Strategic Flexibility and Its Influence on Manager's Perceived Environmental Uncertainty in Fast Clockspeed Industries

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Abstract

Business researchers claim that to react effectively to fast industry changes or fast clockspeed industries, a flexible form of organization is required. Strategic flexibility is the ability of organizations to be flexible and to minimize their risks by generating a variety of strategic options to swiftly react to unforeseeable business environment uncertainties. During recent years, strategic flexibility and environmental uncertainty have been extensively researched. Nevertheless, there are several gaps not discussed in this research. Firstly, past literature has somewhat been silent on the relationship between strategic flexibility and its impact on perceived managerial environmental uncertainty and regarding the success in turning environmental threats into opportunities, and ultimately thriving despite business environmental uncertainty. Therefore, the aim of this research is to study the relationship of strategic environmental with managerial perceived environmental uncertainty and managerial tolerance for ambiguity in fast clockspeed industries. The results of this qualitative research indicated that strategic flexibility has very little influence on decreasing

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perceived environmental uncertainty; however, managers' tolerance regarding this uncertainty has increased as a result of creating more strategic options, thereby increasing strategic flexibility for their businesses.

Keywords: Clockspeed, Environmental, Flexible, Industry, Strategic

ความยืดหยุ่นเชิงกลยุทธ์ และสิ่งที่มีผลต่อความยืดหยุ่นเชิงกลยุทธ์ ต่อมุมมองด้านความไม่แน่นอนของสภาพแวดล้อมของผู้บริหาร ในอุตสาหกรรมที่มีวงจรการเปลี่ยนแปลงอย่างรวดเร็ว

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บทคัดย่อ

มีการยืนยันของนักวิจัยด้านธุรกิจจากหลาย ๆ สถาบันว่า ประสิทธิภาพในการตอบสนองทางธุรกิจในอุตสาหกรรมที่มีวงจรการเปลี่ยนแปลงอย่างรวดเร็ว เช่น อุตสาหกรรมที่เกี่ยวข้องกับเทคโนโลยี จำเป็นจะต้องมีความยืดหยุ่นขององค์กรในการดำเนินธุรกิจ โดยกลยุทธ์ทางธุรกิจที่มีความยืดหยุ่นจะสามารถเพิ่มขีดความสามารถในการปรับเปลี่ยนกลยุทธ์และสร้างตัวเลือกทางธุรกิจขององค์กรได้หลายแนวทาง เพื่อให้สามารถปรับตัวให้เท่าทันต่อการเปลี่ยนแปลงของสภาพแวดล้อมที่ไม่หยุดนิ่ง โดยมีงานวิจัยต่าง ๆ มากมายที่ศึกษาเกี่ยวกับความยืดหยุ่นของกลยุทธ์องค์กร และความสามารถในการปรับตัวขององค์กร แต่อย่างไรก็ตาม ในงานวิจัยเหล่านั้นส่วนใหญ่ไม่ได้กล่าวถึงความสัมพันธ์ระหว่างกลยุทธ์ที่มีความยืดหยุ่นและมุมมองของผู้บริหารต่อความไม่แน่นอนของสภาพแวดล้อมทางธุรกิจ แม้ว่ากลยุทธ์และมุมมองดังกล่าวจะมีผลต่อการตัดสินใจของผู้บริหารก็ตาม ดังนั้น วัตถุประสงค์โดยรวมของงานวิจัยฉบับนี้ คือ การกำหนดความสัมพันธ์ของความยืดหยุ่นเชิงกลยุทธ์ด้วยมุมมองทางด้านสิ่งแวดล้อมที่มีความไม่แน่นอน และมีการบริหารจัดการต่อความไม่ชัดเจนในสภาพแวดล้อมทางธุรกิจ ผลการศึกษาที่ได้ พบว่า ความยืดหยุ่นเชิงกลยุทธ์มีอิทธิพลต่อการลดการ

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รับรู้ของความไม่แน่นอนของสภาพแวดล้อมทางธุรกิจน้อยมาก แต่ความอดทนต่อความไม่แน่นอนเหล่านั้นของผู้บริหารที่มีมากขึ้น ทำให้ผู้บริหารสามารถยอมรับความไม่แน่นอนได้มากขึ้น จนสามารถสร้างทางเลือกเชิงกลยุทธ์ที่มีความยืดหยุ่นต่อธุรกิจได้มากขึ้นในที่สุด

คำสำคัญ: กลยุทธ์ ความไม่แน่นอน ความยืดหยุ่น ความรวดเร็ว สภาพแวดล้อม

Introduction

With increasing intense competition, faster product cycles, rapid technological changes, the business arena is always undergoing constant disruptions. Given such volatile business environmental conditions, a firm's ability to adapt to these changes quickly, effectively, with the right moves and most importantly being equipped with the resources to transform these threats into opportunities, is crucial to its survival. Therefore, a firm's ability to continuously reconfigure strategically comprises its sustainable competitive advantage. In other words, a firm must be adaptive to environmental change (Mintzberg, 1994; Dreyer and Grønhaug, 2004).

