

Dynamic Capabilities in Value Chain Management:

The Case of Merida

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Abstract

This qualitative research explores the application of dynamic capability to the field of value chain management. Using the dynamic capability perspective proposed by Teece in 2007, this case study focuses on the bicycle business ecosystem and chooses Merida as our case. The research question is to explore how and why dynamic capabilities can help Taiwanese production oriented enterprises in sustaining and building core competences while keeping away from core stickiness. The results show that the sustainable comparative advantages of Merida are based on its sensing capabilities, seizing capabilities, and transforming capabilities. Management architecture and organizational processes of Merida match well with those proposed by the dynamic capability perspective. Analytical system and capabilities support Merida to learn and to sense, filter, shape, and calibrate opportunities. Merida's enterprise structures, procedures, designs and incentives facilitate the seizing of opportunities. Continuous alignment and realignment of specific tangible and intangible assets prevent Merida from core stickiness and help to sustain its competitive advantages.

Keywords: dynamic capabilities, value chain management, sensing capability, seizing capability, transforming capability

動態能力在價值鏈管理上的應用：以美利達為例

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摘要

本研究為質性研究，聚焦於探討動態能力在價值鏈管理上之應用。本研究應用 Teece 動態能力觀點，以自行車產業生態為研究範疇，探討美利達如何管理其感應變動能力、捕捉商機能力、組織變革能力。選定美利達為標竿個案，採用的研究方法為個案研究法。研究問題是探討台灣製造導向企業如何及為何使用動態能力進行價值鏈管理以維持與建構核心能力並同時擺脫核心僵固性。

研究結果顯示美利達感應變動能力之基礎為：引導內部研發與選擇新技術的流程、吸收引進外來科技的流程、吸收引進供應商和互補品生產商的創新的流程、確認目標市場區隔、不斷變化的客戶需求和客戶創新的流程。美利達捕捉商機能力之基礎為：勾勒出客戶解決方案與經營模式、選擇外圍企業、管理互補品與控制整合平臺、選擇決策遵循準則、建構忠誠與承諾。美利達組織變革能力之基礎為：分權與組織解構、共創、統領、知識累積、分享、擴散。

關鍵詞: 動態能力、價值鏈管理、感應變動能力、捕捉商機能力、組織變革能力

I. Introduction

Many production oriented Taiwanese enterprises are encountering the difficulty of trying to sustain their core competences in production while moving upward and downward the value chains to build up their research and marketing capabilities. The major problem lies on their core stickiness when they struggle to sustain their competitive advantages. Value chain management seems to be a good solution. However, in a mature market with excess supply, production oriented enterprises are under increasing pressure to reconfigure themselves in response to changing market demand and competition. Downstream distributors are increasingly powerful in the value chain, and competition for international market has moved from enterprise specific to value chain specific. The foundations of enterprise success in such a market depend very little on the enterprise's ability to engage in optimization against known constraints, or capturing scale economies in production, which many Taiwanese manufacturers still rely on. Rather, enterprise success depends upon how closely it responds to customer needs and in shaping new managerial and operational processes for sustainable competitive advantages (Helfat et al., 2007). Value chain effectiveness is replacing production efficiency in the new era of value chain competition.

In the last two centuries, production bases have transformed from local enterprise oriented toward international value chain oriented. Most of the transformation in value chain management is related to relocation of production base from high cost countries to low cost countries. In the bicycle industry, major relocations have taken place thrice. The first one was from the United Kingdom to the U.S. and continental Europe, which can be illustrated by the futile attempts of Raleigh and other British bicycle manufacturers to fight off low-priced bicycles produced in the U.S. and continental Europe around 1900 (Lloyd-Jones and Lewis, 2000). The second one was from the U.S. and continental Europe to countries in East Asia, which can be illustrated by the struggling attempts of Schwinn and other American bicycle manufacturers to fight off low-priced bicycles produced in East Asia from 1970 to 2000. The third one is from Japan and Taiwan to China, which is currently happening and can be illustrated by the attempts of Merida and other Taiwanese bicycle manufacturers to fight off low-priced bicycles produced in China.

