5-2017

A study of innovating and non-innovating firms' perception of environmental dynamism and innovation in a mature regulated industry

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A STUDY OF INNOVATING AND NON-INNOVATING FIRMS' PERCEPTION OF ENVIRONMENTAL DYNAMISM AND INNOVATION IN A MATURE REGULATED INDUSTRY

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2017

A Study of Innovating and Non-Innovating Firms' Perception of Environmental Dynamism and Innovation in a Mature Regulated Industry

by
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Submitted to Lee Kong Chian School of Business in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Business (General Management)

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2017

Abstract

A Study of Innovating and Non-Innovating Firms' Perception of Environmental Dynamism and Innovation in a Mature Regulated Industry

Tan Siong Kuan

Can large firms be innovative in an industry that is mature and regulated?"

Business managers in mature regulated industries, like new and unregulated industries, operate under very challenging conditions, albeit a bit different, and need to create competitive advantages. One potential route to do this is through innovations.

The strategic direction and choices which the firm takes and whether to innovate or not innovate are largely influenced by its environment. And, in mature regulated industries, large incumbents face a triple challenge. Its size, the maturity of the industry and regulations governing the industry are three conditions that are generally deemed by researchers to be unfavorable to innovation. Yet, some firms continue to innovate, while many others failed or have mixed results.

Our research addresses the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative.

Our study indicated a positive relationship between organizational innovativeness and perception of environmental dynamism. Firms that perceived the environment as dynamic have a higher propensity to innovate than firms that do

not, even though the firms were in the same industry. In other words, innovating firms have a dynamic mindset in which they perceive of their market as dynamic.

This suggests that the firm's perception of the environmental dynamism of its industry plays a critical role in their innovativeness.

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Acknowledgements

Throughout this doctoral journey, I have been very fortunate to receive support from wonderful people. First and foremost, I would like to express heartfelt thanks and gratitude to my Chair, Dr. Philip Zerrillo, for his guidance and patience. He has deeply enriched my journey and guided me throughout the way. I could not have possibly triumphed over the many challenges during the journey without his direction and support. I would also like to thank Datuk Dr. Paul Chan and Dr. Anne-Valerie for their guidance. It has been an honor and privilege having all three of them on my committee. I can truly say I was able to see a little further because I stood on the shoulders of giants.

Next, I would like to thank my fellow doctoral students. This dissertation, as well as this doctoral program, became a lot more enjoyable because of them. I have learned much from them.

I would also like to thank all the research participants for taking time from their busy schedules to participate in the study. Their participation in the interviews and survey have enabled me to collect the data I needed to make a meaningful contribution to the body of knowledge on the perception of environmental dynamism, innovation, and firm size.

Last, but not least, I would like to thank my three wonderful children, Su Min, Wen Jie and Wen Jun who have been an inspiration for me; and most of all, my eternal companion, Jessie, for her constant encouragement and support. It was with her encouragement that I embarked on this journey and it was her prayers and support that sustained me through the journey.

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Abbreviation

MAS - Monetary Authority of Singapore

HKMA - Hong Kong Monetary Authority

HK OIC - Hong Kong Office of Insurance Commissioner

Chapter 1. Introduction

Background

Can large firms be innovative in an industry that is mature, regulated and competitive?

In a world that is changing rapidly, the need to innovate is crucial for survival (D'aveni, 2010; Laudicina, 2010; Loewe & Chen, 2007; Shetty, 2013). No industry is spared. One wrong step and it could be fatal for the organization. Literature is replete with stories of major companies that were leaders yesterday but are history today. Often cited examples of companies that have failed to innovate and fallen by the wayside include Kodak, Dell, Ericsson, Nokia. Steve Jobs once said, "*Innovation distinguishes between a leader and a follower*." These one-time leaders are now a shadow of their glorious past because they failed to innovate and respond to the environmental changes.

Francis and Bessant (2005) argue that the survival and growth prospects of an organization are at risk unless it can innovate by changing its product/service offerings and the delivery of it. Only the successful innovator will survive. (Bartel & Garud, 2009; Garud, Gehman, & Kumaraswamy, 2011; Kurz, 2008).

Given the critical importance of innovation to survival, growth and competitive advantage, innovation is a top of mind issue for policy-makers, business managers, and researchers. In a speech at The Forbes Global CEO Conference Gala Dinner on 19 September 2001, Senior Minister Lee Kuan Yew said, "*To succeed, every developing country in East Asia has to boost its intellectual* *capital to nurture entrepreneurship and innovation.”* And, Prime Minister Tony Blair said during the Knowledge Conference 2000, “*The new knowledge-driven economy is not just about the new, high-tech industries like biotechnology or software development - companies which have built directly on the UK's university and science base. The new economy isn't either just the new technologies like IT and the Internet. It is instead about new sources of competitive advantage. The ability to innovate. To create new products. To exploit new markets.*

Knowledge and skills, creativity and innovation, adaptability and entrepreneurship are the ways by which the winners will win in the new economy.” (Guardian, 7 Mar 2000).

A significant number of studies has been conducted over the past several decades to identify key factors that drive successful innovations in firms (Damanpour, 1996; Van de Ven, 1986; Van der Panne, Van Beers, & Kleinknecht, 2003) and on the dependence of company’s success on its innovative capability (Henderson, 1993; J.A Schumpeter, 1942; M. Tushman & Nadler, 1986; J. Utterback, 1994; J. M. Utterback & Suarez, 1993).

The traditional notion that large incumbents often encounter difficulty in innovating is widely accepted (Abernathy & Utterback, 1978; Damanpour, 1996; Klepper, 1997; G. T. Lumpkin & Dess, 2001) and the belief that these giants risk getting disrupted by new start-ups (Anderson & Tushman, 1990; Chandy & Tellis, 1998; Christensen, 1997; J. Utterback, 1994). Chandy and Tellis (2000) argued that large firms because of their bureaucratic processes suffer from the curse of incumbency. Their capabilities and resources which brought them to success in the first place are now getting in the way of them innovating and moving forward.

The debate is, however, far from settled and important gaps clearly remain. Recent studies have counter-argued that large firms can be flexible and innovative (Arvanitis, 1997; Knott & Vieregger, 2015; Lee, Park, Yoon, & Park, 2010). Knott and Vieregger (2016) argued that large firms are chief engines of innovation. The study by Wyatt (2015) shows that "far from being lumbering giants with slow reactions, several global corporations are outperforming both global and local competitors in unstable contexts by continuously repositioning and reconfiguring themselves in response to and anticipation of marketplace changes." pp10.

The financial services industry is seldom cited for its innovativeness. According to David Troman, Head of financial services at PA Consulting Group, "*Many financial services firms struggle with innovation. Weighed down by the ever increasing burdens of regulation and compliance, it is not surprising that 90 percent of senior leaders we surveyed admitted that they do not have a strong focus on breakthrough or radical innovation.*" (David Troman (2015), *The challenge of innovation in financial services*, Financier Worldwide Magazine, https://www.financierworldwide.com/the-challenge-of-innovation-in-financial-services/#.WOyKVoh942w).

Most of the studies on firm size and innovation have, however, largely focused their attention on innovation in manufacturing (Gallouj & Djellal, 2011) and dynamic high-technology industries (Audia & Goncalo, 2007). Relatively little is known about the drivers of innovativeness in environments that are either not as volatile or largely service driven. Limited studies have been conducted in services industries and in non-dynamic environment (Caiazza, 2015); and even fewer studies in regulated financial services industries. This led us to ask the question "Can large firms be innovative in an industry that is mature, regulated and competitive?"

Problem Statement

Understanding the factors that drive innovation at large firms is a topic that is central to innovation literature and a topic that is top of mind for policy-makers, researchers, and practitioners.

Among the various factors that drive organizational innovativeness or its propensity to innovate, firm size and environmental dynamism of the industry are two of the factors that have received considerable attention from scholars over the past decades.

The strategic direction and choices which the firm takes and whether to innovate or not innovate are largely influenced by its environment.

In mature regulated industries, large incumbents face a triple challenge. Its size, the maturity of the industry and regulations governing the industry are three conditions that are generally deemed by researchers to be unfavorable to innovation.

Yet, some firms continue to innovate, while many others failed or have mixed results.

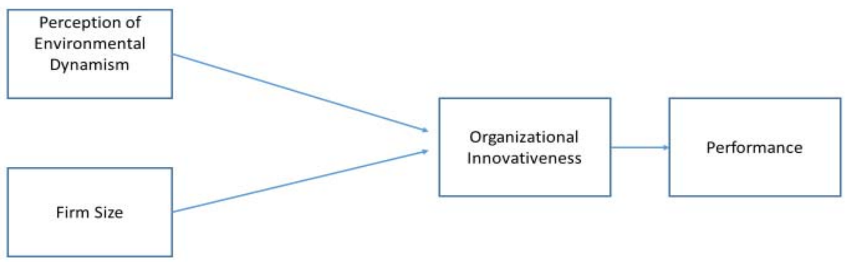
Miller and Friesen (1982) argued that the perception of the managers has a significant influence on how the firms respond to challenges and suggest that many of the conflicts in the literature could have been avoided if researchers have considered that many of the strategic decisions of the firm were determined by executives based on their own goals and temperaments.

