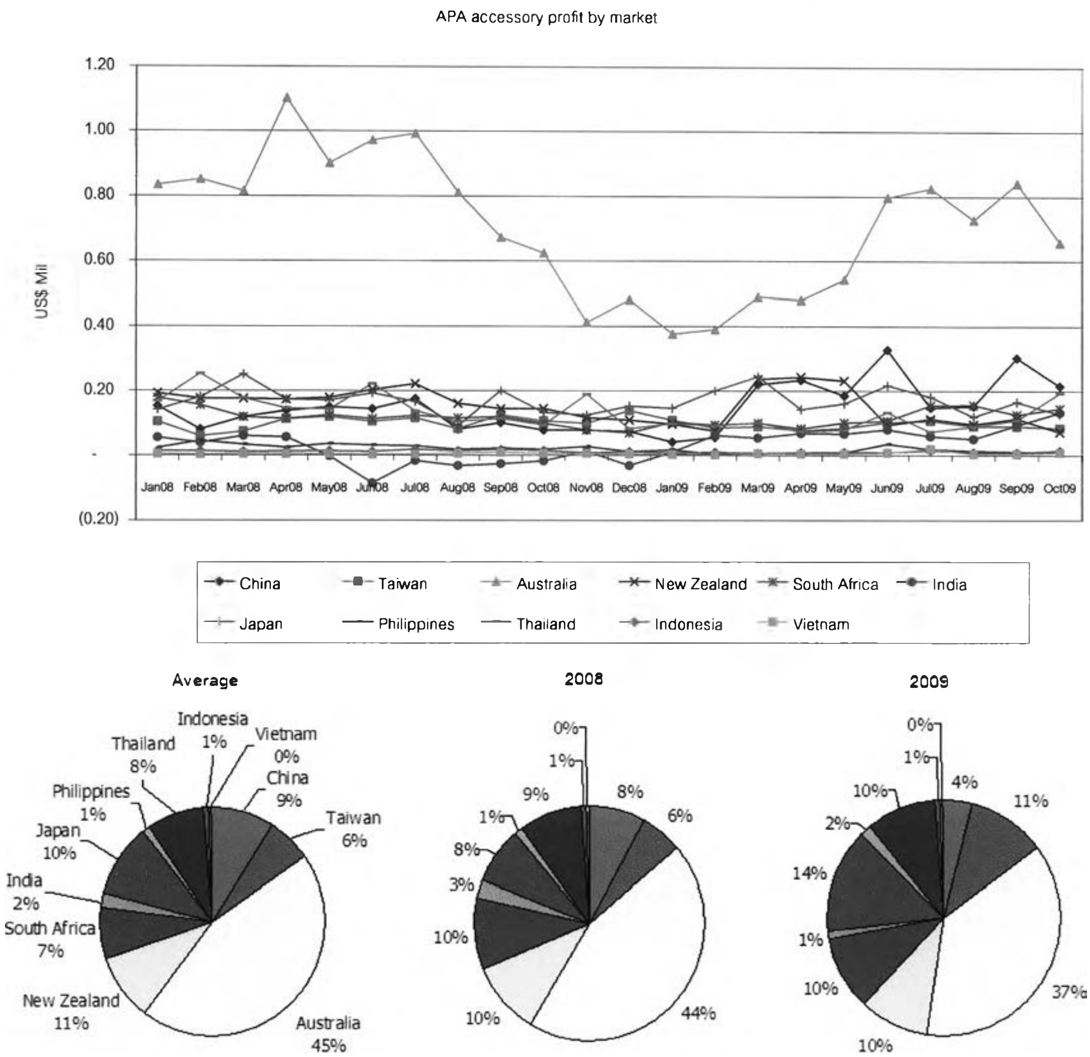


Figure 48: Case company's accessory profit by market

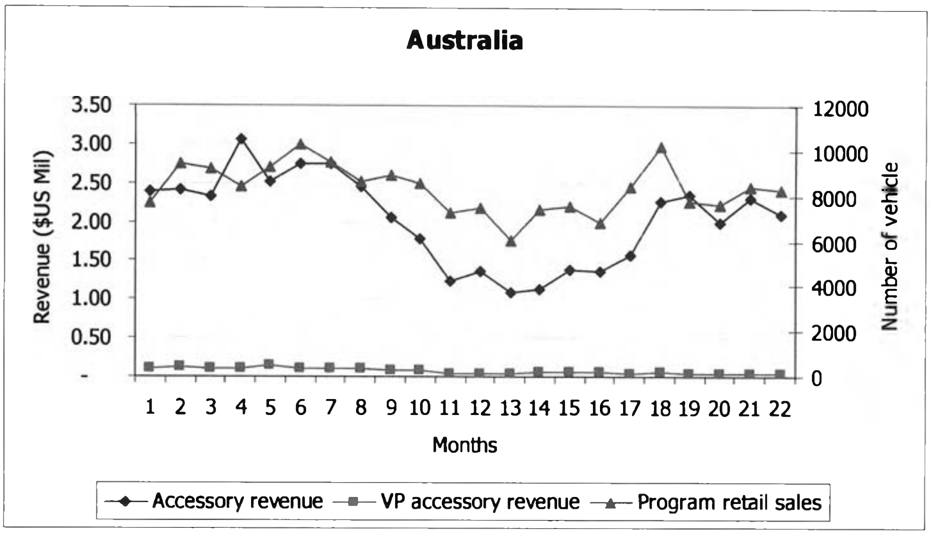


Figure 49: Analysis of case company's accessory revenue in Australia

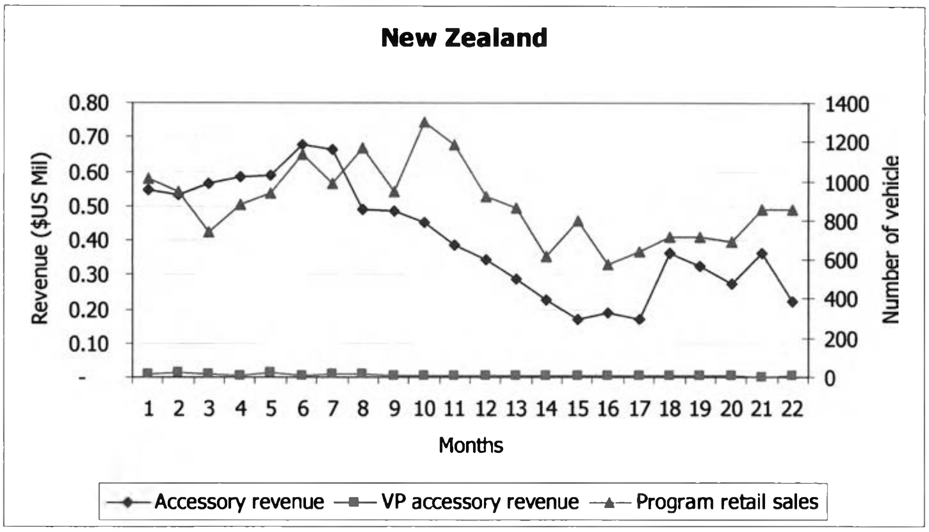


Figure 50: Analysis of case company's accessory revenue in New Zealand

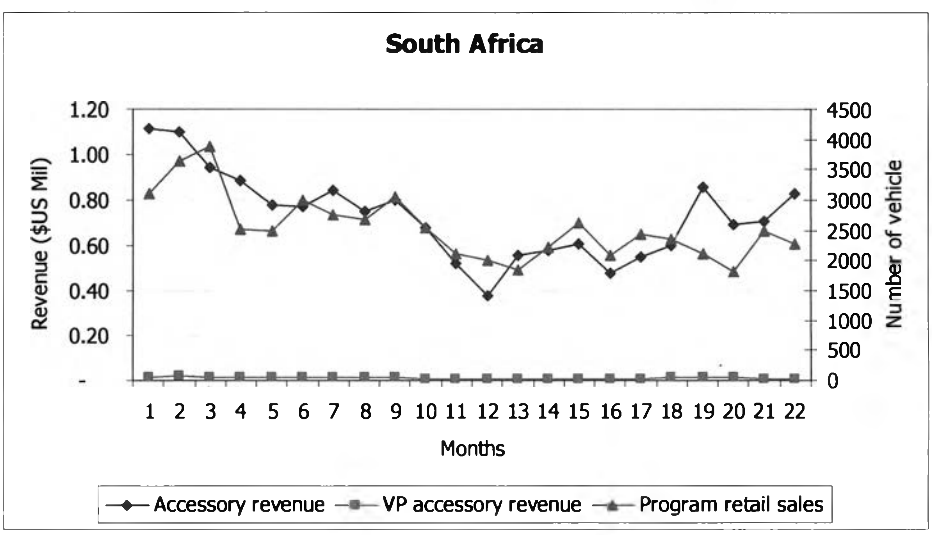


Figure 51: Analysis of case company's accessory revenue in South Africa

Australia, New Zealand and South Africa have the same market trend characteristics. Vehicle industry makes a sharp declined in 2008 but lifted up a little in 2009. However, the market is not yet recovered. Seeing how the trend of vehicle retail and accessory sales makes close movement, accessories sales in these countries are doing ok. Regional accessory penetration is quite low in these markets. The current warranty period provided by the company to customers in these countries is 1 year 20,000km for accessories that are chosen after vehicle sales and 3 years 100,000km (equal to the base vehicle warrantee period) if the accessory was fitted in plant as series line up or fitted direct at dealer before sales.

