

Integration of Supply and Demand Chain in Emerging Markets

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Abstract: This paper aims to examine integration of supply chain and demand chain in emerging markets. We present a research model of demand and supply chain integration which responds to customer's needs through the integrated information flows. Integration of demand and supply chain synchronizes the key processes in terms of frontend development, product planning, product design, procurement, manufacturing, sales and marketing, maintenance activities based on customer needs as process routines.

This paper discusses innovative supply chain practices of electronic firms and auto-manufacturers that operate in China. Successful firms implement a comprehensive level of localization that includes both staying vigilant on the changing market climate and being savvy in governmental relations and are able to adapt well to the competitive challenges, through integration of demand and supply chain. The Apple Company regards refreshingly attractive design as its core competence and thus outsources its production functions, achieving notable cost advantage. In contrast, the core competence of Japanese firms is in their manufacturing capabilities. Even in the areas of upstream R & D and product development, this paper finds the examples of Korean firms (e.g., Hyundai Motor) that achieve both quality and speed. The strength of Korean firms is in their global supply chain management, which is based on effective target market research, manufacturing capabilities and information integration across front- and back-end value chains. These firms develop their supply chain capabilities through integrating affiliated Korean suppliers, local Chinese suppliers, and outsourcing arrangements using effective operational and social control mechanisms. In brief, integration of both supply and demand chain is crucial for emerging markets. In the coming years, as more global firms turn their attention to the western regions of China, it is all the more interesting to see how successfully global firms in China implement their supply and demand chain strategies.

Key words: supply chain; demand chain; integrated information flows; emerging market; Japanese firms **JEL codes:** M160

1. Introduction

In times of stiff global competition, firms construct supply chains that allow the companies they support to produce their products and services in a timely manner. Their practical challenges are how to integrate both internal and external supply chains. Increasingly, customers are not only considering functionality, quality and prices of the products, in their purchasing decision process. Product compatibility with their lifestyle has also

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become a basic factor (Park et al., 2012a). Final customers expect the total packages of a product to be compatible with their value systems and life styles. Thus customer's purchasing decisions are based on the harmonious integration of product functional requirements and customer cultural value expectations.

This article aims to discuss the challenges for global supply chain in emerging markets and present a research model of demand and supply chain integration. Based on extant literature review, the integration model of demand and supply chain specifies the changing supply chain management practices for emerging markets. The Integration model of the demand and supply chain also synchronizes process routines in terms of frontend development, product planning, product design, procurement, manufacturing, sales and marketing maintenance activities based on customer needs. We further explore the following research questions: (1) what SCM practices do firms consider for an emerging market? (2) In the context of emerging markets, how are these SCM practices implemented?

For meaningful examination of these research questions, we employ case studies in the context of China. Firms that participate in the case studies are carefully chosen to study both internal and external supply chain practices to meet the complex customer requirements. Case findings suggest that successful global firms go beyond strategically focusing on their supply chain and actually move toward focusing on their demand chain in emerging markets. Indeed emerging markets demonstrate particular ramifications for the demand chain and the very nature of innovation.

2. Literature Review

2.1 Supply Chain Management in Emerging Markets

This section is devoted to discuss SCM topics in emerging markets which include (1) integration between demand chain and supply chain, (2) product/service development fitting emerging markets (such as focusing on disruptive technology and reverse innovation), (3) differentiation of supply management style and inventory management, (4) consideration of marketing channels, (5) logistics strategy different from advanced markets, (6) strategy considering local government policy and institutional rules such as FTA and TPP.

Supply chain management considers all the information exchange and the movement of goods from manufacturer, wholesaler, and retailer to all the suppliers on the extended supply chain (Zhou & Benton, 2007). To successfully meet all the requirements of customers, SCM applies total system in managing information, materials, and services (Chase, 1998; Sahin & Robinson, 2002; Li & Wang, 2007; Zhou & Benton, 2007; Park & Hong, 2012).