Our research addresses the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative. The thesis of this research is that innovating and non-innovating firms perceive environmental dynamism differently. The difference in the management's perception of its environmental dynamism has a significant impact on the firm's innovativeness and the way it approaches the challenge of innovation.

Conceptual Model

The initial model we developed for this study is that perception of environmental dynamism and firm size have a positive relationship with organizational innovativeness.

Figure 1 – Conceptual Model



Purpose of Study

The purpose of this study was to address the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation.

Business managers in mature regulated industries operate under very challenging conditions and need to create competitive advantages. One potential route to do this is through innovation.

Research Questions

This study was guided by the following questions:

- Does the firm size affect its perception of environmental dynamism?
- Does the perception of environmental dynamism affect the innovativeness of the firm?

Significance of the Study

This study is based on the acknowledgment of the important role that innovation plays in creating competitive advantage and growth. Mature regulated industries, such as financial services industry, play a critical role in the development of most economies. The industry is caught in a dilemma between maintaining stability and the risks of disruption. Rather than be told that all the factors of innovation are unfavorable towards them, managers operating in such industries need guidance to navigate the new environment and be innovative.

Conventional theories suggest that the key determinants of innovation are the characteristics of the firm and the environmental dynamism. Understanding how innovating and non-innovating firms perceive environmental dynamism and innovation may help academics extend the knowledge on organizational innovativeness. The insights gleaned from the perceptions of the firms in this study may provide policy makers as well as managers with insights and suggestions to help them to make informed innovation-centric decisions.

Chapter 2. Literature Review

This chapter reviews the literature on organizational innovativeness, environmental dynamism, and firm size. Over the past decades, scholars have developed theories to describe how some firms can adapt to environmental changes. We will start by outlining and clarifying key findings regarding firm size, environmental dynamism and the antecedents to organizational innovativeness.

Organizational Innovativeness

Although some literature has used the word innovation and innovativeness interchangeably, there is a need to make a distinction between them.

What is innovation? Several definitions have been proposed by various researchers over the years. One of the first definitions of innovation was coined by Schumpeter, the great Austrian economist (S.-O. Hansen & Wakonen, 1997), even though its roots may be traced to the Latin "innovare" which means to alter, make new or renew (Shaw, 1997; Zaltman, Duncan, & Holbek, 1973). Of the different definitions that have been proposed over the year, the definition by Damanpour is one of the most often cited. Damanpour (1996) pp 694 defines innovation as "… a means of changing an organization, either as a response to changes in the external environment or as a pre-emptive action to influence the environment. Hence, innovation is here broadly defined to encompass a range of types, including new product or service, new process technology, new organization structure or administrative systems, or new plans or program pertaining to organization members.” (Damanpour, 1996). A simpler definition of innovation is concerned with the “production or adoption, assimilation, and exploitation of a new thing or method.” (Crossan & Apaydin, 2010, p1155). Innovation can take place in a product, process or business model form.

Research on organizational innovativeness, however, has been concerned with identifying the factors that influence the propensity to innovate and its effect on the financial performance of the firm (E. Hansen, Korhonen, Rametsteiner, & Shook, 2006; Ozkaya, 2011; Weerawardena & Mavondo, 2011). Hult, Hurley, and Knight (2004) refer to innovativeness as the firm’s capacity to engage in the development and implementation of innovation. Brown and Eisenhardt suggest that firms with a higher propensity to innovate are more responsive to changes in the environment, compete more dynamically and generate higher profitability (Brown & Eisenhardt, 1995; West & Anderson, 1996).

Innovative companies understand that to be innovative requires a disciplined approach and adopting the right mindset.

Antecedents to Organizational Innovativeness

Research reported in the innovation literature has investigated several key antecedents to organizational innovativeness and developed a list of constructs that drive innovativeness in organizations. These constructs include company size (Damanpour, 1992; Hadjimanolis, 2000; Knott & Vieregger, 2015), market orientation (B. Jaworski, Kohli, & Sahay, 2000; B. J. Jaworski & Kohli, 1993), entrepreneurial orientation (Hult et al., 2004; Lumpkin & Dess, 1996), growth orientation, learning orientation (Hult et al., 2004), customer, and suppliers effect (Genis-Gruber & Öğüt, 2014) and strategic flexibility (Cingöz & Akdoğan, 2013).

Our study first focused on firm size and environmental dynamism. Next, we discussed market orientation, entrepreneurial orientation, as antecedents to innovativeness, and developed the hypothesis.

We selected perception of environmental dynamism and company size as two of the independent variables for this study because, in a mature regulated industry, environmental conditions are generally assumed to be stable and non-dynamic. Miller and Friesen (1982) argued that the perception of the managers has a significant influence on how firms respond to challenges. The firm's perception of the environmental dynamism may have a greater impact on its innovativeness than the actual environment which is suggested by Wyatt (2015). To date, it is an area that has not been widely studied.

Company size was selected because, despite it being one of the most common variables in studies of innovation, there remains a disparity in understanding its relationship with organizational innovativeness. In mature regulated industries, large incumbents tend to dominate while also investing more into innovations, than do smaller firms.

In the literature review, we examined firm size, before looking at the nature of mature regulated industry and the capabilities of the firm to innovate.

Firm Size

Firm size has long been suggested as one of the strongest predictors of innovation and a key determining factor of a firm's propensity to innovate (Knott & Vieregger, 2016). It has been the subject of more inquiries among economics-oriented researchers than perhaps any other aspect of structure. Research on firm size and innovation can be traced as far back as the 1940s under Schumpeterian hypothesis (J.A Schumpeter, 1942) and remains a subject of much interest even today. This section considers the scores of studies that have been conducted by several generations of researchers on the relationship between firm size and innovation. Quite frankly in reviewing them, the jury is still out as many studies claim that small firms are more innovative, while other suggest that larger firms tend to innovate more.

Schumpeter initially saw and argued in The Theory of Economic Development, (J. A. Schumpeter, 1934), also commonly known as Mark I, that new small firms operating in highly competitive markets are the major source of innovative activity. Schumpeter observed that inventors/entrepreneurs, from outside the existing circle, would come up with the inventions and be the driving force for commercializing the inventions through the formation of new small firms to sell the innovation. These new small firms will slowly gain strength and eventually challenge the incumbents by taking away their market share, disrupting the existing market structure, and creating a new structure in the process. A process commonly known as creative destruction. (J.A Schumpeter, 1942).

Schumpeter abruptly changed directions and subsequently argued in his later work, Capitalism, Socialism and Democracy (J. A. Schumpeter, 1950), known as Mark II, that large dominant firms operating in a concentrated market are better able to develop innovations because of market risks and uncertainty. J. A. Schumpeter (1950) argued that large firms are able to protect themselves against creative destruction from new small firms because they have greater access to resources. This theory is now commonly referred to as the Schumpeterian Hypothesis. Schumpeter suggests that in a competitive environment; new small firms would not have the financial strength and capacity to fund Research & Development (R&D). Only large firms would have the financial strength and capacity to be the driving force of innovation (Keklik, 2003; Vossen, 1998) and induce technological change (Goodwin, 1998). Concurring with this later Schumpeter's hypothesis, Galbraith (1952) argued that large firms are "perfect" for innovation as they enjoy economies of scale in production and R&D (Goodwin, 1998; Vossen, 1998) and are best able to realize the benefits of process innovation (Vossen, 1998). Galbraith (1952) asserted that small firms being more innovative are no more than "pleasant fiction."

While Schumpeterian hypothesis asserted that large firms are more innovative because of scale economies, other studies on the relationship between firm size and innovation have produced conflicting results and little support for the Schumpeterian hypothesis (Symeonidis, 1996).

Several studies show that large incumbent firms are at a relative disadvantage when it comes to innovation, as compared to small firms (Acs &

Audretsch, 1987, 1991; Cohen & Levin, 1989; Kelly & Amburgey, 1991; Revilla & Fernández, 2013; Scherer, 1991). This has become widely accepted, with many authors arguing that large incumbent firms are ripe for disruption because they are not innovative.

Chandy and Tellis (2000) suggest that size and incumbency are positively correlated since incumbents that have survived in a market also tend to be large. Findings suggest that large firms are inflexible, susceptible to structural inertia and resistance to change (Acs & Audretsch, 1991; Cohen, 1995; Cohen & Levin, 1989; Kelly & Amburgey, 1991; Scherer, 1991) and often encounter difficulty in innovating (Abernathy & Utterback, 1978) because managers are severely constrained by the environment they are operating in (Aldrich & Pfeffer, 1976).

Studies in organizational research strongly suggest that as organizations grow and evolve along the Life-Cycle Stage, from start-up to maturity, they struggle with the dilemma and tension of creating greater efficiency and innovation. As the organization grows, they rely heavily on institutionalized routines and processes (March, 1991; Sørensen & Stuart, 2000; Tornatzky, Fleischer, & Chakrabarti, 1990), commitments to existing routines and a clear division of labor (Blau & Schoenherr, 1971) to achieve greater efficiency. Standardized processes and procedures are critical to the efficient and reliable operation of any large and complex organization (Blau & Schoenherr, 1971; Kasarda, 1974). However, too much structure and standardization restrict their creativity and innovativeness. Siggelkow (2001) argued that firms with too much structure and bureaucracy tend to be constricted by it and are inflexible. Their way of thinking and working became institutionalized and structured making it difficult for them to adapt to changes and innovate (Abernathy & Utterback, 1978; Dougherty & Hardy, 1996; M. L. Tushman & O'Reilly, 1996). Kanter (2006) argued that the structured process and tight controls over planning, budgeting, and reviews found in large firms squeeze the life out innovation efforts. Hurdles are either set too high resulting in managers rejecting new small opportunities at first glance (Kanter, 2006) or scope too narrow that negatively affect the incentives for large firms to take on risky long-term investment in innovation (Rosen, 1991). Jung, Wu, and Chow (2008) argued that centralization and formalization have a negative mediating effect on transformational leadership in innovation. If we follow this point, it would suggest that firms grow up to have a fixed mindset.