Facing core stickiness, Enterprises implement different strategies to overcome it. Raleigh recognized the need to reconfigure itself in response to changing consumer tastes and competition, but it was constrained by its commitment to high quality batch production which was its core competence. Schwinn resulted to outsource its production in response to rising labor cost, but it was constrained by its commitment to mass marketing of modular bicycles and consequently lost its core competences (Quinn & Hilmer, 1994; Galvin & Morkel, 2001). So far, Merida and other Taiwanese bicycle manufacturers have escaped the same fate as Raleigh and Schwinn in their attempts to fight off low-cost manufacturers. Can they, Merida in particular, continue to fight off low-priced bicycles produced in China and sustain their

competitive advantages? It is a case to be observed.

The research question is to explore how and why dynamic capabilities can help Taiwanese production oriented enterprises in sustaining and building core competences while keeping away from core stickiness. We conduct our empirical research of value chain management using dynamic capability perspective proposed by Teece (2007), which contains detailed checklist to guard against core stickiness and calibrate capability. There are two objectives in this research. The first objective is to show how dynamic capabilities can help in identifying new opportunities and organizing management activities effectively and efficiently. The second objective is to study why Merida competes with its value chain management in order to sustain the competitive advantages.

II. Literature review

Winter (2003) defines dynamic capabilities as those that operate to extend, modify or create ordinary capabilities which deal with day-to-day operations. Dynamic capabilities typically involve long-term commitments to specific processes and resources for patterning of activity. They are context dependent. How well the dynamic capabilities of an enterprise match the context in which the enterprise operates affects the survival, growth, and competitive advantages of this enterprise (Helfat et al., 2007). According to Teece (2007), dynamic capabilities consisting enterprise-level sensing, seizing, and transforming capacities can support superior long-run business performance in markets open to global competition. To escape from zero profit tendency, an enterprise can strive to understand how to enhance its performance through sensing future needs, making quality, timely, and unbiased investment decisions inside a well-designed business model, executing well on those decisions, effectuating productive combinations, promoting learning, reengineering systems that no longer work well, and implementing good governance. Teece (2007) proposes further that dynamic capabilities can be managed through a collaborative nonhierarchical management style assisted by establishing councils and other integration forums.

A central idea of the dynamic capability perspective is that an enterprise is a locus of competitively distinctive capabilities. Because these capabilities are difficult to transfer, an enterprise can develop a competitive advantage by investing in their development (Teece, Pisano, and Shuen, 1997). It is an extension of the core competence concept proposed by Prahalad and Hamel (1990) that top management's real responsibility is a strategic architecture that guides competence building. Similarly, maintaining control of architectural platform may enhance the ability of an enterprise to understand and assimilate innovations external but close to the firm (Henderson and Clark, 1990). Reichhart and Holweg (2007) extend these concepts of architecture and modularization further to supply chain responsiveness, which is one of the objectives of value chain management.

Value chain management is defined in this study as management of enterprise-specific activities beyond enterprise boundary but not from a conglomerate point of view. It focuses on not only short-term cost and profit but also long-term view of building reputation, relationships, and brand equity. Porter (1985) is the first scholar to propose the using of value chain analysis as a means of identifying each of the business actions or stages that transforms input into output. The success of Toyota in the automobile industry, and the successes of Dell and Apple in the ICT industry motivate researchers to concur with such a concept but with some doubts about its inward-looking focus (McPhee and Wheeler, 2006; Kess et al., 2010). Some researchers expand the value chain concept to include supply chain management (Brekalo et al., 2013; Caniato et al., 2013). Others consider demand chain management a possible alternative (Walters and Rainbird, 2004; Noke and Hughes, 2010). This study proposes value chain management as a better approach in modifying the value chain concept by including the management of external networks of a specific firm.