It is possible for central firms to reduce their innovation expenditures and minimize risk factors through collaboration with the partners in a business-ecosystem (e.g., suppliers with unique technological and manufacturing capability even in other countries). What is critical for a competitive advantage is how such focal firms seek, find and involve these resourceful and competent suppliers in their network. They must combine knowledge assets of many suppliers in its network. Thus, integrating capability of a focal firm is quite important in any network (Brusoni & Prencipe, 2001). As a result of this phenomenon, competition has been changed from the level of firm versus firm to that of supply chain versus supply chain (Vonderembse et al., 2006). With the "go at it alone" strategy diminishing in importance in this competitive global economy, and firms developing alliances with other firms and organizations, there has been an emergence of an "octopus" strategy (Vyas et al., 1995). This approach reflects the importance of the network for overall success, as well as the importance of the central, focal

organization within the network. The key task of the focal firm is seeking the right partners for the network, integrating knowledge within the network, and directing the goals of the network.

However, it is not sufficient to simply bring such suppliers into a network and integrate them as network members. Instead, sustainable competitive advantage requires perpetual network coordinating capability. In this sense, coordinating mechanisms of Japanese automobile manufactures (e.g., encouraging competition among suppliers while promoting long term trust relationships) have contributed to the formation of successful networks. Li & Wang (2007) focus on coordination mechanisms that influence the goals of supply chain members. An effective value chain management requires managing incentives within supply chains (Narayanan & Raman, 2004). Sahin & Robinson (2002) also discuss the value of information and physical flow coordination.

In this paper, we present SCM issues in emerging markets. Merely selling products to customers is no longer adequate in satisfying their growing demands. Instead, firms strive to plan integrative supply chain strategies that include product concept planning, product development and commercialization, and after-services (Belderbos & Sleuwaegen, 2005). These firms focus on establishing global supply chains to stay competitive. Increasingly, these global firms not only move their manufacturing facilities but also their marketing/sales and distribution functions. These firms implement integrative supply chain management that synchronizes both internal and external business practices. SCM considers inter-organizational network management that is far beyond organizational specific practices (Frohlich & Westbrook, 2001; Bhatnagar & Sohal,2005; Das, et al., 2006; Devaraj et al., 2007; Bidhandi, et al., 2009; Braunscheidel & Suresh, 2009; Flynn et al., 2010; Zhao et al., 2011). Firms no longer approach their product flows in terms of their own product brand. Rather, they look more deeply into examining all the supply chain partners and move forward to demand chain in the global markets—particularly emerging markets (Scannel et al., 2000). Such changing market realities require building network capabilities that respond to the diverse customer demands from the global market (Korhonen et al., 1998; Demeter et al., 2006; Crook & Combs, 2007; Park & Hong, 2012).

2.2 Concept of Integrated Manufacturing Information System (IMIS)

It is expected that consumer needs will become more sophisticated and the trend towards stricter environmental, energy, and safety constraints, will continue in the future (Fujimoto & Park, 2012). To cope with these trends, it is necessary to conduct various countermeasures, such as IT system and product architecture strategy and organizational capability. To analyze the complex processes for product development, I have suggested the IMIS model. The model integrates design information via an integrative IT system, throughout all the activities related to management, manufacturing and development processes, sales, marketing, and services. (Park et al., 2012a).

Figure 1 shows this concept of integrated manufacturing information system (IMIS). This system responds to not only the known existing needs, but also hidden needs (new customer requirements) through foresight planning of design information (Park et al., 2012a). It also identifies the key processes in terms of: (1) frontend development deriving product concept; (2) product planning integrating customer needs—expressed or unspoken—and design information; (3) product design visualizing design information; (4) procurement and manufacturing transferring design information through media choices; (5) sales and marketing appealing customers by design information; (6) maintenance activities managing design information as process routines.



Figure 1 Design Information Infrastructure and Electronic Transfer Processes

2.3 Research Framework

Companies must consider both expressed needs and latent needs, for both current and existing customers as well as future potential customers, so as not to be trapped into the "tyranny of the served market" (Bower & Christensen, 1995; Hamel & Prahalad, 1994; Slater & Narver, 1998). It also identifies the key processes in terms of design information streams. In particular, the integration model of demand and supply chain needs to be linked with external related supply chains. Figure 2 shows integration model of a demand and supply chain based on streams of customer needs.