Most empirical studies suggest that small and medium-sized firms are more innovative and disproportionately responsible for significant innovations (Acs & Audretsch, 1988, 1990, 1991; Nooteboom, 1994; Pavitt, Robson, & Townsend, 1987; Pavitt & Wald, 1971) as they are not constrained by the limitations faced by large firms, as earlier discussed. The advantages that small firms have seemed to be centered on governance. With less structure and controls in place, small firms are more agile and flexible to respond to changes in the environment. In regulated industries, governance is paramount. Can firms be agile and flexible to respond to changes in the environment?

Despite the decades of research that has been devoted to it, the disparity in arguments over the relationship between firm size and innovation remains unsettled (Hamilton, 2012; Knott & Vieregger, 2016).

If large firms are indeed “un-innovative,” why is it that we continue to see large firms in some industries continue to invest billions of dollars in innovation. Is it that certain industries are less susceptible to disruption by small new start-ups?

More recent studies have suggested that large firms with the right capabilities can be innovative. The study by Wyatt (2015) showed that "far from being lumbering giants with slow reactions, several global corporations are outperforming both global and local competitors in unstable contexts by continuously repositioning and reconfiguring themselves in response to and anticipation of marketplace changes." pp10. He claims that these firms have achieved Dynamic Advantage. Knott and Vieregger (2016) argued that large firms are chief engines of innovation. Knott and Vieregger (2015) tested and indicated that “R&D productivity, like R&D spending, increases with firm size." pp15. There are thus compelling arguments for large firms to be innovative.

We shall now examine the nature and challenges of mature and regulated industry.

Mature and Regulated Industry

Every industry goes through an evolutionary life-stage, from start-up, growth, maturity to decline. Firms must operate in the environment which they find themselves in, and strategy and innovation cannot be developed in isolation of its environment. A mature industry is generally considered to be stable and lacks the dynamism of a young, growth industry. E. Hansen et al. (2006) argued that industry maturity has an adverse effect on organizational innovativeness. In particular, several researchers have contended that large firms are at a disadvantage when it comes to innovating in a mature market. The characteristics of a mature industry are said to be unfavorable for innovation (Acs & Audretsch, 1987; Revilla & Fernández, 2013). Much of management thought dating back to the BCG model has suggested that the proper management tact in mature industries, which are characterized by slow relative growth, is to reduce resources and reduce the investment in innovation.

Some of the characteristics of a mature industry are: sales begin to level off (Kotler, 2002; Porter, 2008), incumbents compete head-to-head on price (Rangan, Moriarty, & Swartz, 1992) and profit margins are eroded. G. T. Lumpkin and Dess (2001) argued that in the mature stages of an industry development, the competition is intense, the environment hostile and resources are constrained. Such characteristics do not favor an innovation climate as they offer few incentives for incumbents to innovate (Abernathy & Clark, 1985; Klepper, 1997; G. T. Lumpkin & Dess, 2001; J. Utterback, 1994). The number of innovation declines in such environment. J. Utterback (1994) and Kanter (1984) argued that as an industry matures, firms are more likely to focus on innovating around process and work methods efficiency, performance improvement and cost savings; rather than on product and radical innovation commonly seen in start-up or growth industries.

The environment in which the firm operates in is not only determined by its evolutionary life-stage. In certain industries, regulations play a major role in altering the environment as well. We shall now discuss regulation as one of the environmental factors.

Regulations

One of the environmental factors that affect innovation activities is government regulations. In the major or sensitive industries, governments will routinely intervene in it by enacting laws and regulations to govern or manage it. In other industries, the government intervention might be less obvious as they work to establish boards or standards. There are various reasons for government's intervention in the market. One of the primary triggers of government intervention is to manage or control situations in the market and to prevent "market failures." (Pelkmans & Renda, 2014). "Market failures" would include situations where one company can abuse its position arising from the "monopolistic" power which it possesses or from asymmetric or incomplete information. Examples of such regulations include Fair Dealing Act, Anti-Trust Laws, that were enacted to protect consumers and small firms. In certain ways, regulations level the playing field for all participants. Other possible triggers for regulatory interventions include remedying failure of existing regulatory rules or for long-term policy goals (Pelkmans & Renda, 2014).

The foundational work on the theory of economic regulation was first created by Stigler (1971), where he explained the forms of regulations, its effects on the allocation of resources and the parties that will likely benefit from or be burdened by it.

Ashford (2000) argued that regulations can affect innovation by affecting the willingness, motivation, and capability or capacity to innovate. Regulations affect innovation in several ways. Regulations can affect the competitive positions of firms, their pricing and may alter the industry profits, making it more or less attractive to innovate (Gladden, 2016). Regulations create an element of uncertainty for investments in innovation (Blind, 2012) and, consequently, will have an impact on innovation decisions. It may hamper the adoption of new technology or inhibit innovation in the process because of entry and licensing requirements (Riordan, 1992). Resources may also have to be diverted from innovation to compliance of regulations.

While regulations may level the playing field in some instances, regulations are known to affect firms differently. A study by the European Commission found that regulations discourage new firms more than large firms from innovating because of the cost involved. (Fleischer, Kelm, Palm, & Delgado, 2000). In that sense, regulations protect incumbents from the disruptors.

Peltzman (1976) argued that the decisions made by regulators are usually based on the interest group he favors most. Shaffer (1995) argued that large incumbents do not merely respond to regulatory actions. They are active players in using regulations to gain a competitive advantage. Large incumbents with the financial resources available, actively use lobbyists, political action committees, coalitions and advocacy groups to influence regulatory actions in their favors; such as restricting the number of new entrants into the market by raising capital requirements or weakening substitute offerings.

While many studies have been done on the effects of regulations on innovation, few studies have linked the perception of regulation and environmental dynamism with organizational innovativeness.

Perception of Environmental Dynamism

Firms must operate in the environment which they find themselves in, and strategy and innovation cannot be developed in isolation of its environment. J. M. Utterback and Abernathy (1975) argued that there is "a strong mutual relationship between a firm's choice of strategy and its environment" (pp640) and that "the characteristics of the innovativeness process and of a firm's innovation attempts will vary systematically with differences in the firm's environment…" (pp640). Regardless of good or tough times, the economic environment will always present opportunities for innovation (Malik & Aminu, 2011).

Environmental dynamism, which reflects the rate and unpredictability of change in the industry has been identified as one of the key factors to be considered in the analysis of the circumstances under which large or small firms have an innovative advantage (Boyd, Dess, & Rasheed, 1993; Dess & Beard, 1984; Donaldson, 2001). The higher the velocity of change, the higher the dynamism of the industry. That implies greater unpredictability of change and an increase in the level of uncertainty (Dess & Beard, 1984). Environmental dynamism is thus an important factor that has an impact on the firm's behavior, its innovation and performance.

The environment in which firms must operate in is shaped by four dimensions: 1) regulatory, 2) cultural, 3) competitive, and 4) technological (Jordan, 2010; O'Sullivan & Dooley, 2009). Regulations, as discussed in the previous section, can affect the willingness, motivation, and capability or capacity to innovate. Culture refers to the sense of shared purpose, attitudes, values, beliefs that provide norms of expected behaviors and practices that characterizes an institution or organization (Schein, 2010). Competitive refers to the intensity of the competition in the market and technological refers to the pace of change in technology. A change in any one or more of these dimensions may create "discontinuities" (M. L. Tushman & Anderson, 1986) in the industry disrupting it in the process.

Penrose (1959) argued, "the environment has been treated not as an objective 'fact' but rather as an 'image' in the entrepreneur's mind; the justification for this procedure is the assumption that it is not the environment 'as such,' but rather the environment as the entrepreneur sees it, that is relevant for his action." (Penrose, 1959)(p.215).

How firms respond to the "discontinuities" in the environment is largely dependent on its managerial cognition and decision making (Osiyevskyy & Dewald, 2015; Tripsas & Gavetti, 2000). Drucker (2002) argued that looking at the glass as "half full" or "half empty" have very different meanings, even if it is describing the same phenomenon. Miller and Friesen (1982) argued that the strategic decisions of firms are determined based on the goals and temperaments of the executives making those decisions. The firm's response to a given challenge is largely influenced by how the managers perceive the challenge. By changing the perception, innovation opportunities could open up.

Dweck (2000) studies of how people with fixed mindset and growth mindset view intelligence and learning very differently and its consequent effect. People with a fixed mindset view intelligence as an inborn trait. It cannot be developed and grow. Whereas people with a growth mindset view intelligence differently. They hold the view that intelligence is something that can develop and grow over time. People with a growth mindset are therefore more willing to learn and progress. Although our study is on organizations, companies are known to have personality too (Olins, 1978). The organization's personality reflects the collective personality of its decision-makers or leaders. The way the firm view the environment, learn, respond and adapt to it can make a difference between being innovating and non-innovating. Organizations that have "Fixed Mindset" accept things as they are and are resistant to change. Organizations with "Growth Mindset" are constantly learning, responding and adapting to the environment. They are in a better position to sense the changes in the market and seize the opportunity to innovate.