Dyer (1997) provides compelling evidence of non-ownership modes of collaboration, such as relational trust, that can allow two firms to engage in market exchange with diminished risks of opportunistic behavior. Such collaboration is influenced by the Japanese business process of “keiretsu,” which is a unique form of collaboration with multiple dimensions. Most recognize that it implies legal, financial, and operational ties (Lai, 1999). For enterprises expanding internationally, collaboration with upstream and downstream members in the value chain is as important as the enterprise’s own primary activities (Luo, 2000). Competitive advantages derive not only from capabilities of the specific enterprises but also from capabilities of all value chain members. Instead of creating customer values and satisfying customer demands by each enterprise, all value chain members work together in joint effort to compete as a team. It is a competition among value chains for the same customers in the global market.

For value chain management, Mahoney (1992) suggests a synthetic theory of vertical control with three determinants: task programmability, nonseparability, and asset specificity. For upstream supplier management toward better production effectiveness and efficiency, clan and relational contract are the preferable forms of control. Because input quality and output quality are both difficult to measure and reward, a sense of human solidarity and specified self-enforced obligations can assist the value chain leader in its value chain management. For downstream distributor management toward motivating marketing effort, joint venture and vertical financial ownership are the preferable forms of control. Because input quality is easy to measure and reward but human, physical and/or site enterprise-specific investments are high, equity agreement and financial ownership can support the value chain leader in its value chain management.

III. Research methodology

Case study research method is used in this study, because the research question of this study is about “how” and “why”. For the case study research method, a “how” and “why” question is being asked about a contemporary set of events over which the investigator has little or no control (Yin, 1994). Compared with the survey research method dealing with “what” and “how many”, the case study research method is better in dealing with operational links needing to be traced over time, rather than mere frequencies and incidence.

Data of this study are from two major sources. The first part is from archival data such as enterprise annual report, Industrial Technology Intelligence Service (ITIS) industrial report and related public statements from enterprise spokespersons (Merida Annual Report 2001, 2006, 2011; ITIS, 2012). The second part is from in-depth interviews with senior managers of Merida. The major focus is on value chain management, from which we can observe how Merida and its management first spot the opportunity to earn economic profits, make the decisions and institute the disciplines to execute on that opportunity, and then stay agile so as to continuously refresh the foundations of its early success, thereby generating economic surpluses over time. Such a study on enterprise capabilities needs to be understood not in terms of quantitative calculation, but mainly in terms of organizational structures and managerial processes which support productive capabilities.

In this study we goes beyond traditional approaches to understanding sustainable competitive advantage in that it not only studies the traits and processes used to achieve good positioning in a favorable business ecosystem, but it also endeavors to explicate value chain related considerations and the business model disciplines needed to ensure that opportunities, once sensed, can be seized; and how the business can be reconfigured when the market and/or the technology inevitably is transformed once again. We organize these capabilities in three steps: sensing capability, seizing capability, and reconfiguring capability. Using the dynamic capability framework proposed by Teece (2007), we try to contribute to the understanding of how to extend or modify an enterprise’s resources and specific assets, as it senses and seizes opportunities while simultaneously managing competitive threats, and effectuates necessary transformations toward sustainable competitive advantages (in figure 1).