Figure 2 Integration Model of Demand and Supply Chain

This phenomenon relates to firms being able to pursue disruptive technological innovation, as well as reverse innovation targeting emerging markets. For example, even though the new technology is considered inferior to currently available products by mainstream consumers, yet it carries other benefits, such as offering a stripped down "no frills" version of existing products. These products are simpler, more convenient, less expensive, and usually appeal to new or less-demanding customers (Christensen & Bower, 1996; Christensen & Raynor, 2003). Companies may take the same approach toward innovation targeting emerging markets. Reverse innovation means developing ideas in an emerging market and developing them to flow uphill to Western markets, turning

the traditional product life cycle approach on its head. Specifically, firms may develop a radically simpler and cheaper way of creating products in emerging markets, and then apply what it learns in the process to its product—development sites in developed markets (Govindarajan & Kopalle, 2006; Govindarajan & Ramamurti, 2011; Leavy & Govindarajan, 2011). Reverse, frugal and disruptive innovation reflect a strategy of starting at the bottom of the market and scaling upwards, as opposed to the reverse (Markides, 2006; Immelt et al., 2009; Ramamurti & Singh, 2009; Govindarajan & Ramamurti, 2011; Kumar & Puranam, 2011; Howard, 2011; Zeschky et al., 2011; Heeks, 2012; Radjou & Prabhu, 2013).

3. Case Study

3.1 Electronic Industry Cases: Apple and Sony in China

3.1.1 Apple and Foxconn

A crucial aspect of supply chain management is to share information beyond the firm's boundaries. Thus, careful selection of suppliers and strategic partners is very important. Careless bonding with unfit partners has serious business implications. Too often firms experience business failures instead of competitive advantages through supply chain management. In this section, we focus on how Apple and Sony integrate their supply chains in China.

Apple and Sony maintain their core competences within. Yet, they pursue supply chain integration in the other business areas that require supplier collaboration. These two firms maintain a strategic alliance with Foxconn, which is a leading firm in the global electronics manufacturing services (EMS). In general, manufacturing firms establish strategic alliance with EMS firms for three reasons: (1) production side; firms prepare for changing requirements of mass production or demand fluctuations, (2) cost side; firms attain cost advantage through reducing maintenance expenses, administrative and inventory costs. (3) global production responsiveness; firms choose production locations close to the customers. Thus, EMS plays an important role for effective supply chain management in emerging markets.

Apple, which has maintained No.1 position in achieving supply chain effectiveness according to AMR Review from 2008-2010, has collaborative relationships with Foxconn, a leading EMS firm. The market share of Apple, the number one customer of Foxconn, is 16% in China in 2010. Apple uses Foxconn to open a new market segment in any of the Chinese deep interior regions and thus achieve very effective logistical configurations in the long term. Apple has fascinated the global customers through its innovative product design and features (e.g., iPhone and iPad). However, these advantages do not guarantee sustainable competitiveness in the environment of rapidly changing customer requirements. The success factors of Apple include more than refreshing design and innovative features. Rather, Apple's supply chain management provides its crucial competitive advantage for the market. Apple does not manufacture iPhone in USA. Apple's manufacturing strategy is through outsourcing, not having its own manufacturing facilities (i.e., fabless methods). The merit of fabless methods is to avoid risks related to capital investment and maintenance costs for massive manufacturing facilities. Instead, the strategic focus is in its design/development/marketing/distribution. Thus, speedy management is quite possible with such arrangements. As firms choose fabless method as its strategy, it is important for global SCM to consider selection criterion of their long-term business partners.

Apple entrusted its production to Foxconn, a Taiwan-based EMS firm partly because labor cost in China is lower than that in the USA. However, the main reason why this was done is because most of the iPhone

component parts manufacturers are concentrated in Asia. According to Apple's list of component parts sourcing details, 70% of all its component parts are from Asia, including Japan and Korea. Since Apple gets its component parts mostly from countries in Asia, it is prudent to work with Foxconn in China and thus control overall production and logistic costs.