When considering the dynamism of the environment, some studies indicate that realized strategies reflect the perceptions of managers rather than objective characteristics (Ambrosini, Bowman, & Collier, 2009; Child, 1972).

Hence, when considering the dynamism of the environment, it is important to understand whether the firm perceives if there are any changes in the environment; whether it is externally or internally triggered and whether it is stable or dynamic. Externally perceived changes might include changes in customer needs, changes in competitors' strategies or actions, changes in technology, or shifts in regulations. Not all changes are triggered by externally perceived changes. Certain changes may be triggered internally by various factors, for example, dissatisfaction with the current state of performance. Companies that are innovative will want to influence and drive change in the environment, instead of being driven by it. (Ambrosini et al., 2009). Ambrosini et al. (2009) defined a perceived stable environment as "an environment where external and internally triggered changes are largely seen by managers to be predictable and incremental." (p14) and a perceived dynamic environment as "an environment where managers perceive fast-paced change, and even unpredictable changes and unanticipated discontinuities." (p14).

It is thus the perception of the firm that is critical. Thus, we operationalized our variable in this manner. A misperception of the developments and trends in the market may result in a failure or error in applying the appropriate strategies or capabilities to address the changes.

We hypothesized that the firm's innovativeness is positively related to its perception of environmental dynamism. In other words, firms that perceive the environment as dynamic are more innovative.

We shall now discuss the concept of Market Orientation and Entrepreneurial Orientation and how it affects the organizational innovativeness of the firm.

Capacity to Compete Dynamically

Several authors have argued that when managers perceive that they are facing an environment of greater turbulence, they will likely have to manage with a smaller window of opportunities, fragmented markets, a higher risk of resource and product obsolescence. (Davis, Morris, & Allen, 1991). This means adopting a different orientation and learning how to compete in a new way.

Market Orientation and Corporate Entrepreneurship

Extensive studies have been conducted on market orientation and corporate entrepreneurship and firm innovativeness as antecedents to organizational innovativeness; and there seems to be a wide agreement that corporate entrepreneurship, market orientation, and firm innovativeness are highly correlated (Erdil, Erdil, & Keskin, 2004; Hurley & Hult, 1998; Liu, Luo, & Shi, 2002).

Market Orientation

Innovative companies keep up-to-date of developments in the market by constantly scanning and sensing changes in customer needs and technological developments, and by influencing and shaping the development of the market in the process.

To do that, they need to have a market orientation. B. J. Jaworski and Kohli (1993) define market orientation, "as a set of ongoing behaviors and activities related to generation, dissemination, and responsiveness to market intelligence." This "intelligence function" to sense changes in the environment is relevant for companies in dynamic as well as stable environments (Janssen, Alexiev, Den Hertog, & Castaldi, 2012). Innovatively successful organizations have a heightened sense of awareness of changes in the environment and embrace different ideas and perspectives to develop innovative solutions to meet those changing needs of the market (Kerth, 2013).

More importantly, innovative companies do not just respond to the environment. They proactively influence and shape developments in the environment.

B. Jaworski et al. (2000) subsequently redefined the concept of market orientation and proposed two approaches to it – a market-driven and a driving-market approach. A market-driven approach is reactive as it accepts the constraints of the market structure and/or behavior of the players and responds to it within the confines of the constraints. A driving-market approach, on the other hand, is a proactive approach that influences the structure of the market and/or behavior of the players in a manner that enhances their competitive position. They do so by (1) eliminating players in the market (deconstruction approach), (2) building a new set of players (construction approach); and (3) modifying the functions performed by the players (functional-modification approach) (B. Jaworski et al., 2000).

Not every company will possess the capability or power to influence, shape or drive markets, but they can most likely adapt to the changing markets. Companies that are able to do that will enjoy an innovative advantage. It requires the company to be in a position of power and to look beyond the constraints of the market structure. New entrants or non-dominant firms, in comparison with incumbents or dominant firms, lack the financial resources and experience in influencing, shaping or driving the market (Rodriguez, 2013). Incumbents are found to enjoy a position of market power in their home countries that enable them to influence or shape the market (Rodriguez, 2013).

Corporate Entrepreneurship Orientation

Innovative companies are entrepreneurial oriented and actively explore, seek out, create, define, and exploit opportunities in the market. Entrepreneurship has been defined as "an activity that involves the discovery, evaluation, and utilization of opportunities to introduce new products and services" (Soriano & Huarng, 2013). The essence of entrepreneurship is innovation (Hornaday, 1992). Kuz (2010) asserted that corporate entrepreneurship is a key dynamic in improving creativity and innovation in high technology companies. The lack of corporate entrepreneurial and an exploration for change mindset within the organization are barriers to success in modern enterprises.

Literature has widely documented the characteristics of corporate entrepreneurship to include proactiveness, risk-taking, and innovativeness (Baker

& Sinkula, 1999; Miller, 1983; Nasution, Mavondo, Matanda, & Ndubisi, 2011). Miller and Friesen (1982) argued that entrepreneurial firms “innovate boldly and regularly while taking considerable risks in their product-market strategies.” and “beating competitors to the punch.” (Miller & Friesen, 1983).

The entrepreneurial orientation of a firm is dependent on its proactivity to innovate and take risk to pursue opportunities (Covin & Lumpkin, 2011; Covin & Wales, 2012). Firms with a high entrepreneurial orientation have a high level of proactivity and willingness to accept failure. Proactivity refers to the firm’s propensity to actively and continually search for new opportunities (Slater & Narver, 1994) and problems and to initiate innovative solutions to deal with them. These opportunities or problems may or may not be related to existing challenges or issues, and may include the strategic elimination or obsolescence of existing products or operations.

Bock and George (2014) suggest that in the most competitive markets, firms that emerged as high growth firms are business model innovators. Bock and George (2014) pp.2 argued that “business model innovation is not significantly driven by geography, firm type, or firm size” or with “prior innovation success.” These firms explore distant horizons and exploit non-intuitive entrepreneurial opportunities that may not be obvious at first sight. They develop novel configurations of resources to create new markets or serve markers in new ways as well as fundamentally changing the way it generates and captures value to reconfigure industries (George & Bock, 2011).

Doz and Kosonen (2010) and Schneider and Spieth (2013) claimed that the strategic agility of the firm is a prerequisite for business model innovation. Mace (2016) argued that the lack of or absence of strategic ability confines the management to an immobile system that cannot adapt to a competitive and dynamic environment.

In mature regulated industry, competition is often viewed as a zero-sum game (Schulze, MacDuffie, & Täube, 2015). As sales begin to level off (Kotler, 2002; Porter, 2008) and competition is intense (Rangan et al., 1992), large firms must find new ways to innovate to survive.

Chapter 3. Research Methodology

The purpose of this study was to address the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation.

This chapter presents the research methods that were used to collect, manage and analyze the data for this study. We outline and discuss the research design, sample setting, the survey instrument used, data analysis, validity and reliability of the survey instrument, ethical and governance considerations.

Survey Design

Sample and Data Collection

The focus of this study was to examine the relationship among the firm's perception of environmental dynamism, firm size, and organizational innovativeness. The subject of study is the Firm. The participants in the interviews and survey are informants, and they have been asked to inform about their current firm.

The intent of this study was to analyze how innovation is viewed and takes place in a mature and regulated industry. There are numerous industries of this type. However, the sample for this study was comprised of respondents from a single industry.

The insurance industry was selected for this study. It is an industry that is critical for the economic development of any country and as such it is regulated. At the same time, the insurance industry is mature and has a reputation for its stodgy conservatism. It also represented a convenient sample for reaching informants in multiple markets (Hong Kong and Singapore).

This study was conducted following a 10-Steps Process.

Step 1 – Initial Hypothesis Formulation

Our interest in this research problem was triggered by our work experience in the financial services industry. The lack of innovativeness in the industry, especially large firms, was a cause of concern for policy-makers and practitioners. An initial hypothesis was formulated to understand the factors that drive innovation at large firms and reconcile the puzzle between innovation and firm size.

Step 2 - Literature Review

A thorough review of existing literature on organizational innovativeness, firm size and environmental dynamism was conducted to understand current developments, identify the gap for study and to aid in the design of this study. We reviewed 470 research, management, and industry reports on a) innovation, b) firm size and or c) environmental dynamism. 145 of the most pertinent articles for this research were eventually cited in the development and execution of this study.

The search involved the following three steps.

1. A comprehensive bibliographic search of dissertation, books and journal articles on innovation, firm size and environmental dynamism was conducted.
2. We searched for a preliminary model by studying:
    a. claims, conclusions and findings of innovation, firm size, and environmental dynamism
    b. definitions
    c. gaps in the literature and recommendations for future research
3. relevant excerpts from the literature were typed in full into a Literature Matrix, noting the name of the author, the source, and page number
4. the excerpts were sorted into central themes.

Step 3 – Semi-Structured Interview

Semi-structured interviews were conducted with senior executives from seven companies to frame the issue and understand their thinking on some the issues. The interviews were used to understand how comprehensively the hypotheses covered the domain of inquiry and to understand the language of the industry. Key themes were identified from the interviews to develop and refine the hypothesis.