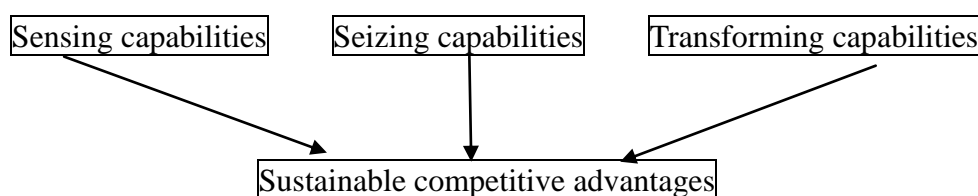


Figure 1. Research Framework

IV. Case study and research propositions

1. Sensing capabilities

(1) Process to direct internal R&D and select new technology

Formerly a contract manufacturer for Raleigh, Schwinn, Specialized, and Scott, Merida has built up its core competences in production. To explore new design and new material as an own brand manufacturing (OBM) manufacturer, Merida realizes that it needs a process to direct its new product development. To accumulate and learn capabilities in design, Merida has set up a design center in Magstadt, Germany to tap into the newest trend of German design. Feedback from the market end of value chain, such as the newest architecture or color, is developed into new product concepts. This design center in Merida Europe is also responsible for sponsoring and managing the Multivan Merida biking team and Team Merida International, which serve as test pilots as well as brand promoters.

Competing prototypes are then created in Taiwan by merging the new design ideas and concepts with established ones (Minguela-Rata and Arias-Aranda, 2009). Following the global trend toward energy conservation and reduction of carbon emission, the production center in Taiwan adopts aluminum alloy and carbon fiber as the basic materials for frame and other parts to meet the demand for lightweight bicycle. The vice president for production coordination, Mr. Yuan, confirms that: “We aim to delight our customers with reliable functions in every situation. The closer we are to the factories, the farther we are to the customers.” Following the strategy to move from low-end transportation vehicles toward high-end recreation goods, the production center has collaborated with outside teams in material sciences to produce solid, lightweight, and fashionable bicycles. Since year 2005, customerization has been cultivated to be one of Merida’s new combinations of core competences. Through internet, customers can order their customer-made bicycles with different modules and colors (Merida annual report, 2006). Thus, we propose that:

Proposition 1A: Process to direct internal R&D toward customerization and select new material technology improves the sensing capability of Merida.

(2) Process to tap developments in exogenous science and technology

The design center, Merida Europe, follows closely developments in Formula one auto races in developing its new bicycles. For instance, thermo sensors are attached to members of the Multivan Merida biking team to show their thermo color tones in computers. Designers analyze these data and came up with new architectural designs to reduce the impacts of friction and to increase riding comfortability. Based on that new architecture, material

engineers and modular engineers in Taiwan create prototypes for design contests and the following commercialization.

To build up its process innovation capabilities, Merida taps developments in Toyota production system (TPS) and applies them in its bicycle production process (Liker, 2004). By forming alliance with Giant and key modular suppliers, Merida learns on-site management improvement methods with team members. This alliance, named A-Team, applies several steps in production process, which include: (1) the establishment of training workshops, (2) on-site visits to some of Kuozui Motors (production subsidiary of Toyota in Taiwan) and Toyota's best suppliers, (3) monthly instruction from a TPS team dispatched by Kuozui Motors to A-Team suppliers, and (4) the training of some outstanding technicians (Jonathan et al., 2008). Mr. Yuan, as the secretary general of A-Team, emphasizes the following: "With TPS, we are able to produce more than ten models in a day with the same production line. In addition, the targets of production efficiency, just-in-time (JIT), and zero inventory can all be met." These efforts in the adoption of TPS techniques, have laid a solid foundation for the rapid, small batch production of more sophisticated, higher priced bicycles. Thus, we propose that:

Proposition 1B: Process to tap developments in exogenous science and technology in new architectural designs and process innovations improves the sensing capability of Merida.

(3) Process to tap supplier and complementor innovation

As working relations among A-Team members becomes more natural, there are additional rooms for collaborating of Merida with its module suppliers in product development. In the modular innovation stage, Merida initiates collaborative modular designs and collaborative modular production with several of its suppliers. Using A-Team as a platform, Merida frequently passes new trends or developments in modular design to its suppliers. If the new concept is from Merida, the module supplier cannot reveal it in at least two years. If the new concept is from the module supplier, this module supplier is free to use it elsewhere.