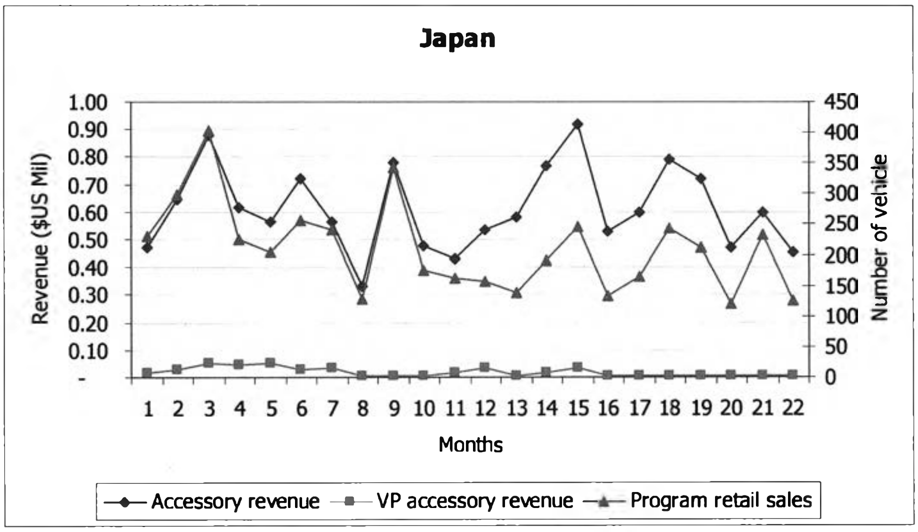


Figure 52: Analysis of case company's accessory revenue in Japan

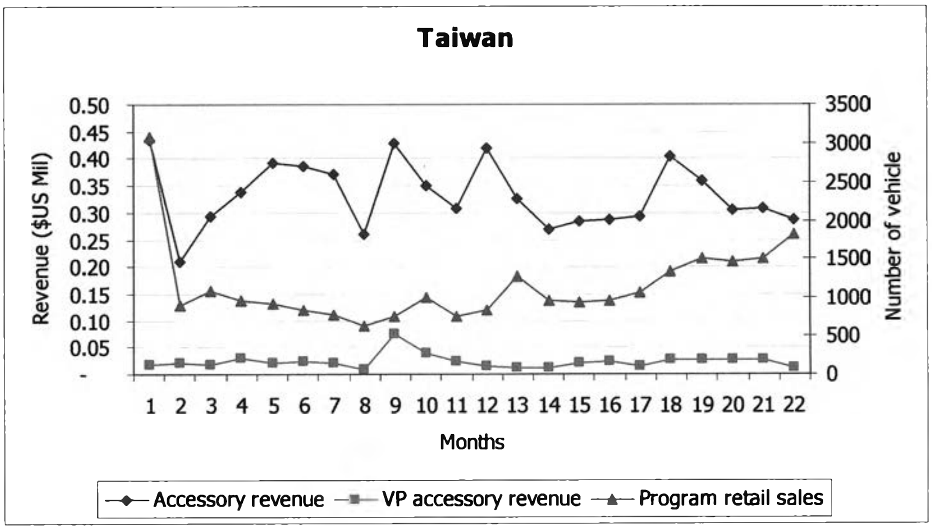


Figure 53: Analysis of case company's accessory revenue in Taiwan

Japan and Taiwan's retail volume is quite stable which means that the case company can still control the sales target. In both countries, the accessory revenue makes the same trend as vehicle sales which are ok. In Japan, regional accessory penetration is low while in Taiwan, there is some volume for the regional parts. Taiwan is also considered a sourcing base for regional product since it is a big personalization market with supportive suppliers. Japan team provided 3 years 100,000km warrantee for all accessories while it is 1 year 20,000km warrantee in Taiwan.

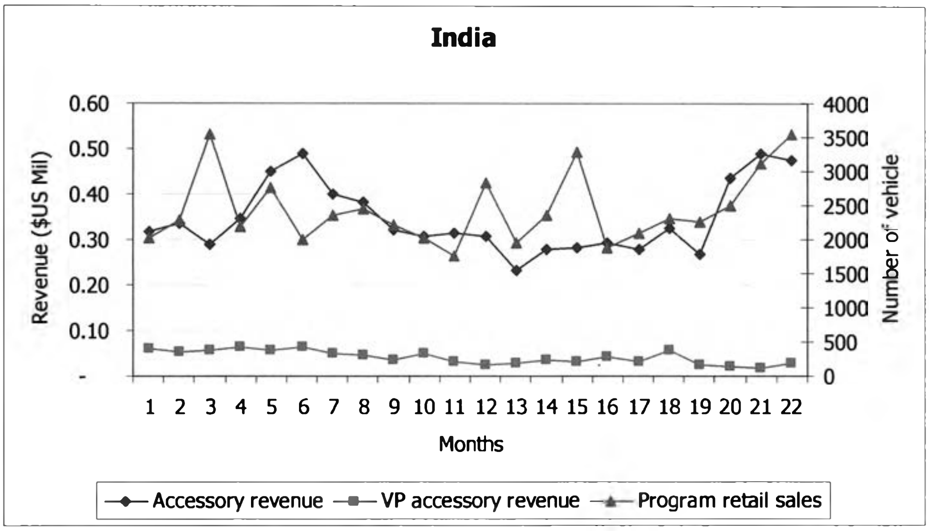


Figure 54: Analysis of case company's accessory revenue in India

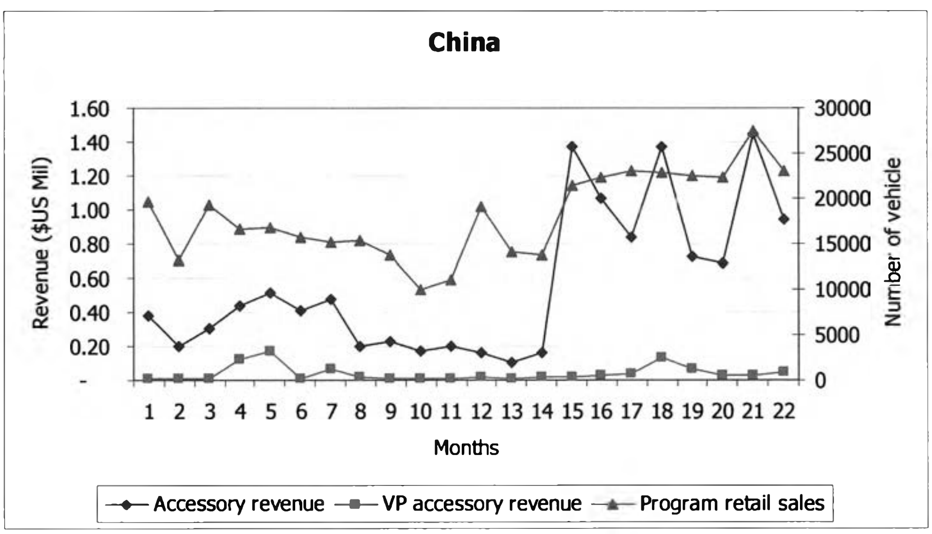


Figure 55: Analysis of case company's accessory revenue in China

China and India are growth markets where accessory sales opportunities are. Penetration rate of regional accessory are still low in these 2 countries. In India, pricing of the part is a big concern while in China, direction and discussion with the company's joint venture partner on sales and development share is needed. There is no warrantee for accessories sold in China (same practice as other OEM practice) as accessories are purchased after vehicle is registered while 6 month 10,000km is the warrantee provided for accessories in India.