These exploratory interviews were particularly useful for obtaining the perspectives of the participants. The interviews were conducted while employing the guiding concepts put forth by other prominent social researchers (Kvale, 1996; McNamara, 2009; Turner III, 2010). In line with Yin (2015) findings that data collected from six to ten individual interviews is deemed to be adequate, we interviewed seven informants.

All seven participants were senior executives of insurance companies. Six of the interviewees held the position of Chief Executive Officer in their respective organizations. The remaining participant was an Executive Vice President. All the respondents were industry veterans with more than 30 years of experience. To ensure a balanced view, the participants included represented firms of different sizes and nationalities.

Table 1: Country Representation of Interviewees in Pre-Survey Interview

Country	No
Singapore	2
Hong Kong	1
Japan	1
Europe	2
USA	1

All the interviews were conducted face-to-face. Six of the interviews were conducted in the participant's office, and one was conducted on the SMU campus. Each of the interviews lasted approximately thirty to forty-five minutes. The interviews were digitally voice-recorded. Participants were notified that the interview would be digitally voice-recorded and written consent was obtained prior to the commencement of the interview. The contents of the interview were later transcribed. Transcribed notes were sent to the participants for verification of accuracy. All transcribed notes were accepted by the participants. No requests for amendment, correction or withdrawal were made.

Step 4 – Refinement of the Hypothesised Model

The findings of the initial interviews led to several minor adjustments in the hypothesized models.

Step 5 – Testing of the Survey Instrument

Next, a survey questionnaire was developed to test the hypotheses. Many of the questions in the survey were adapted from other scholarly studies. The questions on perception of environmental dynamism were adapted from a study by Baum and Wally (2003), the questions on organizational innovativeness and entrepreneurial orientation were adapted from (Nasution et al., 2011).

Before implementation, the survey questionnaire was sent to five reviewers to test for construct validity and readability. All five responses were received. The panel of reviewers comprised of one SMU faculty member, one Ph.D. graduate from SMU’s General Management program, two insurance practitioners, and a senior management consultant. Based on feedback received, the survey instrument was refined. Questions that were ambiguous or difficult to understand were redrafted for clarity.

Step 6 – Pilot-Test

The revised survey questionnaire was uploaded into Qualtrics. Qualtrics is tool approved by SMU and is a widely-used tool by researchers for online survey. A pilot test was conducted to test for reliability of the instrument. 10 participants from 3 insurance companies holding the position of manager were invited to participate in the pilot test. The results of the pilot test were not included in the findings as the level of the participants is not on par with those in the eventual sample. Also, the 10 participants were not invited to participate in the actual survey. Average time taken to complete the survey was approximately 8 minutes. Verbal feedback was obtained from the respondents on ease of accessibility, time-taken and whether the questions were clear.

Step 7 – Web-based Self-Administered Survey

A web-based self-administered survey was used in this study. The questions were designed to elicit responses from the respondents as an informant of the firm. A web-based self-administered survey has the benefits of faster turnaround time, cheaper to administer, a systematic tallying of results, and convenience for participants to respond (Cooper, Schindler, & Sun, 2003). The disadvantages of a web-based self-administered survey are that the response rate may be poor, participants may not fully understand the questions, one cannot be completely certain that the intended informant completed the instrument, and the collected responses might skew toward only those who like to participate in online survey or have access to the internet. The researchers had no a-priori or post research reason to believe that any of these limitations would affect the findings of this study in some systematic manner. Said differently, these disadvantages and limitations do not negate the benefits and usability of the expected responses (Blumberg, Cooper, & Schindler, 2014).

Most of the questions required an assessment of the strength of an attribute or behavior at the firm on a seven-point Likert scale. A seven-point Likert scale was preferred and selected over a five-point or nine-point scale because it is sensitive enough to provide an accurate measure while remaining relatively compact (Finstad, 2010). Likert scales with a meaningful zero point also allow for the conducting of statistical tests on the differences reported by informants.

Sample: The web-based self-administered survey was conducted in Singapore and Hong Kong concurrently involving 1,100 participants; 600 in Singapore and 500 in Hong Kong. The participants were randomly sourced from industry directories, personal contacts, and Singapore and Hong Kong Insurance Forum Groups on LinkedIn. The survey questionnaire was administered on Qualtrics.

Execution: An email invite was sent to participants with a hyperlink to the survey provided. The email invite explained the objective of the study, assured the participants of confidentiality and provided contact details, in case if the participant needed any clarification. Participants were required to give consent to participate in the survey by clicking “Agree” on the Online Consent Form before they could proceed with the survey. Closing the browser terminated the survey.

The survey was conducted over a two-week (14 days) period. Two weeks was deemed to be sufficient for participants to respond. Previous studies have shown that 80% of email surveys were returned within 7.6 days (Flaherty, Honeycutt Jr, & Powers, 2015).

Follow-up emails were sent to remind participants to participate in the survey. Following Couper, Traugott, and Lamias (2001), we limited our reminders to two follow-up emails. Reminders beyond the two weeks' period are not likely to increase response rate significantly and may risk upsetting the participants.

The results of the survey and the statistical analyses that were performed are reported in Chapter 4 – Findings.

Step 8 – Analysis and Review of the Initial Findings

The data collected were analyzed using IBM SPSS Statistics 23. Reliability and correlational analysis, analysis of variance (ANOVA) tests were conducted on the variables and inferences made from the results. The results are reported in Chapter 4 – Findings.

Step 9 - Follow-Up Interviews

Follow-up interviews were conducted with 10 participants; 5 each in Singapore and Hong Kong. The objective of the follow-up survey was to clarify and understand certain inferences drawn from the survey. None of the participants were informants in the study. The participants were randomly selected to represent the groups they belong to as can be seen in Table 2.

Table 2: Representation of Participants in Post-Survey Interview

	Singapore	Hong Kong
Global Firms	2	2
Regional Firms	2	2
Domestic Firms	1	1

The interviews for participants in Singapore were conducted face-to-face in the participant's office or a comfortable public location if requested by the participant. The interviews for participants in Hong Kong were conducted on the telephone.

Step 10 - Report on Findings

The results and findings of the study and the potential explanations for the findings are reported in Chapter 4 – Findings.

Measures

Independent Variables

There were two independent variables in this study – Perception of Environmental Dynamism and Firm Size. Eventually, the variable of firm size was also recorded and analyzed as Global, Regional and Local firms.

Perception of Environmental Dynamism - The interest here is to find out if there is a difference in the perception of environmental dynamism between innovating and non-innovating firms in a mature regulated industry. This can help us identify and understand whether the perception of environmental dynamism positively influences the innovativeness of the firm.

The participants were asked a series of questions to determine if their perceptions of environmental dynamism have an impact on their innovativeness. Respondents indicated their responses on a seven-point Likert scale (1= Not Dynamic to 7- Very Dynamic). The higher the score, the more they view the industry as dynamic. The lower the score, the more they view the industry as not dynamic. This variable was measured by 4 items.

1. The pace of change in customer needs is … (Appendix 3, Q5.1)
2. The pace of change in competitors' strategies/action is … (Appendix 3, Q5.2)
3. The pace of change of technology is … (Appendix 3, Q5.3)
4. The pace of change of regulations is … (Appendix 3, Q5.4)

Firm Size – The interest here was to find out if firm size can positively influence the generation of innovation ideas. Respondents were asked to provide the name of their firm (Appendix 3, Q1) and self-report on the size of their firm. Respondents were given the option "Large," "Medium," "Small" to select (Appendix 3, Q4).

Dependent Variables

Organizational Innovativeness – is the informant's perception of how likely the firm management was to seek out innovation opportunities. That is, we were attempting to understand the firm's propensity to seek out innovation opportunities. This variable was measured by employing 5 items (again, employing Likert-scaled questions):

1. Our firm seeks out innovation opportunities (Appendix 3, Q7.3)
2. Innovation is part of our DNA (Appendix 3, Q6.2)
3. Our firm is able to change our work processes to address new opportunities (Appendix 3, Q6.5)
4. Our firm collaborates with external parties on new opportunities (Appendix 3, Q7.4)
5. Our firm is able to restructure to address new opportunities (Appendix 3, Q6.4)

Entrepreneurial Orientation – Innovative companies are entrepreneurially oriented and actively explore, seek out, create, define, and exploit opportunities in the market. Characteristics of corporate entrepreneurship include proactiveness and risk-taking. 4 survey items were used to ask informants to report their firm's level of risk taking and innovativeness. The survey questions are as follows and can be reviewed in Appendix 3.