The ability of organizations to be flexible is critical for their survival and is an extensively discussed topic in the strategy and organization theory literature (Sharfman and Dean, 1997). Hence, markets, technologies, and competitors are moving and reacting more quickly than a decade ago to avoid being obsolete and to rapidly cater to changing customer demands.

Although the world may be moving faster, not all industries move at the same pace—different industries move at different "clockspeeds.. Industry clockspeed has been defined as "the velocity of change in the external environment" (Mendelson and Pillai, 1999). As stated by Fine (1998), fast clockspeed industries are personal computers, semi-conductors, and cosmetic industries which experience high dynamism, and fast technological changes and hyper-competition. These require different product processes, which call for faster product-to-market introduction than medium clockspeed industries, which are computer operation systems and slow-speed industries such as aircraft, petrochemicals, and steel.

As sustaining a competitive advantage is particularly difficult in fast clockspeed industries that experience frequent introductions of incrementally new products or innovations, strategic flexibility of firms and continuous adaptation are crucial to sustaining competitive advantage and surviving in such a turbulent business environment. Hence, this research focuses on the impact of fast industry clockspeed on managerial perceived environmental uncertainty, their tolerance of volatile environmental changes, their ability to sense market changes and ultimately adapt to business environmental. Overall, this research seeks to contribute to firms' strategic flexibility capability by understanding the

impact of corporate leaders' cognitive ability on how they perceive environmental uncertainty and managerial tolerance of ambiguity or limited information, during decision making their relationship with strategic flexibility of firms resulting in positive firm performance in fast clockspeed industries.

Research Questions

There are three research questions that guided this research.

- Do higher levels of perceived competitive environmental uncertainty in fast clockspeed industries result in a higher need for strategic flexibility in organizations?
- Do higher levels of perceived market/demand environmental uncertainty in fast clockspeed industries result in a higher need for strategic flexibility in organizations?
- Do higher levels of perceived technological uncertainty result in a higher need for strategic flexibility in organizations?

Literature Review

Strategic Flexibility

A new competitive landscape is forming where the product life cycle is shrinking and the capability of firms to spot changes in the environment and adapt to it is extremely crucial for survival. Firms are not only expected to adjust but their speed in recognizing and responding to the environment also plays a vital role. As Brahm and Astley predicted in 1989, "to compete in a dynamic product markets, a firm must have substantial adaptive capability." Similarly, strategic flexibility is the capability of firms to detect environment changes and quickly deploy resources to respond to those changes (Chakravarthy, 1982, 1986; Evans, 1991; Greenley and Oktemgil, 1998; Hitt and Shimizu; 2004).

Therefore, a variety of options for adapting to dynamic product opportunities or changing product processes can also be one way to generate real strategic options for firms. With a variety of strategic options and alternative strategic options at hand, firms are able to minimize their risks and the impact from strategic changes, and this is the key determinant of the strategic flexibility of organizations (Nadkarni and Narayanan, 2007). Further, Janey and Dess (2004) stated that the basics of generating strategic options are

dependent on four factors: the strategic options created from a combination of resources, it has to be relevant for decision making, it is an opportunity that will result in positive strategic action, and it must not be an obligatory action but one of the key options. As uncertainty in the business environment increases, the value of the capability of firms to be flexible in turning threats into opportunities and generating a variety of strategic options is also critical (Janney and Dess, 2004). As the capability of firms to constantly be flexible, adapting and generating various strategic options "to deal with dynamic changing environments is probably difficult for competitors to imitate" (Sanchez, 1995). As certain firms develop the ability to foresee future trends in this dynamic competitive landscape, they must also be flexible enough to modify their strategies to fit the environment, not only for survival but also to become a market leader. Ron Sanchez (1997) extended the idea by suggesting that specific capability and resources will only lead to a temporary competitive advantage, but the ability to modify product processes and continuously combine varied resources will yield the advantage of dynamic product opportunities and lead to a sustainable competitive advantage.

In sum, strategic flexibility is the ability of firms to use their resources to modify their strategies, change their strategic direction, or generate as many strategic options as possible continuously not only to survive, but to become a market leader in that industry, thus attaining a sustainable competitive advantage.