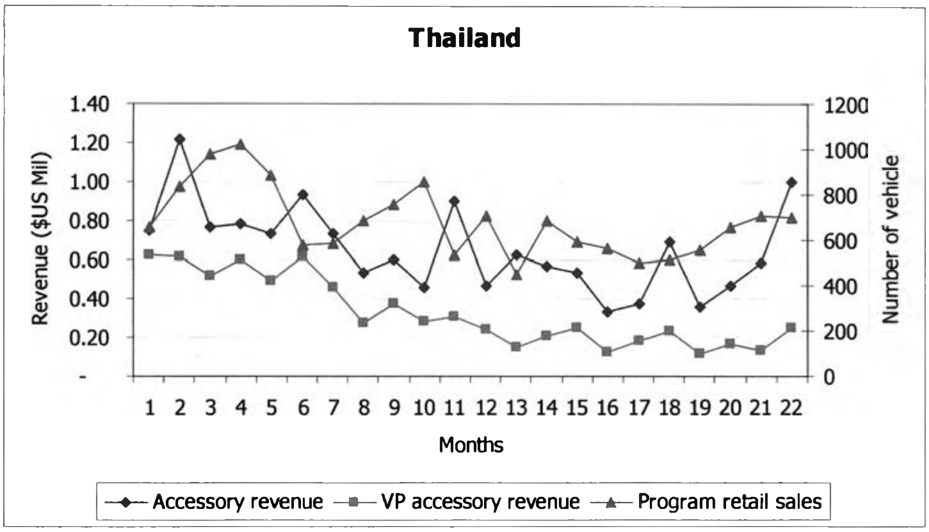


Figure 56: Analysis of case company's accessory revenue in Thailand

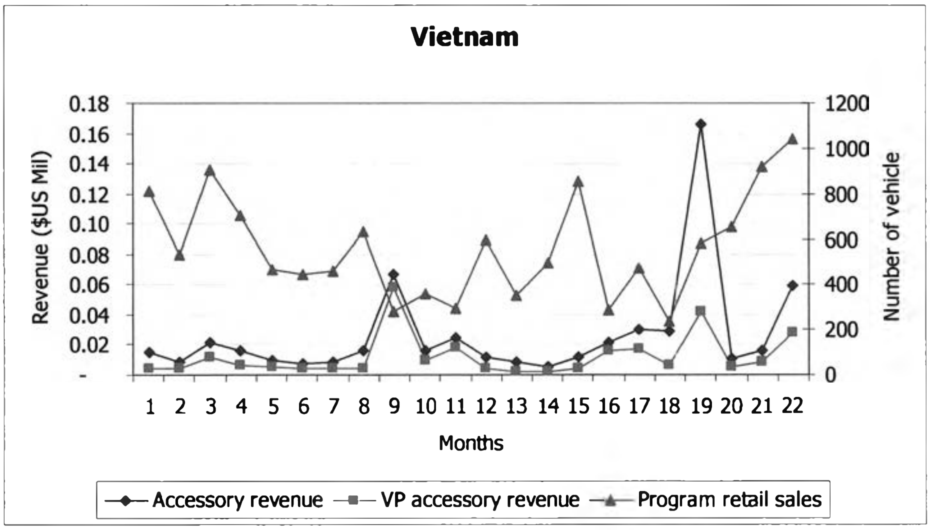


Figure 57: Analysis of case company's accessory revenue in Vietnam