1. Our firm seeks to find new services to offer to our customers (Appendix 3, Q6.6)

2. Our management seeks new ways to improve our work processes (Appendix 3, Q6.8)
3. Our firm empowers employees to take initiatives (Appendix 3, Q6.7)
4. Our firm develops leaders at all levels (Appendix 3, Q6.3)

Innovation Performance: Informants were asked to report on whether they perceived that their firm's performance is influenced by its level of innovativeness. This variable is measured by 8 items:

1. Relative to the competition, our firm introduces new services to the market (Appendix 3, Q8.1)
2. Relative to the competition, our firm introduces new technologies to the market (Appendix 3, Q8.2)
3. Relative to the competition, we are able to change our structure (Appendix 3, Q9.1)
4. Relative to the competition, we are able to change our work processes (Appendix 3, Q9.2)
5. Our firm's revenue growth is significantly above the industry average (Appendix 3, Q10.1)
6. Our firm's revenue growth is significantly influenced by our innovation (Appendix 3, Q10.2)
7. Our firm's gross margin is significantly above industry average (Appendix 3, Q10.3)
8. Our firm's gross margin is significantly influenced by our innovations (Appendix 3, Q10.4)

Ethics and Compliance

To abide by the Institutional Research Board (IRB) guidelines, approval was obtained from IRB before the commencement of the surveys (SMU-IRB Approval Number: IRB-17-017-A018(217)). The researcher has completed the certification under CITI Program and is aware of IRB guidelines and requirements. All participants in this study were informed, both verbally and in writing, of the following:

- the purpose and goals of this study
- the interview and survey process
- there are minimal risks to their participation
- information provided will be kept confidential and anonymous.
- the information will be kept secured in a password-protected file and a locked drawer
- the information will be destroyed after three years
- their rights to terminate the interview or withdraw from the study at any time, within seven days following the close of the interview. All information collected will be destroyed and not be included in the report.

A very low or minimal risk is perceived to affect the participants as:

- Participation is voluntary. All participants were asked to give their consent to participate.
- Participants' identities are kept confidential and anonymous. Safeguards are in place to protect the participant's information.

- The data collected are organization attribute information. They are not highly sensitive information and posed minimal risk to the participants or organizations.
- Internet protocol (IP) addresses of participants for the web-based self-administered survey are not captured.

Key Assumptions

We assumed that,

- Due to the anonymity and confidentiality of the data collected, all the participants will have no reservation in sharing their personal views and perception in a truthful and free manner. However, we acknowledge that some participants may not be as willing and open to fully sharing their firm’s approaches to innovation as they may have concerns about implications for their competitive strategy or are constrained by corporate policies.
- The participants have adequately high-level knowledge of the environmental dynamism and their firm's innovativeness vis-à-vis their competitors.
- There is an assumption that the market is competitive. Further, it is assumed that all firms operating in the industry face the same opportunities and environmental challenges regardless of their size, parentage, and nationality.

Potential Sources of Bias

Question Bias

Questions could be a source of bias if they were badly designed. This could include ambiguity, complexity and difficult to understand, not applicable to the respondent or cannot provide the information because it is forgotten.

The survey questions underwent a stringent review process to minimize the potential of question bias. It was reviewed by a panel of 5 reviewers and a pilot test involving 10 participants was conducted before it was implemented.

Researcher bias

Interviewing is a critical skill that relies heavily on the experience, skills and personal qualities, such as patience, focus, listening skills of the researcher. One of the major drawbacks of the individual interview is researcher's bias. There is a potential risk that the researcher's personal bias may influence the data collection, handling, and interpretation process.

To minimize the potential risk of researcher’s bias, the researcher adhered closely to the script and let the participant speak freely without any interruption or prompting. The interviews were digitally voice recorded. Any bias detected were removed.

Respondent Bias

Respondent bias could arise due to incorrect/untrue answers provided by respondents, either intentionally or unintentionally. Unintentional bias is difficult to avoid as the respondent may think or believe the answer is correct or true.

To minimize intentional bias, the survey questionnaire did not contain any confidential or sensitive questions that could create any hesitancy or reluctancy in the participants to respond freely. Participants were given the right to withdraw at any time during the survey or within seven days after the survey.

Non-Response Bias

In the web-based self-administered survey, non-response could be a potential source of bias in sample estimates. Executives of large firms might be less willing to respond to web-based self-administered surveys because of corporate restrictions, confidential concerns, as well as they, might have to choose among many surveys that they have been asked to participate.

To minimize the issue of non-response rates, we developed and tested the procedures beforehand. The web-based self-administered survey questionnaire was designed to be simple and easy to complete. The survey questionnaire takes approximately 10 minutes to complete.

We monitored the response rate closely throughout the survey period. Follow-up emails were sent to remind participants to participate in the survey on the 5th and 10th day following the initial email invite. Following Couper et al. (2001), we limited our reminders to two follow-up emails.

Chapter 4. Findings

The purpose of this study was to address the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation.

This study and the resulting analysis were guided by the following questions:

- Does the firm size affect its perception of environmental dynamism?
- Does the perception of environmental dynamism affect the innovativeness of the firm?

Experimental Design

After a thorough literature search, an initial set of hypothesis regarding both the level of and orientation of firms toward innovation was advanced. The researchers hypothesized what they expected to be the reasons for the results they would find. With years of experience in the industry and a literature review in hand the research team scheduled a series of face to face interviews with seven senior executives in the industry. The face-to-face interviews were semi-structured and conducted with seven senior executives in the insurance industry to frame the issue and understand their thinking on some the issues. The interviews were used to understand how comprehensively the hypotheses covered the domain of inquiry and to understand the language of the industry. After completing the face-to-face interviews, a set of hypotheses were proposed.

Research Questions	Hypothesis
Does the firm size affect its perception of environmental dynamism?	Firm size is positively related to perception of environmental dynamism
Does the perception of environmental dynamism affect the innovativeness of firms?	Perception of environment dynamism is positively related to organizational innovativeness

Next, a survey questionnaire was developed to test the hypotheses (Appendix 3). The survey was web-based and self-administered.

The survey instrument was randomly emailed to 600 insurance managers in Singapore and 500 in Hong Kong either directly via email or through LinkedIn Insurance Forum Groups in Singapore and Hong Kong.

A follow-up interview with 5 of the respondents each in Singapore and Hong Kong was conducted to clarify certain points and to gain their insights as to whether the results of the survey made sense to them, and why they believed these results might have been the case.

Singapore and Hong Kong Insurance Market

The Singapore and Hong Kong Insurance markets were chosen as they share certain similarities, and yet exhibit differences. Both Singapore and Hong Kong are mature regional financial centres with a strong legal and regulatory framework inherited from the British. Interestingly, the two markets are strong rivals in attracting international insurance groups to establish offices in their respective market. There are 157 authorized insurers in Hong Kong including 93 general insurers, 45 pure long-term insurers, and 19 composite insurers; as compared to 80 direct insurers in Singapore, comprised of 56 general insurers, 17 life insurers, and 7 composite insurers. The total value of premiums in 2015 for Singapore and Hong Kong were US$28 billion and US$46 billion respectively (Swissre, 2016).

The growth rate for Singapore and Hong Kong for 2014 and 2015 were:

Table 3: Growth Rate – 2014 and 2015

	2014	**2015**
Singapore	8.28%	11.2%
Hong Kong	6.57%	8.2%

(Swissre, 2016)

Sample Size

Table 4: Sample Size

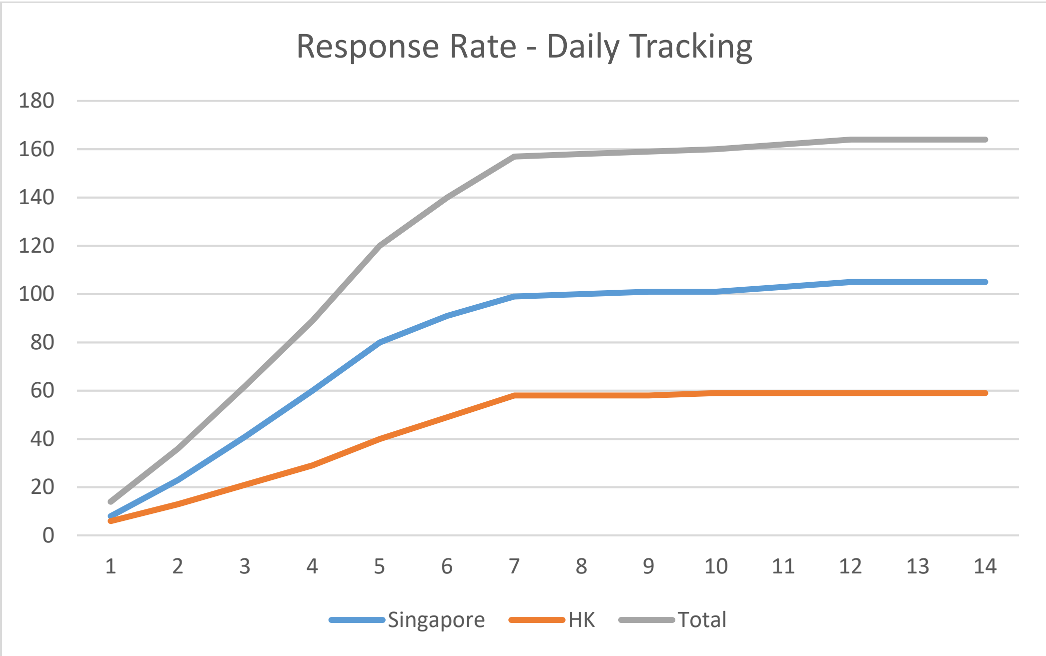
	Singapore	**Hong Kong**	**Total**
No of Email Invites Sent	600	500	1,100
No of Respondents	105	59	164
Response Rate	18%	12%	15%
No of Incomplete	5	3	8
Total Valid	102	56	158
Valid Response Rate	97%	95%	96%

The email invites were sent to all the participants in Singapore and Hong Kong on the same day. As the participants are management-level staff of their organizations, they may not have the time to respond to email surveys during the early part of work-week. The email invites were sent on Thursday morning so that participants can respond when their schedules are less demanding or during the weekends.