Industry Clockspeed: The Controlled Variable

Industry clockspeed has been defined as "the velocity of change in the external environment" (Mendelson and Pillai, 1999). As stated by Fine (1998), fast clockspeed industries are personal computers, semi-conductors, and cosmetic industries that experience high dynamism, fast technological changes, and hypercompetition. These require different product processes, which call for faster product-to-market introductions than medium clockspeed industries (such as computer operation systems), and slow speed industries (such as aircraft, petrochemicals, and steel).

It is crucial for firms to be proactive and to react to changes in the business environment in order to survive (Miles and Snow, 1994). As the business environment has become more unpredictable, especially in fast clockspeed industries, this makes it even more critical for firms to be strategically flexible (Abbott and Banerji, 2003).

The specific resources and capabilities a firm possesses will only result in temporary competitive advantage in fast clockspeed industries but the capability of firms to continuously adapt to changes to be ahead of competitors will allow firms to strength their resources and always be ahead of competitors, ultimately resulting in sustainable competitive advantage. Aaker and Mascarenhas (1984) argued that firms with strategic flexibility will automatically inherit the capability to be faster in responding to such changes that may have an impact on their performance (cited by Roberts and Stockport, 2009). This is crucial even more so in fast clockspeed industries. Furthermore, a statistical study by Nadkarni and Narayana (2007) pointed out that where product lifecycle is short and disruption of technology is frequent, in other words, in fast clockspeed industries, there is a strong positive relationship between strategic flexibility and firm performance.

Perceived Environmental Uncertainty: Different Dimensions

Uncertainty arises from the volatility and unpredictability of competitors and consumer actions and the direction of technological changes within the business environment (Mcnamara et al., 2002; Kreiser and Marino, 2002).

This is dependent on how it is perceived by management, and the level of uncertainty perceived by each manager will depend on each individual's characteristics and perceptions (Duncan, 1972; 325). Managers Tolerance for Ambiguity has been defined as the managers' ability to make decisions during times when perfect information is not available on unforeseeable business environmental changes (Wang and Chan, 1995). In other words, it is also the managers' ability to tolerate information uncertainty.

Research conducted by Miller (1993) and Brouthers et al. (2002) categorized perceived environmental uncertainty (PEU) into macro-environment uncertainty (political and economic), competitive uncertainty, demand uncertainty, resource uncertainty, and technology uncertainty.

As this research seeks to study the perceived environmental uncertainty in fast clockspeed industries. Janice E. Carrillo (1999) argues that the rate and speed of new product development or introduction is associated with the industry clockspeed. Therefore, the higher the uncertainty or the faster the industry clockspeed, the faster will be the rate of new product development and product introductions. The uncertainty

that arises due to fast industry clockspeed are faster rate of new incremental product innovations within the industry, faster rate of new product development, and new product introductions by competitors are focused around competitive uncertainty, demand uncertainty and technology uncertainty. Hence, this research will focus on studying managerial perceived uncertainty regarding these three dimensions.

1) Environmental Uncertainty and Perceived Competitive Uncertainty

There are two types of competition, one is static, which was evident about a decade ago, where they compete on cost and price, depleting their profits (Thomas, 1996), while the other is dynamic, where firms continuously innovate at any point in the value chain, hence disrupting the entire industry, and sometimes even diminishing industry boundaries. This could result in a product becoming entirely obsolete (Thomas, 1996; D'aveni and Thomas, 2009), and this is relevant to the study of fast industry clockspeed firms in Thailand. For the basis of this research we define hypercompetition according to D'Aveni (1998) who states that "an intense environment where firms continuously destruct each other creatively by generating new competitive advantages every now and then to make obsolete the industry leader's advantages and leaving the industry at equilibrium."

In this age, we have experienced technological advancements and changing industry dynamics. In particular, product introduction lifecycles have shrunk where product introductions that used to be 5 years have now shrunk to every year or less. A diminishing industry has also been evidenced where it is difficult to differentiate between product substitutes, potential entrants, and direct competitors (D'aveni et al., 1995). There is also intense competition where firms compete against a group of competitors, globally in different markets and different industries, rather than one on one. A competitive advantage is now very difficult to sustain, as competitors are able to catch up very quickly, resulting in innovation being the only source of short-term advantage (D'aveni, 1994; D'aveni et al., 1995) in fast clockspeed industries. Though a firm may choose the right strategic direction that makes the best use of its resources and capabilities, unexpected competitive action or technological disruption could make a product entirely obsolete (Kor et al., 2008). These disruptions may limit managerial decision making by making it difficult for manager's to choose the correct strategic

direction or option when competitors' actions are unpredictable and unforeseeable (Jabnoun et al., 2003).