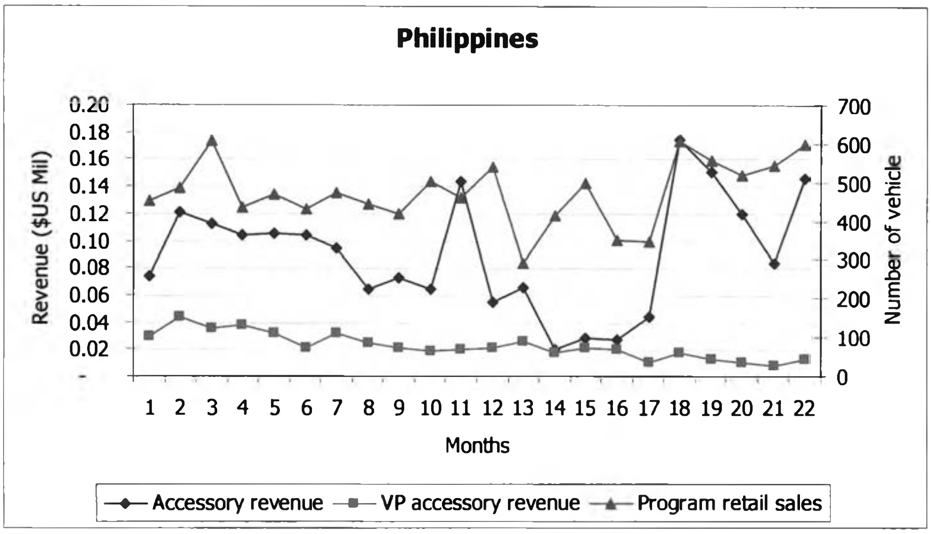


Figure 58: Analysis of case company's accessory revenue in Philippines

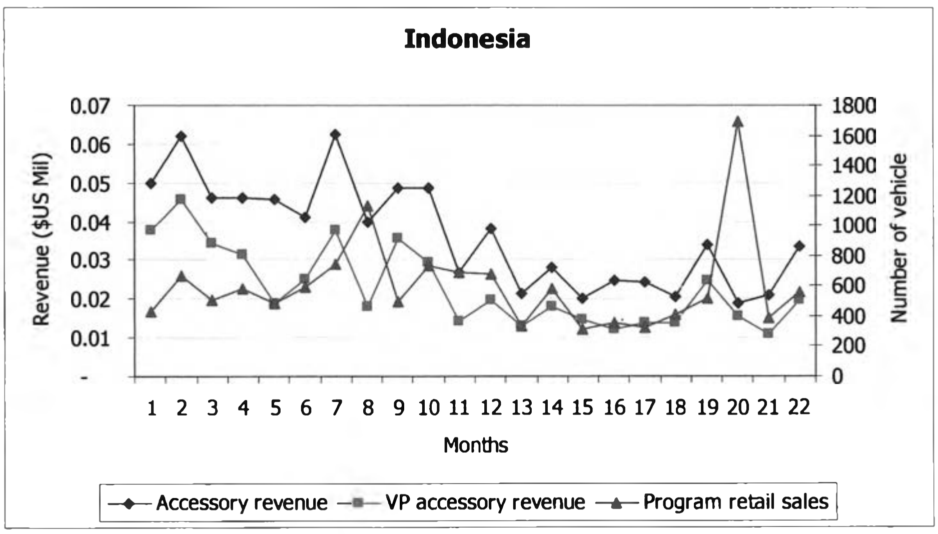
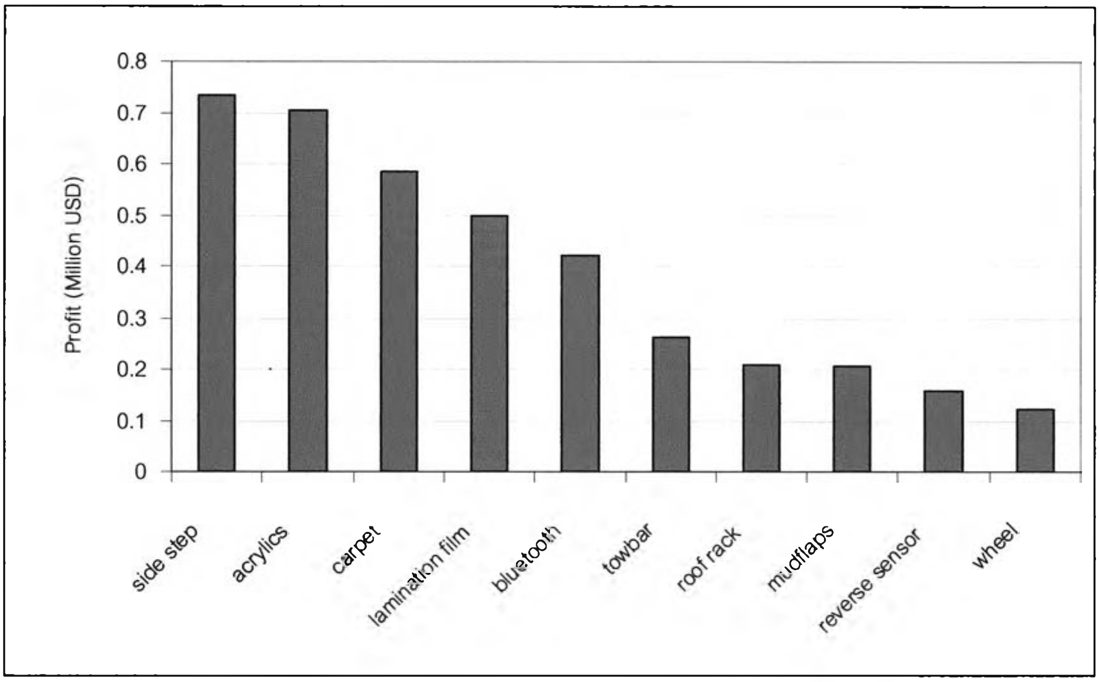