The survey was conducted over a two weeks' (14 days) period. Two weeks is deemed to be sufficient for participants to respond. Studies showed that 80% email surveys were returned within 7.6 days (Flaherty et al., 2015). Follow-up emails were sent to remind participants to participate in the survey. Following Couper et al. (2001), we limited our reminders to two follow-up emails. Reminders beyond the two weeks' period are not likely to increase response rate significantly and may risk upsetting the participants.

The response rate was monitored daily.

Figure 2: Response Rate – Daily Tracking



23 responses from Singapore and 13 responses were received from Hong Kong were received one day after the emails were sent. 80 responses were received from Singapore, and 40 responses were received from Hong Kong by the 5th day. Email reminders were sent to non-respondent at the close of the 5th day. 99 responses and 58 responses were from Singapore and Hong Kong respectively received by the 7th day. A second email reminder was sent on the 10th day. There was no significant uplift in responses even after the reminders. The survey closed after two weeks with 164 responses in total, giving us a response rate of 15%.

We received 105 responses from Singapore participants and 59 responses from Hong Kong participants. 8 of the responses were started, but the respondents abandoned the survey midway through the process; with the majority of questions left unanswered. These partially completed surveys were treated as incomplete and were removed from the results. None of the questions in the survey instrument was mandatory, and participants could withdraw from the survey at any time without penalty by closing the browser. Respondents could also withdraw within seven days after the close of the survey, by giving written notice to the Principal Researcher. No respondent withdrew from the survey after the close of the survey.

The remaining 158 responses contained valid responses to all the questions. None of the respondents gave a "Do Not Know" answer for any of the questions.

The total number of valid responses was 102 in Singapore and 56 in Hong Kong giving us 158 responses in total. Roughly 53% of the participants were from large global firms, 34% from regional firms and 13% from local domestic firms. This is consistent with the make-up of both the Singapore and Hong Kong market, which is dominated by large global firms. The balance is made up of mid-sized firms; i.e. Asian firms with a regional presence, and local domestic firms. The participants were randomly selected, and more than one respondent could be from the same firm.

Table 5: Average Representation per Firm

	Total No of Firms Represented	Total Number of Respondents	Average No of Respondents per Firm
Singapore	38	102	2.7
Hong Kong	23	56	2.4

38 firms from Singapore and 23 firms from Hong Kong were represented in this study. On average, about 2.7 respondents per firm in Singapore, and 2.4 respondents per firm in Hong Kong. The highest number of respondents from a single firm in Singapore was 6. There were 2 firms with 6 respondents each. The highest number of respondents from a single firm in Hong Kong was 5. There was 1 firm with 5 respondents. The lowest number of respondents from a single firm was 1 in both Singapore and Hong Kong.

Demographics

Table 6: Country of Origin * Size * Country Crosstabulation

Count

Country			Size: Medium	Size: Large	Total
Singapore	Country of Origin	Singapore Domestic	11	0	11
		Asia (ex SG / HK)	21	9	30
		Global	0	61	61
	Total		32	70	102
Hong Kong	Country of Origin	Hong Kong Domestic	10	0	10
		Asia (ex SG / HK)	23	0	23
		Global	0	23	23
	Total		33	23	56
Total	Country of Origin	Singapore Domestic	11	0	11
		Hong Kong Domestic	10	0	10
		Asia (ex SG / HK)	44	9	53
		Global	0	84	84
	Total		65	93	158

The sample size for Hong Kong is smaller than Singapore due to a smaller participant base that we could access, compounded by a slightly lower response rate.

Respondents were given the option to self-declare the size of their firms as "Large," "Medium" or "Small." All the respondents self-declared their firm size as either "Large" or "Medium," with no respondents self-declaring their firm as "Small." This may indicate that the variables were not sufficiently sensitive to capture differences in firm size.

Respondents provided their firm's countries of origin which were grouped into "Global," "Regional," and "Local Domestic." This variable was selected for its ability to best explain differences in the level of innovation in the firms and presented interesting insights on how informants from these firms perceived environmental dynamism and innovation.

Companies were classified as "Global," "Regional" or "Local" according to where their head office is domiciled and the extent of their overseas offices' reach. Global firms are multinational companies that have offices in several countries across more than one continent. Examples would include major European insurance groups with offices in the USA, Africa, Asia, and others or a US insurance group with offices in Europe and Asia. Regional firms are companies that are headquartered in Asia, mostly from Japan, China, or Hong Kong, and have one or more offices in other Asian countries. They have achieved certain scale to expand beyond their national boundaries to go regional but are not sufficiently large to expand into numerous markets in other continents. Local domestic firms are companies that are registered in either Singapore or Hong Kong only and have no overseas offices in another country outside their country of registration. In summary, the study comprised of 11 respondents from Singapore Domestic companies, 10 respondents from Hong Kong Domestic companies, 53 respondents from Regional companies, and 84 respondents from Global companies. The actual number of companies involved would be lesser as more than one respondent could be from the same firm.

The data collected were analyzed using the SPSS 23.0 statistical program. We evaluated the relationships between the variables for reliability and correlation.

Table 7: Results of Reliability and Correlational Analyses

		Mean	S.D.	1	2	3	4
1	Perception of Environment Dynamism	5.2516	.72791	α = .745			
2	Organizational Innovativeness	5.4810	.83247	.540**	α = .786		
3	Innovation Performance	4.7801	1.33549	.466**	.485**	α = .942	
4	Entrepreneurial Orientation	5.3877	.95959	.741**	.658**	.342**	α = .846

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7 above presents the statistics in the form of mean and standard deviation for the constructs of perception of environmental dynamism, organizational innovativeness, innovation performance, and entrepreneurial orientation. Cronbach’s alpha was run to determine the internal consistency of the constructs. The Cronbach's alpha values of .942, 846, .786, .745, surpassed the recommended threshold of .70 (Nunnally, 1978).

Perception of Environmental Dynamism and Organizational Innovativeness

During the pre-interviews with the senior executives, the dynamism of the industry and threat from fintech and insurtech were issues that were raised as a concern. Conflicting views were expressed about the dynamism of the industry.

Many of the executives interviewed highlighted that the environment has changed greatly over the past several years. Below are several quotations from these interviews.

- *Company A – (a global European firm) commented, "This industry has become extremely competitive. To maintain our leadership position, we have to keep launching new products and services to meet the needs of our customers and be ahead of our competition."*

- *Company C – (a regional Asian firm) mentioned, "The basic elements of insurance protection don't change very much. In fact, I don't think there has been any fundamental change in the last 50 to 100 years. But, customer needs are changing very rapidly. And, with a small domestic market in Singapore, the competition is just crazy. We compete by offering better service to our customers at a competitive price."*

- *Company E (a regional Asian firm), "We are a late comer to the scene, but we see huge potential for growth; especially in the health space, in Singapore. Singapore has one of the fastest-ageing population in the world. As the* *population ages and people are living longer, the demand for health insurance products will see exponential growth."*

Not all executives, however, perceived the environment as dynamic or fast changing. Some see the environment as stable because of the regulatory structure of the industry which hinders disruption in the market. These comments led to the notion that informants report of the firm's self-perception of the industry was an important determinant in how they viewed and potentially reacted to the market. Below are several indicative quotes.

- *Company D – (a global European firm) commented, "The insurance industry is a very tightly regulated industry, and there are strict regulations governing everything from solvency margins, risk management, to even the appointment of senior officers of the company. It is not easy for a newcomer to come in and disrupt the industry because the barriers of entry are very high. Unlike the high-tech industries, things don't change very fast in insurance. And, rightly so because insurance is a long-term product and you want the industry to be stable. The regulators would not want to see too much volatility and changes in the industry because that would affect the long-term viability of some of the companies."*

- *Company F (a local domestic firm) commented, "This industry is a highly intermediated industry. There is a limit to what we can change because customers continue to prefer using an agent or broker to help them source the* *best quote than to buy direct. We are not like AirBnB or Uber. For example, look at some of the direct players, such as DirectAsia. They have been in the market for several years now and have hardly caused a dent in any of the major players' portfolio. Our job is to provide the best service to our agents and brokers so that they continue to distribute our products."*

- *Company G – (a local domestic firm) remarked, "Unlike the mobile phone or high tech industries where change happens once every six months to a year, in our industry, things don't change for 20 to 30 years. Whether it is with life or general insurance products, you can do minor tweaks here and there, add in bells and whistles, but, fundamentally, it is the same core. How many insurance innovations have you seen that has revolutionized the world or made profits for the company? I cannot think of any yet."*

The construct “Perception of Environment Dynamism” was adapted from a scale originally developed by Baum and Wally (2003) and consisted of four questions.

1. The pace of change in customer needs is … (Appendix 3, Q5.1)

2. The pace of change in competitors’ strategies/action is … (Appendix 3, Q5.2)

3. The pace of change of technology is … (Appendix 3, Q5.3)

5. The pace of change of regulations is … (Appendix 3, Q5.4)

A one-way Welch ANOVA was conducted to determine if the perception of environmental dynamism was different for groups according to their firm size. Firms were classified into three groups: Domestic, Regional and Global.