To create a solution to a customer problem, it is necessary to conduct external search and acquisition of technology which can combine complementary innovations. The process adopted by Merida helps to "design in" new technology/modules in a timely fashion. Continuous and rapid design around new technology/modules developed upstream can itself be a source of durable competitive advantage. With rapid innovation by module suppliers, downstream competitive success can flow from the ability of Merida to continuously tap into these external innovations ahead of the competition. Furthermore, such a process can facilitate concurrent production, resource complementarity, and good time-to-market performance. The

vice president for production coordination, Mr. Yuan, reasons that: “By integrating these suppliers as a team, we can respond quickly to changing customer demands, increase time-to-market performance, all of which lead to improved competitiveness.” Thus, we propose that:

Proposition 1C: Process to tap supplier and complementor innovation in collaborative modular designs and collaborative modular production improves the sensing capability of Merida.

(4) Process to identify target market segments, changing customer needs, and customer innovation

Investment in analyzing changing customer needs, and in realizing customer innovation and related activities are usually necessary complements to the process of targeting market segments. In addition to feedbacks from the Multivan Merida biking team, joint ventures with Specialized and other distributors allow Merida to engage in the process to scan, create, learn, and interpret the cycling and sporting demands (Merida annual report, 2011). Market information can be filtered, and flows to Merida headquarter in Taiwan which is responsible to make sense of it. Merida is in a good position to accumulate and then filter information from professional and social contacts to create a conjecture or a hypothesis about the likely evolution of customer needs, and marketplace responses. This task involves scanning and monitoring internal and external market developments and assessing customer needs, expressed and latent.

Following such a process, Merida can effectively use its marketing end of value chain to gain different access to existing and new information. This information can create opportunities in helping to understand latent demand, the structural evolution of bicycle industry and market, and likely competitor responses. The vice president of marketing, Mr. Cheng, takes the joint venture with Specialized as an example: “The joint venture with Specialized allows us to learn the process of conceptualizing customer needs, which participation also allows us to conduct our concurrent production three months ahead of our competitors. It is a synergy to both of us.” Combined with other sensing processes which open up technological opportunities, the process of learning about customer needs has a positive impact on creating commercialization opportunities. Thus, we propose that:

Proposition 1D: By collaborating with the marketing end of value chain, process to identify target market segments, changing customer needs, and customer innovation improves the sensing capability of Merida.

2. Seizing capabilities

(1) Delineating the customer solution and the business model

The function of a business model is to think about the opportunity to satisfy a real customer who needs a job done, construct a blueprint laying out how to fill that need at a profit, compare that model with an enterprise's existing model to see how much it has to change it to capture the opportunity (Johnson et al., 2008). In short, a business model is a plan for the organizational and financial architecture of a business. Meeting the cycling and sporting demands of customers, Merida targets middle and high end markets, relies on German designs to support its production of high quality products, and distributes them through specialty store with multiple global brands for different target customers. Lean production and value chain integration are currently its two core competences. Joint venture outlets in Europe, the U.S. and wholly owned subsidiaries in China deliver bicycles to customers and conduct after sale services. The majority of Merida's profits come from design and production of high performance bicycles. The profits of marketing are shared with joint venture partners (Merida annual report, 2011).

Designing a business model requires creativity, insight, and a good deal of customer, competitor, and supplier information and intelligence. Earlier enterprise development path in original equipment manufacturing (OEM) and original design manufacturing (ODM) operations help Merida in selecting and forming its business model and facilitate in assembling the evidence needed to validate conjectures and hunches about costs, customers, competitors, complementors, distributors, and suppliers. Merida's vice president of marketing, Mr. Cheng, emphasizes this change of mentality that: "We know that we can still rely on our production efficiency, but what we need in the new stage is marketing effectiveness." In addition, the chance of Merida to successfully design a good business model is greater because it has a deep understanding of user needs, and it analyzes the value chain thoroughly so as to understand just how to deliver what the customer wants in a cost effective and timely fashion. Thus, we propose that:

Proposition 2A: By analyzing the value chain thoroughly, delineating the customer solution and the business model improves the seizing capability of Merida.