By combining Apple's competence in product planning/development and marketing, and Foxconn's manufacturing capability, these two firms show a successful SCM collaboration model. However, this type of fabless method also has certain disadvantages. Since Apple is not able to engage in the manufacturing flow processes, overall cost may increase due to lack of inventory control, overly large safety stocks of component parts, and long lead times. Yet, Apple effectively manages such potential drawbacks of the fabless method. Apple implements responsive supply chain management throughout the product lifecycle management (PLM) process, to avoid excessive inventory in the final goods stage. Apple also uses Apple stores—direct sales and distribution stores. Apple sells its products to the final customers and offers after services and completes customer-focused supply chain management. As Apple restricts the sales of its products to direct sales offices or distribution network, its customers appreciate Apple's unique marketing strategy. Apple stores do offer high quality after care services through direct customer contacts. Apple monitors the precise levels of inventory through its direct sales offices in real time. Apple also listens to its customers—their needs, interests, changing tastes and lifestyle requirements.

As of September, 2011, Apple's 357 stores report annual sales of 14.1 billion (\$) which is 13% of total sales of 108.2 billion (\$). Each sales office has average sales of 43.30 million (\$) which is 4.9 times of a Japanese key retail store, Uniqlo. For this reason, Apple planned to increase six stores in China (including Hong Kong) to 25 stores in 2011. In short, Apple's production is outsourcing to Foxconn, an EMS firm, and does not have any of its own manufacturing plants. Its sales method is to stay close to its customers and maintain very strict real time inventory control, along with superb product design and planning.

3.1.2 Sony and Foxconn

Sony is a leading firm in Japanese electronics industry. Sony offers TV, PC, and game modules in global markets. Sony's major products are in the areas of digital imaging, audio/video, PCs and other networked products, semiconductors, electronic components, professional solutions and medical-related equipment. For several years, including 2011, Sony has reported negative income. Recently Sony implemented vigorous global supply chain innovation projects.

In this section, we examine Sony's management from a manufacturing and marketing perspective. Sony uses cell production methods which are the improvement of Toyota's Kanban methods. Cell methods involve several operators throughout the entire production (e.g., assembly, processing and inspection) in the form of U-shaped cell processes. The distinct advantage is volume/scope flexibility and customer responsiveness, based on easy configurations of cell size and operator tasks.

Sony has seven manufacturing plants in China and the total number of employees is about 40,000 in 2010. In contrast to Apple, Sony has its own manufacturing facilities in China and maintains cell production methods. Such manufacturing methods may be useful in Japan for inventory reduction and quality assurance purpose, particularly for smaller markets with diverse offerings. However, would it be also effective in Chinese markets, which are much larger? In fact, for economies of scale production in China, it might be better to adopt automated systems using conveyor belts like Foxconn's EMS.

Recently, Sony has been working on building external collaboration system in view of bigger demand in Chinese markets. In 2010 Sony set annual sales target of LCD TVs to 2 million units, and game modules to 4 million units. It also established a strategic alliance with Foxconn for manufacturing/marketing channel distribution. This move was based on the prospect that Chinese LCD TV market would become the largest in the world. In this way, Sony focused on the upstream processes (i.e., product planning/development and brand power management) while Foxconn handled the mid- and down-stream processes (i.e., production/channel distribution). By serving the vast number of the ultimate users in this way, Sony has achieved overall cost reduction including logistics. Sony has downsized production capabilities by cancelling LCD panel joint production with Samsung of Korea and sold off TV assembly facilities in China.

The rural consumer electronics subsidy policy, which the Chinese government adopted to promote consumption, started in February 2009 and ended on January 31, 2013. This is to promote distribution of household products to rural areas. A certain amount of subsidy was paid to rural residents who buy household products. This policy was applied to 9 household products including TVs, refrigerators, washing machines and air-conditioners. Thus, Sony recognizes the need for strategic alliance with Chinese native firms to target huge potential markets in the vast interior region of China.