1.1 Environmental Uncertainty and Perceived Demand Uncertainty

"This uncertainty stems from lack of clarity in the dynamics of the market and their effects on the organization's operations, and demand and supply conditions in the industry" (Jabnoun et al., 2003). Therefore, the lack of future information about the market demand or the inability of firms to comprehend consumer future demands will increase market (demand/supply uncertainty).

1.2 Environmental Uncertainty and Perceived Technological Uncertainty

Although it is one of the macro-environmental elements, technological change can be the source of creative destruction and affects competition intensity and industry dynamics as well and should therefore be considered as a significant and separate element increasing environmental uncertainty. As supported by Jabnoun et al. (2003), "this is uncertainty pertaining to change in the industry's technological resources and capabilities. Technological uncertainty has the potential to undermine an organization's competitive base" (Anderson and Tushman, 1990). Technological uncertainty can be measured by the degree of information availability about the future technologies needed in the industry, the degree of importance technology as a factor has an impact on the industry (Aaker, 2005) or as a resource, manager's certainty of being able to incorporate future advanced technologies that emerge (Stock and Tatikonda, 2008).

Methodology

Qualitative research is used to collect, analyze, and interpret intangible information otherwise not explainable by quantitative research. It involves smaller sample sizes but provides more in-depth information in comparison to quantitative research (Parasuraman, 2006). Qualitative research was used because this research sought to capture managerial perceived environmental uncertainty and in-depth information on the types of strategic options or higher strategic flexibility available to organizations in order to maintain a sustainable competitive advantage. Capturing these determinants requires in-depth insight which is otherwise unobtainable via quantitative research.

Interview

Qualitative research has been defined as "research that is undertaken using an unstructured research approach with a small number of carefully selected individuals to produce non-quantifiable insights into behaviours, motivation and attitude" (Wilson, 2006). For this research, as there was extensive research on the determinants provided in the literature, there was a strong theme of what is to be interviewed from managers or CEOs, the technique used in this research is personal interviews with semi-structured interview guide which will provide in-depth information from perception of managers in fast clockspeed industries (Frenz et al., 2009). Face-to-face interviews were conducted where applicable but in most cases data were collected through telephone interviews in the cases where managers were busy.

Sample Size

The respondents were key informants from fast clockspeed industries such as fashion, personal computers, semiconductors, and technological devices or parts manufacturers in Thailand. Eighteen of 29 interviews were conducted in person with the remaining 11 conducted via telephone interview. The respondents were located in different parts in Thailand and on the borders, all focused on manufacturing products for fast clockspeed industries experiencing fast and risky product-to-market introductions. Both small- and large-size manufacturers were included. The figure of 28 respondents was within the acceptable range of respondents for a qualitative research project (Ruyter and Scholl, 1998).

Data Analysis

The interviews were taped, transcribed, and coded. Then a template analysis was used as it is a process of organizing and analyzing textual data according to themes. This method gave the researcher a great perspective as the data were organized to help answer the relevant research questions.

Results and Discussion

Strategic Flexibility and Managerial Perceived Environmental Uncertainty in Fast Clockspeed Industries

Eighteen of the 29 respondents (62%) experienced that environmental uncertainty overall was perceived to be normal. When asked what "normal" meant to the respondents, they explained that they perceived the overall environmental uncertainty to be low to medium. When gauged further on their answer, one respondent (Respondent 13) stated the following: *"If compared to low clockspeed industries, I perceive our environmental uncertainty to be higher, however, my opinion due to modern day business changes and how our world works since the internet and online businesses have been introduced, our fast product introductions are normal and is now considered a norm while low clockspeed industries environmental uncertainty is too low."*

Nine of 29 respondents (31%) experienced that the perceived environmental uncertainty was medium to high but still tolerable, while the remaining 2 (6%) respondents perceived the business environment uncertainty to be extremely high but tolerable due to their fondness for risks and uncertainty.