(2) Selecting enterprise boundaries to manage complements and control platforms

Enterprise boundaries ought to be set to ensure that key resources and key processes contribute to benefit the sponsor of the innovation rather than imitators and emulators. In the global bicycle competition, the relative positioning of innovator and potential imitators with respect to complementary assets is most important (Johnson et al., 2008). Merida positions

itself in the center of its value chain. With TPS/lean production as one of its core competences, Merida gradually builds up a platform to attract upstream and downstream members. Unlike its rivals such as Giant or Bridgestone which try to internalize its whole value chain, Merida integrates its value chain through collaborations and joint ventures.

It is true that the development and preservation of capabilities can be a motive for internalizing primary activities of value chain. However, as a latecomer to the global market, Merida needs immediate access to marketing capabilities. Many such marketing capabilities require time to procure internally and so, in the short time, must depend on competent distributors. Building up its absorptive capacity through learning activities and skill accumulation, Merida requires alliance arrangements to actively learn and upgrade relevant skills. However, Merida has not relinquished its control of the bottleneck assets, such as design and branding, in the value chain from invention to market. In alignment with its physical technology, Merida can firmly strategize around investment decisions, getting the timing right, building on increasing return advantages, and leveraging products and services from one country to another (Merida annual report, 2006). Thus, we propose that:

Proposition 2B: By positioning in the center of the value chain, selecting enterprise boundaries to manage complements and control platforms improves the seizing capability of Merida.

(3) Selecting decision-making protocols

To accommodate the expansion into OBM, Merida consciously moves part of its established process, procedure, and incentives toward the new operation. It has shown the ability to override certain “dysfunctional” features of established decision rules and resource allocation processes. As a former contract manufacturer, Merida had constantly been asked to lower its prices at the expense of innovation. However, by expanding into OBM business, Merida refocuses its decision rules and resource allocation processes to changing customer demand. It considers demands by clients as the first indication of novel profit-making opportunity and commits financing and investment astutely around the new added marketing capability which is increasingly critical to its enterprise performance.

Facing the rapid changing market environment, top managers need to make unbiased judgments under uncertainty around not just future demand and competitive responses associated with multiple growth trajectories, but also around the pay-offs from making interrelated investments in intangible assets. The joint venture with Specialized is one such example. Specialized, the second largest bicycle brand in the U.S. used to outsource 30% of its high end bicycles from Merida. In year 2000, Specialized ran into financial difficulty and in need for outside investment. Recognizing the value of intangibles and taking into account features such as cospecialization, irreversibility, and opportunity costs, Merida acquired 49%

of its stock and reduced its shares to 35.4% in 2011. As the two companies become intertwined, Merida learns the critical marketing skills it needs while Specialized outsources almost all of its bicycles from Merida (Merida annual report, 2011). Thus, we propose that:

Proposition 2C: By balancing production orientation with marketing orientation, selecting decision-making protocols improves the seizing capability of Merida.

(4) Building loyalty and commitment

As a platform provider, Merida needs complementary modules and distribution services provided by others, which it has little or no relevant skills to develop itself. As a system, bicycle consists of interdependent modules and components connecting to the bike frame. There is strong functional interdependence amongst components of the system. To be considered by customers as a high performance bicycle, all members in the value chain have to focus on value creation and brand loyalty. Without the loyalties and commitments of modules suppliers and distributors, the platform will not last long (Merida annual report, 2001).

To build loyalties and commitments of modules suppliers, Merida uses A-Team to cultivate its supplier network. Through A-Team, Merida has worked with Giant to upgrade the supplier network which they share. Merida first alarms its network members a strong awareness of industry risks and/or prospects. Trust among network members are built on long-term interactive cooperative relationships. Then, a desire to learn and extensive communication, including substantial face-to-face communication gradually build up loyalties and commitments of modules suppliers (Jonathan et al., 2008).