Sony intends to achieve inventory reduction and distribution channel expansion in China through this outsourcing type of alliance. As discussed in Apple case, one important function of SCM is the marketing methods. Sony distributes its products through VAIO Shops, which are its direct sales outlet, run by a third party. VAIO Shops are to construct potential customer base with the slogan of "distributing to the extent of receiving orders". Each VAIO Shop determines particular inventory standard (e.g., safety stock). After the sale of one unit, the next day or within two days Sony sends an additional unit. In China Sony covers 70% of PC, 70% of TV and 50% of digital camera through VAIO shops. Thus, Sony integrates inventory control, distribution and marketing through VAIO shops which are Sony's direct sales channel. Sony changes its sales methods according to product types. Sony has a reliable forecasting system by which it predicts the nature of demand from different segments of Chinese customers. By using its direct sales outlets, Sony discovers the changing demand patterns of customers and develops new products accordingly. In this way, Sony integrates both downstream (i.e., marketing) and upstream (i.e., product planning) of the SCM. Sony prepares to meet the surging demand for electronic products in the Chinese interior regions through supply chain integration strategy, in the form of combining core competences (i.e., its own brand power, Foxconn's manufacturing capability and Chinese major distributor, Hisense).

3.2 Automotive Manufacturer Cases: Toyota and Hyundai in China

3.2.1 Toyota's Global SCM Strategy

Toyota's market share is quite superior in the US market. On the other hand, in China its market competitiveness is no more than 8th with a modest sales volume of 506, 000 in 2011. Toyota's struggle in the Chinese market is quite obvious. Toyota has three manufacturing facilities in China for finished automobile production in 2013. Toyota established three joint ventures with three Chinese firms (i.e., TFTM (Tianjin FAW (First Automobile Works Group) Toyota Motor Co., Ltd), SFTM (Sichuan FAW Toyota Motor Co., Ltd), GTMC (GAC Toyota Motor Co., Ltd)), for which Toyota's ownership is 50% for each joint venture. Each of these three firms is somewhat unique. For example, TFTM focuses on mini-cars (i.e., Vios and Corolla) and mid-sized car (i.e., Crown), SFTM on large cars (i.e., Land Cruiser). Different from Japan, Toyota produced a selective and limited product lines in China with a large production scale.

Toyota also implements Just-In-Time (JIT) practices to fit the production system in China (White & Prybutok, 2001). This Toyota Production System (TPS) is characterized with removing MUDA which is about all forms of wastes through idle capacity, unnecessary waiting, repeated work, and wasteful resource usage patterns. It is to

produce the right amount at the right time through Kanban methods and a workforce trained in multi-tasking and cross-functional skills. However, TPS is not so easily implemented in China. In China, reliable demand forecast is a real business challenge. Many firms might feel confident that their customer needs are reasonably well understood. Yet, the government policy changes (e.g., tax rates, market intervention decisions and other government directives) influence the nature of customer requirements. For example, in 2009, Chinese government decided to reduce automobile income taxes by 5% for all the automobiles under 1,600 cc engine sizes. Then, immediately Toyota's Vios and Corolla showed rapid increase in sales volume. Yet, with unexpected demand surge, huge stockouts and inventory shortages occurred. In 2009 the sales volume actually decreased comparing to that of 2008. In rapidly a growing Chinese market, what matters most is not to eliminate all forms of waste (MUDA) but to avoid missing major sales opportunities through unreliable demand forecast.

TPS is not directly transferrable to China, although it worked quite well in Japan. Chinese national culture, value systems, educational level and consumer mindsets are different from those of Japanese people. Compared with China, the demand patterns of Japanese automobile market are fairly stable and thus demand forecast is highly reliable (Tseng, 2004; Tomino et al., 2009, 2011, 2012). However, in view of turbulent market conditions in China, it is challenging for Toyota to implement Toyota's flexible production and marketing system. A crucial element of global SCM is sourcing of component parts. Toyota's local sourcing percentage is 70% (e.g., Corolla and Crown) ~ 85% (e.g., Camry). The intermediate term goal is to move up to 90%. Currently, about 15%-30% of key components parts are brought in from Japan. Thus when the major natural disasters on March 11th, 2011 heavily disrupted the supply flows, the total sales volume of new cars reduced up to 35% compared to that of 2010. Logistics cost and lead time reductions of component parts require the overall increase in localization ratio. In China, supply and demand in terms of product lines and volume requirements are uneven. Chinese automobile market needs stable economies of scale production of diverse product lines, and thus supply and demand patterns would become more predictable. Then, Toyota production methods would be applicable in China just as in Japan.