According to Sanchez (1995), strategic flexibility is the ability of firms to use their resources to modify their strategies, change their strategic direction, or generate as many strategic options continuously—not only to survive but to become a market leader. Therefore, when the respondents were asked about the strategic options available for decision making to ensure continuous competitive advantage, 29 of 29 (100%) agreed that they continuously had strategic options available and religiously adapted them to the business environments and to market needs. Further, when gauged if they had even more strategic options for their business to survive in fast clockspeed and high business uncertainty, 15 out of 29 respondents suggested that they supplied to different types of businesses and to different countries with varied demands in order to ensure that they had dispersed their risks, and this gave them higher strategic flexibility. The remaining 14 respondents stated that they supplied varied products to all fast clockspeed industries, such that if one product failed they had many other products that would keep their businesses running. Overall, they used different strategies to generate more strategic options for their businesses, but all of the respondents confirmed that they

continuously found opportunities that provided strategic options for their firms and thus could continuously adapt and have higher strategic flexibility for their firms. Hence, regardless of whether they perceived their environmental uncertainty to be normal, medium, high or extremely high in the fast clockspeed industries, in those industries there was a higher need for strategic flexibility.

Strategic Flexibility and Perceived Competitive Intensity in Fast Clockspeed Industries

Twenty of the 29 respondents suggested that they perceived competitive intensity to be perceived as medium to high, as they could face unknown competition from any country or diminishing industry boundaries. The remaining 9 respondents perceived competitive intensity as medium or normal. Twenty-nine of the 29 respondents suggested that they penetrated different markets with the same products or had different products that catered to the same market in order to reduce their risks regarding disruption. However, all of the respondents that perceived competitive intensity to be higher stated that they were likely to find more opportunities or to read market trends in order to lower their risks, hence creating strategic options and resulting in higher strategic flexibility.

Strategic Flexibility and Perceived Demand Uncertainty in Fast Clockspeed Industries

Twenty-two of the 29 respondents suggested that the perceived demand uncertainty was low as they planned ahead and because of the nature of their business being business to business (B2B). On the other hand, 7 of the 29 respondents perceived their demand uncertainty to be high as fast product introductions left some products not being sold out. These 7 of 9 respondents also stressed that they increased greater variety of products and provided improved versions or incremental versions of their products in order to increase their strategic options and to stay ahead "in the game." As a result, only 24% of the respondents perceived high uncertainty, and those had higher strategic flexibility. However, 76% of the respondents hedged their risks on demand uncertainty by pre-ordering as they were suppliers in fast clockspeed industries to B2C companies.

Strategic Flexibility and Technological Uncertainty in Fast Clockspeed Industries

Twenty-eight of the 29 respondents confirmed that they experienced high technology uncertainty as technological changes in any industry could create new unforeseen competitors. These diminishing industry boundaries also caused some products to be no longer valid for use. This ability to adapt to technological uncertainty still did not decrease the firms' perceived technological uncertainty. In fact, these companies that faced high technological uncertainty confirmed that they increased their ability to coordinate resources faster in order to make changes at a fast rate by changing their products according to technological trends. Further, the managers confirmed that though they were unable to predict the changes in technological uncertainty but were still able to commit resource to many different types of products to create strategic options (Sanchez, 1995) for themselves, hence hedging their risk at the same time.

Conclusion

This research provided insights into three main areas of the relevant literature: strategic flexibility, environmental uncertainty, and fast industry clockspeed. In conclusion, the aim of this research was to conclude whether a higher level of strategic flexibility in their respective firms would result in lower perceived environmental uncertainty factors or a higher level of managerial tolerance for ambiguity or both. Further, this research also sought to prove that there is a relationship between strategic flexibility and perceived environmental uncertainty, and strategic flexibility with managerial tolerance for ambiguity.

This study therefore concluded that in fast clockspeed industries and unpredictable business environments, a transition from traditional rigid organizations is critical (Volberda, 1996) in order for firms to survive or even to become market leaders (Volberda, 1996).

There is extensive research on strategic flexibility as the ability of firms to thrive in volatile business environmental uncertainty (Nadkarni and Narayanan, 2007), but Sanchez (1995, 1997) suggested that strategic flexibility also decreases managers' perceived uncertainty and increases their ability to tolerate such uncertainty; hence they can make good decisions despite imperfect information due to unforeseeable changes.

However, this research sought to highlight that apart from demand uncertainty, all other perceived uncertainties—including technological uncertainty and competitive uncertainty—were still perceived as high. Hence, contrary to Sanchez's (1995) expectation, strategic flexibility was not seen to decrease perceived environmental uncertainties from the managers' level to a level that they could tolerate; instead, the managers still perceived the overall environmental uncertainty as high but that it increased tolerance for these uncertainties instead. Overall, all of the businesses agreed that they continuously increased their strategic flexibility by increasing their strategic options, which resulted from religiously adapting to market needs through product development. Furthermore, they increased their strategic options by supplying varied products to the same businesses or supplying the same products to different industries and businesses. In this way, if one industry opportunity failed or if one product failed, they could still keep their businesses running.

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