To build loyalties and commitments of distributors in different countries, Merida makes a strategic decision to form joint ventures with major bicycle dealers in each major country which formerly acted as Merida's import agents for at least three to four years. Merida chooses to take a minority stack in each joint venture but insists on naming these joint ventures "Merida + country name." Merida's vice president of marketing, Mr. Cheng, describes these joint ventures as "collaborations based on mutual trust and mutual benefit, away from the confrontational infighting of independent sellers and opposing buyers in the same value chain." On the other side, in addition to its manufacturing profit and increased intangible assets such as marketing capability and brand equity, Merida gains the minority of these sales revenues and a group of devoted distributors. Thus, we propose that:

Proposition 2D: Building loyalty and commitment as a platform leader improves the seizing capability of Merida.

3. Transforming capabilities

(1) Decentralization and near decomposability

Because the process innovations of Merida are incremental, routines and structures can be adapted gradually or in steps. It has somewhat eased the heightened anxiety within the organization. Holding lean production as one of its core competences, Merida decentralizes most of its distribution channels, while decomposes its production base into two parts. The production base in Taiwan produces high performance bicycles for high-end market. The production base in China produces price competitive bicycles for mass market (Merida annual report, 2011). However, in fast-paced global marketing environment, organizational units must have considerable autonomy to make decisions rapidly, but remain connected to activities that must be coordinated. Similar to the collaboration with Specialized, Merida collaborates with its sole distributors in sixty seven countries by holding minority stocks. Nonetheless, it coordinates all branding activities under the Merida brand name.

Redeployment can involve transfer of nontradable assets to another organizational or geographic location. Merida transfers its lean production capabilities from Taiwan to China by dispatching a comprehensive production team along with state-of-the-art production machineries to China. It is the sharing of capability between the old and the new, and the geographic transfer of capability from one geographic location to another. With annual production capacity of each plant at fifty to eighty thousand bicycles per year, the first two plants have been operated smoothly and profitably. The vice president for production coordination, Mr. Yuan, confirms that a third plant in China is currently under construction with expected annual production capacity of 1.5 million bicycles. Thus, we propose that:

Proposition 3A: With incremental process innovations, decentralization and near decomposability improves the transforming capability of Merida.

(2) Cospecialization

A-Team can be considered as a form of asset cospecialization. A bicycle is assembled from five major modules: frame, transmission, wheel, steering, and brake. For Merida and Giant to differentiate their product offering to high-end market, all of the five modules and their components have to be upgraded to a higher standard (Jonathan et al., 2008). The value of Merida's lean production asset is a function of its use in conjunction with those of its module suppliers. Such an integrated operation allows Merida and Giant to secure their idiosyncratic assets which cannot be readily bought and sold in a market. Mr. Yuan, as the secretary general of A-Team, acknowledges that "Low cost mass production producers in China are not able to rapidly assemble the same assets by acquisition, and hence cannot offer the same products/services at competing price points."

Merida and Giant have shown their management ability to identify, develop, and utilize

in combination specialized and cospecialized assets built or bought is an important dynamic capability. Special value can be created through asset combinations, particularly when the particular asset owners, module producers, are not cognizant or capable of creating the value of its assets. Fundamental to dynamic capabilities, the ability of Merida and Giant to identify needs and opportunities to invest in cospecialized assets have successfully upgraded their bicycles to high performance market. Thus, we propose that:

Proposition 3B: Cospecialization of value chain members improves the transforming capability of Merida.

(3) Governance

The success of A-Team as a platform allows Merida and Giant to monitor and manage the leakage, misappropriation, and misuse of know-how, trade secrets, and other intellectual properties. A-Team as a joint effort focuses mostly on production efficiency and product development. Such a focus is not only on how to generate rent streams, but also on how to prevent them from being dissipated or captured by major competitors. So far, the governance mechanisms of A-Team have successfully assisted the flow of technology, while protected intellectual property rights from misappropriation and misuse (Conti, 2010; Jonathan et al., 2008).