Figure 59: Analysis of case company's accessory revenue in Indonesia

ASEAN countries vehicle sales are considered stable with small reduction in volume in Thailand. Accessory revenue did not match with the trend of vehicle sales but the penetration of regional accessories is high. Some markets claimed that the regional team's accessories usually been sourced in Thailand where the regional engineering team is currently located which seems unfair to the logistic cost payment that other countries have to cover. Argument to those complains are that the company set up service support, warehouse, warrantee claim infrastructure and resources in Thailand which will make the overall process easier to handle. Warrantee period provided in the region is 1 year 20,000km for dealer fit accessories and 3 years 100,000km (same as base vehicle) for accessories fitted in plant or modification centre or dealers before sales.

Top profit accessories in 2007 to 2008 in the region are side steps, acrylic parts, carpet mat, lamination film, Bluetooth mobile phone kit, tow system, roof rack, mud guard/flaps, reverse sensing system and wheels. And top regional development profit accessories in 2007 to 2008 are truck liner, acrylic parts, bodykits (front side rear skirt), rear spoiler, scuff plates, carpet mat and rubber mat.



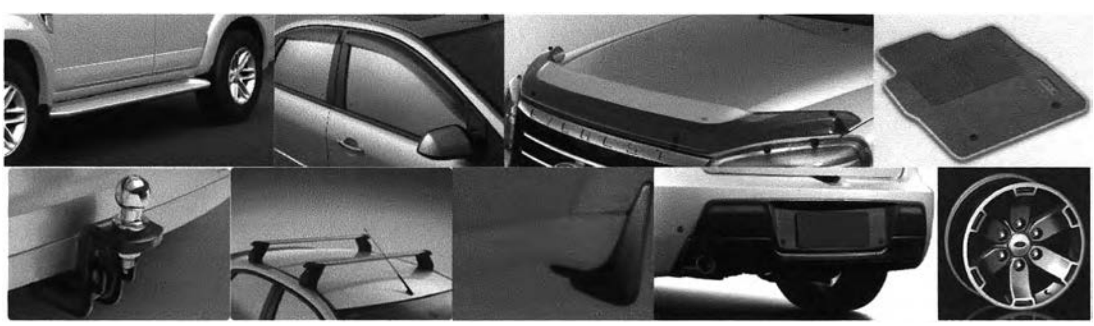


Figure 60: Case company's top profit accessories in 2007-2008

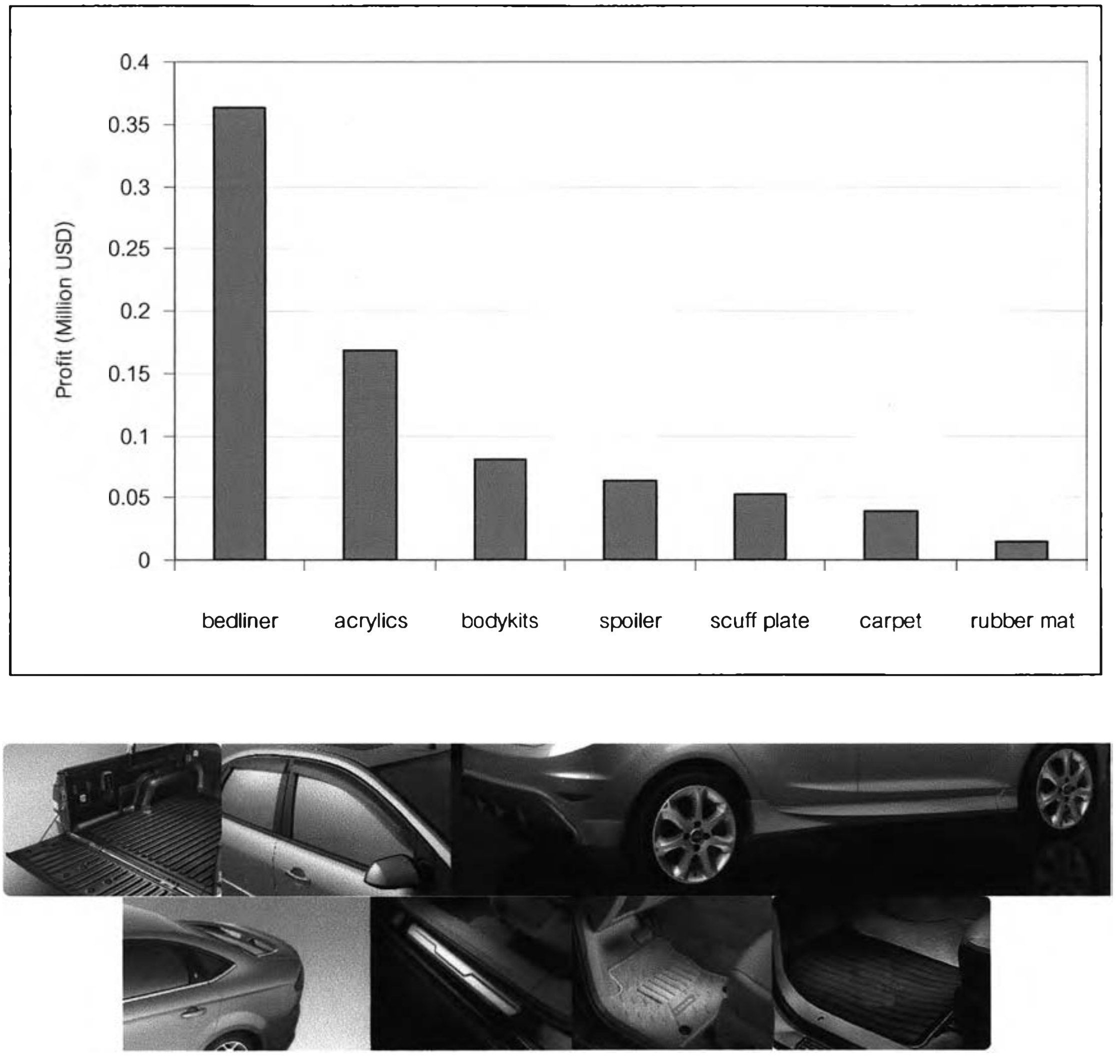


Figure 61: Case company's top regional profit accessories in 2007-2008

From the organization change, history sales data and lessons learnt concluded by product planning and engineering team, some accessories should be combined to global or vehicle development, some can be pursued on the regional basis and be developed by new VP team and some should be kept in the local development level. Examples of parts are as follow;

- Global development parts or parts to be integrated into vehicle development are safety related items, i.e. tow systems and head lamp guard
- Regional development parts are base part with similar design and specification requirements from countries in the region and should focus on high revenue and profit parts, i.e. carpet mats, mud guard, acrylic parts

- Local development parts should include unique countries requirement or parts with high technology or with short product life cycle. Local part can also include supplier branded accessory where supplier is capable and popular in each local market, i.e. GPS systems, roof rack and carry bars, film protection

Questionnaire 1 part1 (continue)

To understand more about customers' priority factors in accessory buying decision in each market, a short confirmation list is sent with the questionnaire 1. ("Please prioritize accessory development factor you think influences most to your customer") Results and analysis is as follow.

Table 7: Results of customers' priority factors in accessory buying decision

	# correspondents chose item as 1st priority			
	1st	2nd	3rd	4th
Cost (comparable to other OEM products)	2	6	3	7
Cost (comparable to aftermarket products)	5	6	9	4
Quality (high quality comparing to other OEM products)	1	5	9	5
Quality (high quality comparing to aftermarkets products)	1	5	5	6
Time (available at vehicle launch)	12	3	4	8
Styling and function of the part meets market requirement	13	8	2	4

Others criteria suggested by correspondents are: Market trend, replacement and warranty claim process

Styling and functional of the part, availability at launch and cost at comparable level with aftermarket products are priorities (in order) in developing a new product from accessory customer perspective. Quality at the same level as other OEM, cost comparable with other OEM and quality level at the level of aftermarket products have minor effect on the products interests. However, in the past, the regional team is focusing on quality and cost only. Data from different countries also show different results. Results of the first 3 markets (China, Australia and India) that account 80% of the region's volume are as follow.

In China (4 respondents), timing and the availability at launch of accessories is first priority, styling and function of the part are second expectations of customers. Cost compare to aftermarket products is the third priority but probably the one that has highest influence on customers buying decision. In Australia (3 respondents), the results comes out the same way as China. A suggestion provided from the Australia team is that improvement of warrantee claim and replacement process would help accelerated accessory sales by gaining more confidence from dealers who sell the parts. In India (3 respondents) a slight different perspective is found. Timing and the availability at launch of accessories is again, first priority but the second is the cost compare to aftermarket products. Even though accessories main purpose is to personalize vehicles, the wide availability and high competition from aftermarket products in India makes cost of the product highly concerned. OEM high quality is the third priority. To connect the results, activity system chart is drawn.