For steady growth in the Chinese market, it is imperative for Toyota to move forward on a broad scale with localization that includes both sourcing component parts and building a marketing network. Their speedy decision making should allow better production and market responses in case of frequent government policy changes. Its production and marketing capacity should fit rapid market expansion requirements through implementation of Toyota Production System (TPS) in the context of the Chinese market.

3.2.2 Beijing Hyundai's Global SCM Strategy

Hyundai Motor Company is another global firm from Korea that has shown a steady growth in emerging markets (Park & Hong, 2012; Park et al., 2012b). Its market performance in BRICs (Brazil, Russia, India and China) is comparable to Japanese rival firms such as Toyota and Honda. Hyundai built a plant in St. Petersburg in Russia with annual production volume of 150,000 and started small passenger car production from 2011. For Latin American market, it also constructed new production facility in Brazil. It also accelerated aggressive market penetration efforts in Africa. In Eastern Europe, Hyundai and Kia now have large scale production facilities in Slovakia and Czech Republic.

This section focuses on Hyundai's Chinese market strategy. In October 2002, Hyundai formed Beijing Hyundai, a joint venture firm with Beijing Train, with 50-50% investment. In 2003, it produced 52,000 and sold 50,000 vehicles—a new history maker that achieved the sale of 50,000 cars in such a short period. In 2010, Hyundai sold 703,000 and became No. 4 automotive firm in China and thus sold more than other Japanese rivals. Hyundai's SCM strategy—particularly, research, sourcing, and marketing—differ from that of Japanese firms, and

might be a primary reason why it could report such rapid growth in China.

Beijing Hyundai pours a great deal of its resources for market research in China. In 2011 Hyundai established an Automotive Business Research Institute. A Hyundai senior manager comments, "We can get statistics of US automotive industry easily. But information on Chinese market is not enough. Government policies frequently change and the market dynamics are quite complex. This is why we need this type of research institute here" (Dongyang Economy Daily, 2011). Beijing Hyundai grew through quality market research support. Through such a highly visible and well-funded institute that assists with clarity of market targets and roadmaps, it can translate this information into marketing business. The new products respond to the changing requirements of customers' lifestyles. Preparing for the Chinese government's policy directives is essential to market high-valued products in China.

Beijing Hyundai (BH) adopts economies of scale production for mass customization purpose. It introduced the right mix of new models in response to diverse market segments and expanded the volume size per product line. This suggests that BH has a very high level of market research and its product development processes translate the changing customer requirements into its business opportunity very well. BH's production type is Make-To-Stock (MTS) which is to forecast the customer demand and produce sufficient stock of cars in advance. It responds to the customer needs in time-based manner and prevents any potential loss of sales opportunities. An unreliable forecast of customer demand has huge negative implications in terms of huge unsold car inventory. In this sense, Hyundai is somewhat different from Toyota that adopts JIT production concept.

However, BH implements MTS rather than Make-To-Order (MTO). In China's huge market size, large segments of customers do not necessarily require JIT type of production methods. Rather, upon making purchase decision in the dealership, Chinese customers would like to pick up their car and go home right away. BH sells such a large number of cars for each product line that economies of scale production achieve low cost per product unit. Such small customer segments and large production quantity for each product model, require simple-skilled workers rather than multi-skilled. For example, the rate of automation for press and assembly of automobile main bodies is 100%, stamping process 60% and final assembly process 10%. Production lines rarely stops. The utilization rate is average 99.5% (2nd plant utilization rate), and 98% (1st plant utilization rate 98%) as of 2009 (Sioji et al., 2012). In Hyundai, the idea is that automated process is more reliable than manual processes. Hence, BH is not particularly strong in training and developing multi-skilled workers who can discover and resolve problems at the floor level (i.e., KAIZEN activities). Accordingly, discovery of quality problems are through inspectors, managers and specialized staff personnel (Sioji et al., 2012; Park et al., 2012b). Characteristics of HB are not emphasizing Kaizen for the workers. Rather, HB simplifies the manufacturing processes in detail so that each worker's portion is small. The total number of work processes is usually twice of that of Japanese auto-manufacturers. Any workers that are not quite proficient in basic tasks can still be assigned to production processes quite soon. Thus, the amount of training and education requirements for each worker is relatively small. Consequently, the productivity of global plants is fairly high (Sioji et al., 2012). This type of human resource plan is quite fit for the Chinese labor market in which the movement of workers among different firms is very frequent. Hence, this type of work structure not only fits China, but many other emerging economies as well.