Governance of distribution channels in the marketing end of its value chain is also fundamental to dynamic capabilities of Merida. To guard against opportunism of channel members in each home country, Merida insists on naming the joint venture “Merida + country name,” while putting on a minority stack in it. Such a governance procedure motivates the joint venture partners to sell Merida bicycles as their own, while preserving the right for Merida to manage its international brand strategy. Under such a governance procedure, the distribution rents are all for the joint venture partners. Merida receives the branding rents. Merida’s vice president of marketing, Mr. Cheng, explains further that: “Having majority stacks in these joint ventures, our distributors obtain the majority of the profit in their sales. They will have none of these profits if they break away with Merida.” Thus, we propose that:

Proposition 3C: Governance of value chain members improves the transforming capability of Merida.

(4) Knowledge management

The creation of learning, knowledge-sharing, and knowledge integrating procedures are critical to business performance. Merida benefits from promoting TPS or lean production philosophy to its entire value chain. In a sense, it tries to integrate its value chain members in a pursuit for value chain efficiency and effectiveness. Implementation of TPS philosophy depends not only on tangible assets but also on intangible assets. With intangible assets being critical to enterprise success, the management processes designed to enable learning and the generations of new knowledge become salient. However, TPS philosophy has lots of tacit knowledge which cannot be fully managed without vicarious learning. The vice president for production coordination, Mr. Yuan, points out that: “Master-apprentice assignments, incentives to take on multiple task, team meetings, and other similar processes all contribute to the successful knowledge management of Merida.”

The integration of know-how within the enterprise, between the enterprise, and organizations external to it is important. Relying on knowledge management, Merida learns TPS philosophy and practices from the assembly subsidiary of Toyota in Taiwan, integrates this knowledge with formerly learned quality circle practices and just-in-time practices, and then teaches them to its production plants in China. Focusing on value chain efficiency and effectiveness, Merida also integrates knowledge from its suppliers and distributors. Absorbing new trends and market information from distributors and design center and then conveying it to production teams improve the quality of its knowledge management too (Merida annual report, 2006). Thus, we propose that:

Proposition 3D: Knowledge management within the enterprise and among the value chain members improves the transforming capability of Merida.

V. Discussion & Conclusion

Our empirical research based on the dynamic capability perspective shows that sustainable competitive advantages of Merida stem from adaptive routines both inside and outside the firm. Analytical system and individual capabilities undergird Merida to learn and to sense, filter, shape, and calibrate opportunities. Enterprise structures, procedures, designs and incentives facilitate the seizing of opportunities. Continuous alignment and realignment of specific tangible and intangible assets prevent Merida from core stickiness and help it to stay competitive. We can observe from this case that:

1. The process to direct internal R&D and select new technology, the process to tap developments in exogenous science and technology, the process to tap supplier and complementor innovation, and the process to identify target market segments, changing customer needs, and customer innovation work together to improve Merida’s sensing

capabilities.

2. Delineating the customer solution and the business model, selecting enterprise boundaries to manage complements and control platforms, selecting decision making protocols, and building loyalty and commitment help to improve Merida's seizing capabilities.
3. Decentralization and near decomposability, cospecialization, governance, and knowledge management prevent Merida from core stickiness and help to improve Merida's transforming capabilities.

The possession of dynamic capabilities is especially relevant to multinational enterprise performance in business environments open to international commerce and fully exposed to the opportunities and threats associated with rapid technological change. This case study supports the dynamic capability perspective proposed by Teece (2007). We thus conclude that the value chain management activities of Merida help it to sustain its competitive advantages in its business ecosystem by means of improved sensing capabilities, improved seizing capabilities, and improved transforming capabilities. These findings can be of help to other Taiwanese production oriented enterprises struggling to maintain and build their core competences while keeping themselves away from core stickiness for their long-term goals of sustaining the competitive advantages.

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