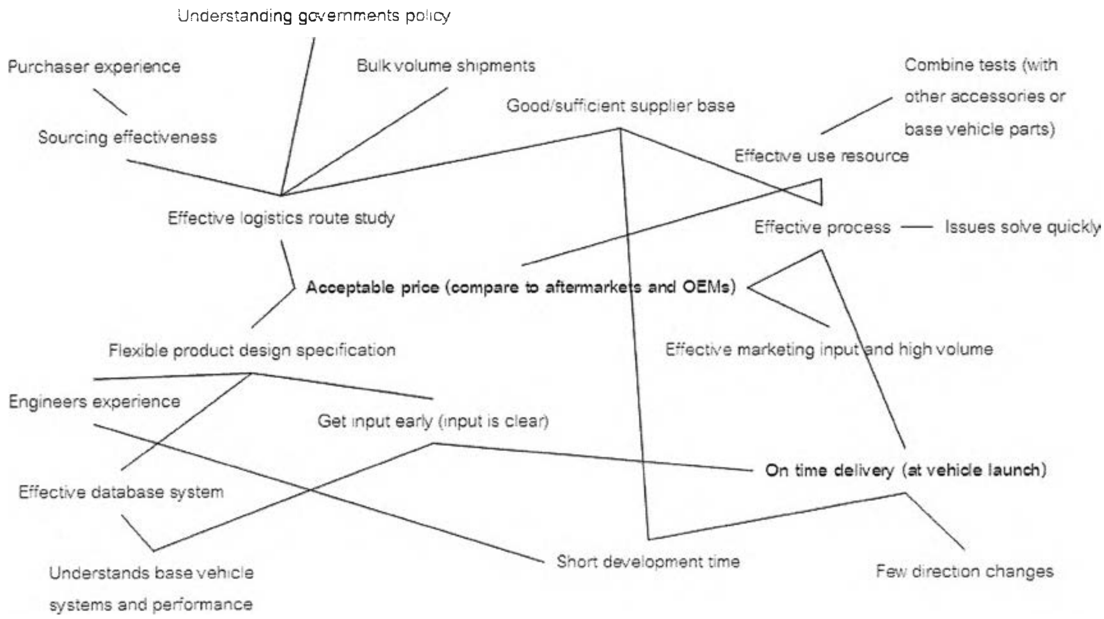


Figure 62: Accessory activity system chart

Accessory development process

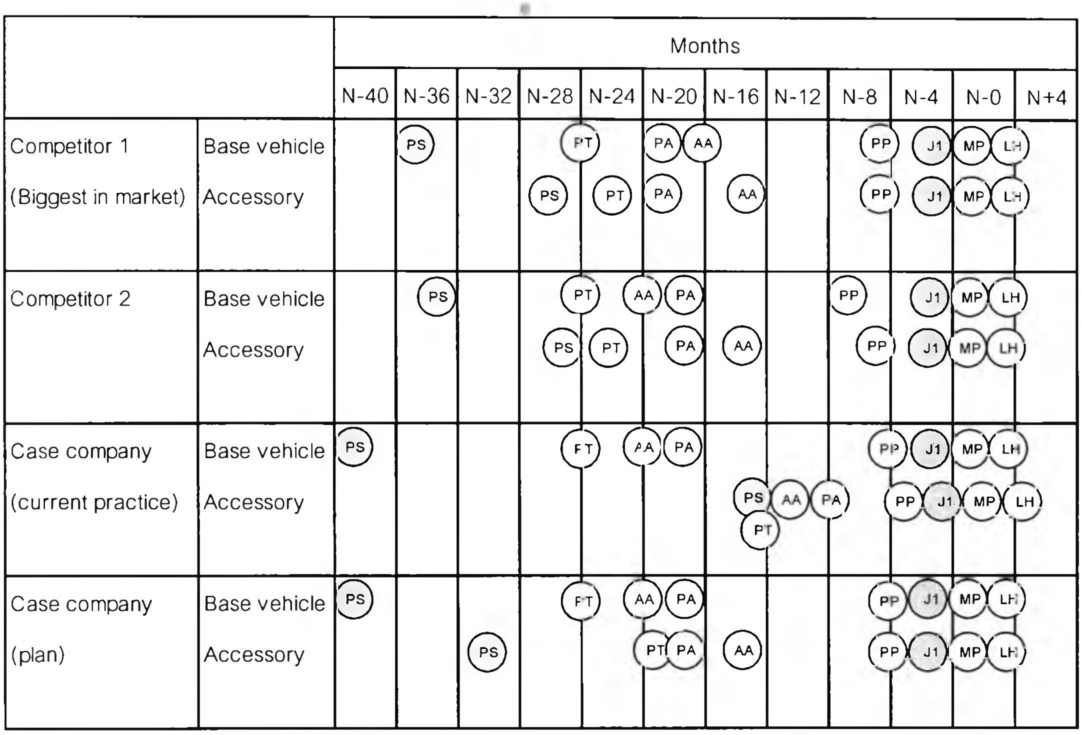
Accessory development process takes shorter time comparing to base vehicle itself since the complexity is lower and usually, the parts are added on to the vehicle with less integration to base vehicle systems. With shorter development time, vehicle companies can increase the frequency of base vehicle updates to suit customer's changing need and add features that customer were looking for but not yet provide with the current vehicle version.

By comparing the case company's current practice with two competitors, the main process for both vehicle and accessory development and its sequences are similar. Though, competitors integrated accessory program approval process into base vehicle main stream time frame while the case company has a separate program approval milestone. Advantage of having the approval late in the vehicle development time frame is to reduce the changes or modification that is needed when there's a change in the base vehicle. It is also considered very flexible. However, the disadvantages are that the company will have to put more effort to catch up the vehicle launch timing as well as to put more resource to the project while they can just use base vehicle's resources. Another disadvantage is that there's no integration and feedback information with base vehicle program team. In the case that accessory interferes with vehicle systems, it is better that the base vehicle team knows and prepare to open an option for accessory attachment since vehicle design phases.

With the regionalization plan, it is a good opportunity to integrate accessory development into base program timeframe and competitors' practice will be followed with slightly expansion of the development timeframe. Apart from the regionalization plan, the budget allocation to VP organization changed as well. The company decided that there'll be no more budget allocated to the accessory development team but to have all accessory development budget included into base vehicle's financial review gateways.

4.4 Product planning model2

From competitors' process study and company's practice and mission, product planning model 2 is proposed. First, the timing of the program should align with base program at <PA> or program approval gateway to get the funding approval. Only 3 gateways are included in the product planning phase, PS, PT and PA.



PS	Program start	PP	Pre production vehicle
PT	Program target confirmation	J1	Launch date in plant
PA	Program approval	LH	Launch vehicle in market
AA	Appearance approval		

Figure 63: Accessory development time frame

At PS gateway, only draft accessory list is required. The gateway needs to be kept to raise the awareness to base vehicle development team of what accessories are expected. From PT gateway where vehicle appearance approval is completed and base vehicle design becomes stable, accessory team should start the accessory decision process. From PT to PA gateway, the new decision model will be put in place and at PA, the company's decision maker (funding approval team) will be provided with a prioritized accessory proposal.