BH also has very high rate of localization. Up to 94%—only 6% of component parts are imported from Korea (Sioji et al., 2012). For its global production system, Hyundai's affiliated suppliers moved together with Hyundai to China. Hyundai also utilizes local Chinese suppliers. Hyundai invites its affiliated suppliers as suppliers in the emerging markets and thus the extent of vertical integration is fairly high (Park et al., 2012b). For peripheral items, BH increases the volume of sourcing from Chinese suppliers and maximizes the effect of cost

reduction. For strategic items BH maintains stable supply with high quality emphasis. For all other items, a cost reduction effort is a key for their cost competitiveness strategy (Sioji et al., 2012). In this way, BH invites affiliated firms to China as strategic partners for speedy growth initiatives and expands the supply base through Chinese local suppliers to achieve both total cost reduction (i.e., raw materials plus logistics) and quality manufacturing processes.

Another BH's success factor is to segment customer requirements by region and respond to their needs with a right mix of products accordingly. BH, in contrast to Japanese makers, uses both sub-dealers and satellite sales offices. In this way, BH covers not only coastline big cities and surrounding regions but also small and medium cities and other rural areas as well. With its national network of marketing and distribution, BH could achieve such rapid growth up to this point. In keeping up with the Chinese government's policy that reduced the income tax by 5% for promoting automobile distribution for rural residents, BH also had a series of special promotion activities for these target segments.

In this way, BH's integration of demand and supply chain includes careful examination of the impact of Chinese government policy changes, rapid translation into development of products that fit the needs of customer requirements, and execution of the large economies of scale production at low cost.

4. Conclusion

This paper examined the SCM practices of electronic firms and automotive manufacturers in China. What is noted in this study is that those firms that implement the deeper level of localization-initiated innovations achieved amazing business successes. It is imperative for any global firms to (1) understand the rapidly changing market climate and (2) develop partnerships with the local governments for achieving effective market penetration. The scope of outsourcing is extended to the local firms that are strategically aligned to assume specific aspects of global supply chain management challenges. In brief, integration of both supply and demand chain is crucial for emerging markets.

Successful firms implement comprehensive level of localization that includes staying vigilant on the changing market environment. They are also savvy in governmental relations and adapt well to the competitive challenges through integration of demand and supply chain. The supply and demand base includes the active participation of local firms through strategic outsourcing. With the extensive IT capabilities, global firms achieve effective information flows on various levels. Even so, a great deal of customer value translation, indicates the requirement for compatible business environments that offer price competitiveness, time sensitivity, and superior product quality and services.

Apple, for example, regards refreshingly attractive design as its core competence and thus outsources its production functions and achieves cost benefits. In contrast, the core competence of Japanese firms is in their manufacturing capabilities. Clarity of strategic priorities is a must for these Japanese firms. Even in the areas of upstream R & D and product development, Japanese firms can find the examples of Korean firms (e.g., Hyundai Motor) that achieve both quality and speed. The strength of Korean firms is in their global supply chain management, which is based on effective target market research, manufacturing capabilities and information integration across front- and back-end value chains. These firms develop their supply chain capabilities through integrating affiliated Korean suppliers, local Chinese suppliers, and outsourcing arrangements using effective operational and social control mechanisms (Kang et al., 2012). With the IT evolution, big data utilization supports

developing innovative business models that are instrumental to develop and deploy outstanding products that are cost-competitive, delivery-reliable, and quality-excellent. In the coming years, as more global firms turn their attention to the western regions of China, it is all the more interesting to see how successful global firms in China implement their supply and demand chain strategies.

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