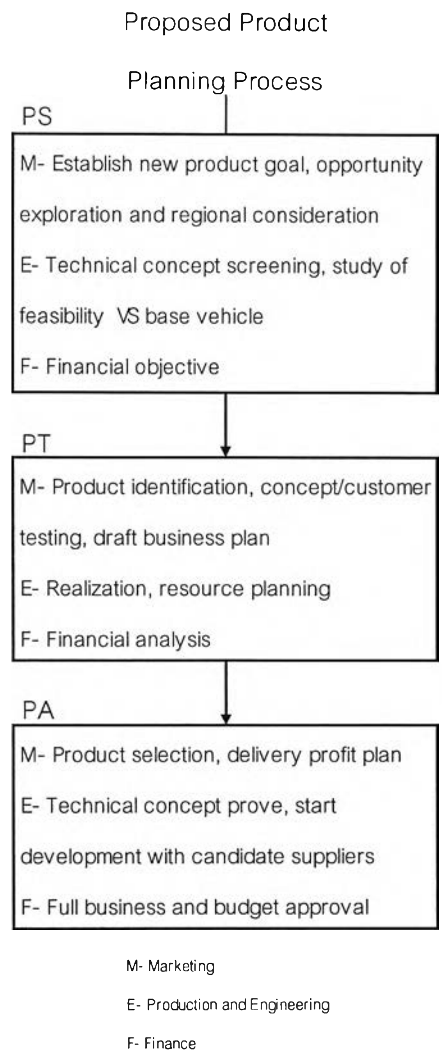


Figure 64: Proposed second product planning process

4.5 First decision making model

The case company did not have a formal written decision making model and all projects were done on case by case basis based on a decision guidance from planning team. The only formal gate is business (financial) approval for the program (PA). Based on the current organization practice, a product development flow is written and is used as decision model 1 to be shared with team members in questionnaire 1. Discussing with the accessory product planning team, in the past there are 6 possibilities for accessory development direction:

- Pursue regional/central accessory development or so called Genuine Accessories (GFA).
- If the part already exists from other corporate team development, the direction would be to buy the part from current source.
- Regional team to do co-development with supplier to reduce investment while still using company's brand. This direction would need product development specification deviations.
- If supplier is capable of making the part while internal resource can not justify business case, the product should be developed and release by supplier or so called Supplier Branded Accessories (SBA).
- Do local actions.
- Drop the part.

Factors considered in the first decision model are

- Keep the development centrally or within the company as much as possible to be able to control the timing, quality and resource/investment spending. In the case the design or tooling is available in other region; they would be picked up and studied for carry over purpose prior to making new design and development.
- Gates factors in sequence according to the decision flow are
    - Safety and regulations limitation
    - Availability from other carline or region
    - Company's financial results, revenue and profit calculations and approval criteria
    - Resource availability
    - Supplier's capability
    - Most efficient logistic route
    - Engineering standard and requirement
- Bench mark analysis and information did not have influences while making decision

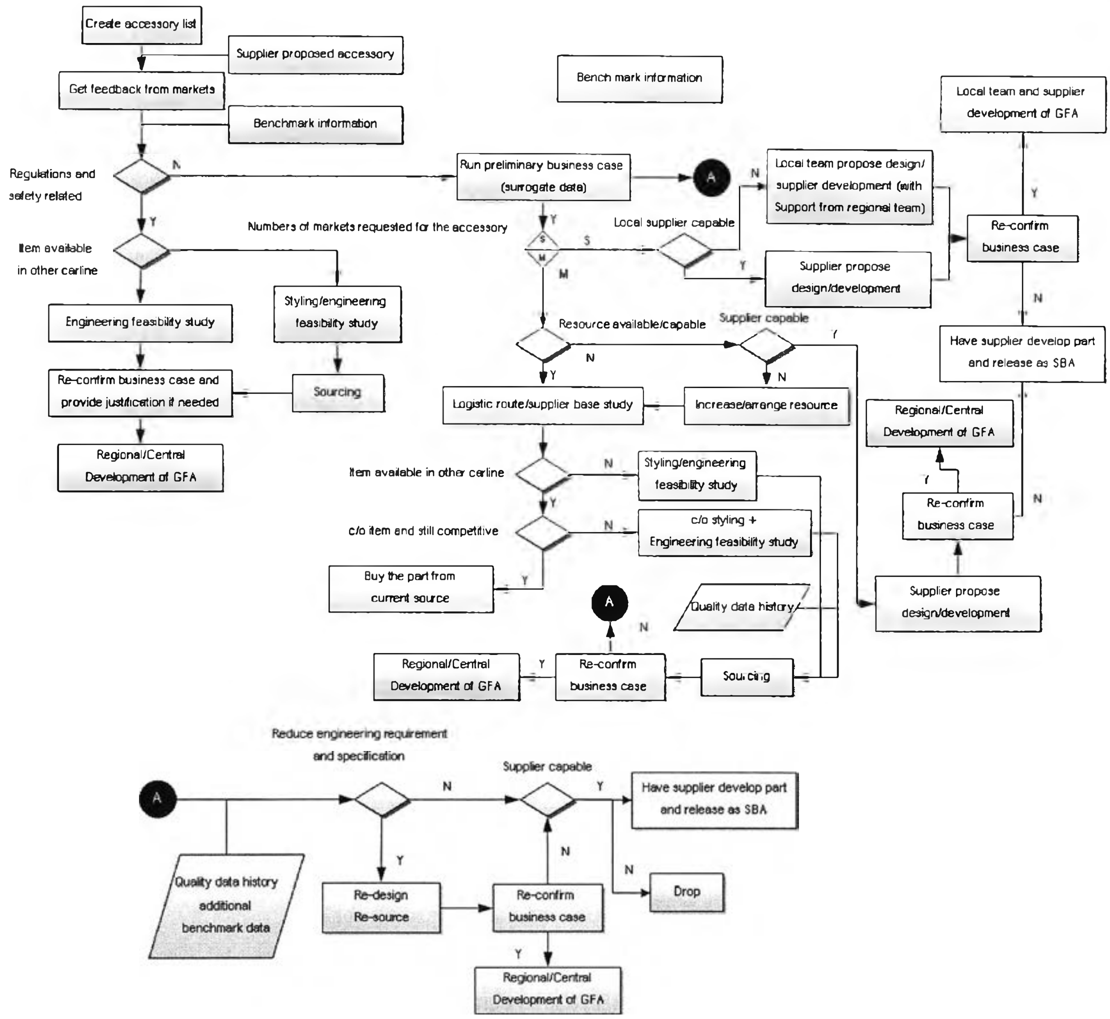


Figure 65: Decision making model 1

for case company's accessory development