The Singapore Group was classified as Domestic (n=11), Regional (n=30), and Global (n=61). The perception of environmental dynamism score was as follows: Singapore Domestic (M=5.2727, SD=.77018), Regional (M=5.5250, SD=.50151) and Global (M=5.0369, SD=.66275) and the differences between these groups were statistically significant, Welch's F (2, 26.057) = 7.454, p=.003.

The one-way ANOVA is an omnibus test statistic. It can only tell us that at least two groups were different, but not which specific groups were significantly different from each other. Since we have three groups in our study design, and the results indicated a significant difference, we conducted further analyses on the factor to examine the differences. A Games-Howell post hoc test was conducted as a follow-up test to determine which specific groups were significantly different from each other. The Games-Howell post hoc test was selected because our sample size is not large and a Games-Howell post hoc test does not rely on equal variances and sample sizes. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (.48811, 95% CI [.1895, .7867], p=.001) was significant. The mean difference between Global and Singapore Domestic (p=.618) and Regional and Singapore Domestic (p=.583) were statistically not significant.

This indicates that informants from regional firms perceived the environment as more dynamic than large global firms. In line with our initial discussion on firm size, regional firms are closer to the ground and able to scan and sense of what is happening in the environment better than the global firms. However, the perceptions of informants from regional firms on environmental dynamism are not significantly different from domestic firms. This may be because domestic firms are similarly close to the ground and able to scan and sense what is happening in the environment as well.

A similar test was done for the data collected in Hong Kong. The Hong Kong Group was classified as Domestic (n=10), Regional (n=23), and Global (n=23). The perception of environmental dynamism score reported by Hong Kong informants was as follows: Domestic (M=4.8250, SD=1.21364), Regional (M=5.8478, SD=.39700) and Global (M=5.0435, SD=.70167) and the differences between these groups were statistically significant, Welch's F (2, 19.960) = 13.252, p=.000. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (.80435, 95% CI [.3928, 1.2159], p=.000) was significant. The mean difference between Global and Hong Kong Domestic (p=.857) and Regional and Hong Kong Domestic (p=.063) were statistically not significant. These findings are similar to the results for Singapore. Informants reporting on regional firms perceived the environment as more dynamic than global and local firms.

At the aggregate level, an independent sample t-test was run to determine if there were any differences in the perception of environmental dynamism between global, regional, and domestic firms in Singapore and Hong Kong. The results indicated that there was a statistically significant difference between the mean difference of all three group sizes in Singapore and Hong Kong. Global firms (M=1.03869, 95% CI [.8934, 1.1839], t (83) = 14.222, p=.000. Regional firms (M=1.66509, 95%CI [1.5320, 1.7982], t (52) = 25.111, p=.000. Domestic firms (M=1.05952, 95% CI [.6016, 1.5174], t (20) = 4.827, p=.000. Thus, the results indicated that across all levels of operating sizes, firms in Hong Kong view their environment as more dynamic than firms in Singapore.

A brief summary is as follows

- Regional firms perceived the environment as more dynamic than Global firms and Local firms
- Firms in Hong Kong perceived the environment as more dynamic than firms in Singapore.

Considering that the actual growth rates in Singapore are historically higher than Hong Kong, one might have hypothesized that Singapore is a more dynamic market than Hong Kong. However, our study revealed that subject in the Hong Kong firms perceived the market as more dynamic.

Our interviews revealed that Regional firms see the Asia region as their primary markets. They see their size, Asian heritage and local knowledge as advantages over global and domestic firms. Regional firms have the benefits of financial strength and a regional network to tap on, but, without having to contend with the bureaucracy found in large global organizations. The global network of large global firms can be an advantage, but it may not have been fully leveraged. Below are several indicative quotes offered by managers during the pre-survey interviews.

 Company A (a global European firm) - "Firstly, our size and global presence enable us to do what many of our competitors are not able to do. We learn of trends *and developments in other parts of the world. This allows us to be a step ahead of our competition in bringing in new products and technologies into the market."*

- *Company B (a global USA firm) – "Cybersecurity threats are very real. It is something that is very new in this part of the world and governments and companies are only beginning to wake up to the risk. For our group, this is something that we have been managing for several years now. We have dedicated teams in the USA that is devoted to scanning the environment, researching and monitoring developments in this and other spaces. With our global network, we were able to anticipate the development in Asia and develop the appropriate solutions for it."*

Respondents indicated that the management of domestic firms have a narrower view of the market and tend to compete mainly on lower price.

Perception of Regulation

A one-way Welch ANOVA was conducted to determine if the perception of regulatory changes was different for groups according to their firm size. The perception of regulatory changes score was statistically not significant in both Singapore and Hong Kong. Singapore Welch's F (2, 25.808) = .430, p=.655; and Hong Kong Welch's F (2, 24.959) = .344, p=712.

In other words, all the respondents shared the view that pace of regulatory change is not fast. This is not surprising given that regulators worldwide are not known to be responsive to environmental changes.

At the aggregate level, an independent sample t-test was run to determine if there were any differences between how global, regional, and domestic firms in Singapore and Hong Kong view the regulatory changes. Our study revealed that there was a statistically significant difference between the means of all three group sizes in Singapore and Hong Kong. Global firms (M=.69048, 95% CI [.4829, .8981], t (83) = 6.615, p=.000. Regional firms (M=.64151, 95%CI [.3167, .9663], t (52) = 3.964, p=.000. Domestic firms (M=.66667, 95% CI [.2039, 1.1294], t (20) = 3.005, p=.007.

During the follow-up interview, the question "Is the regulatory environment in your market rigid or flexible towards innovation" was put forward to the respondents. 100% of the respondents in Hong Kong responded that the regulatory environment in their market is rigid and not encouraging towards innovation; as compared to 40% in Singapore. In other words, the Hong Kong respondents were unanimous in their views that the regulatory environment is rigid and not supportive of innovation. Several of the senior executives interviewed have commented that the MAS is an enlightened regulator that actively encourages innovation. Surprisingly, the level of dynamism and innovation perceived to be present in HK was greater than Singapore.

In the words of a senior executive of a global European firm *(Company SG1), "In Singapore, MAS is quite an evolved regulator and the fact that Ravi Menon, the boss of MAS, has said that MAS will allow robo-advisor so that we enter into a new era shows that MAS wants the industry to evolve in order not to lag behind other* *countries. So clearly, MAS would be a promoter of innovation. I have been once with MAS people from the Capital Markets who told me if you think we need to change anything in the regulations in order for you to serve better your clients, you have to come and tell us. So, this is something I would not hear from any other regulator in this world, so I really think MAS is a regulator that wants to encourage innovation and not hem it."*

A senior executive in Hong Kong (Company HK1) commented, "*My opinion is that the regulatory environment is Hong Kong is very rigid and broken. Insurance companies are governed by the Office of the Commissioner of Insurance. But, if you want to sell insurance products through bancassurance channels, you need to comply with regulations set by the HKMA, the banking regulator as well. And, if your products have an element of investment in it, you need to comply with the Securities and Futures Commission regulations as well. Three different regulatory bodies with very different interests and they are not aligned. That's how complicated it can be. For example, in 2015, the regulators were concerned about the sales of investment-linked products. But, as all three regulators have different views on how to do it and could not agree among themselves, they each passed their own regulations. This led to total market confusion. Most companies decided to stop selling the product because compliance with the three different sets of regulations would be close to impossible and the cost not worth it."*

Another Hong Kong executive (Company HK2) commented that *"If you look closely at how the HK OIC is set up vis-à-vis MAS, you will see a difference in* *the way they supervise the industry. HK OIC's approach is more prescriptive whereas MAS's approach is more consultative."*

The findings itself may not be surprising. What is surprising and interesting is that in an environment that is considered to be more rigid and the actual growth rate lower, Hong Kong's firms perceived their environment as more dynamic as compared to their counterparts in Singapore.

Next, we looked at how does the perception of environmental dynamism effect organizational innovativeness.

This variable was measured by employing 5 items, employing Likert-scaled questions:

1. Our firm seeks out innovation opportunities (Appendix 3, Q7.3)
2. Innovation is part of our DNA (Appendix 3, Q6.2)
3. Our firm is able to change our work processes to address new opportunities (Appendix 3, Q6.5)
4. Our firm collaborates with external parties on new opportunities (Appendix 3, Q7.4)
5. Our firm is able to restructure to address new opportunities (Appendix 3, Q6.4)

Organizational Innovativeness

A one-way ANOVA was conducted to determine if organizational innovativeness was different for groups according to their firm size. The organizational innovativeness score was as follows: Singapore Domestic (M=5.1818, SD=.94849), Regional (M=5.6333, SD=.40372) and Global (M=5.5213, SD=.79856) and the differences between these groups were statistically not significant, Welch's F (2, 25.631) = 1.360, p = .275.

A similar analysis was conducted for the Hong Kong Group. The perceived organizational innovativeness means were as follows: Domestic (M=4.5200, SD=1.25857), Regional (M=6.0261, SD=.32644) and Global (M=5.1913, SD=.96385) and the differences between these groups were statistically significant, Welch's F (2, 18.646) = 13.461, p=.000. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (.83478, 95% CI [.3087, 1.3609], p=.001) was significant; and the difference between Regional and Hong Kong Domestic (1.50609, 95% CI [.3902, 2.6219], p=.011) was also significant. However, the mean difference between Global and Hong Kong Domestic (.67130, 95% CI [-.4975, 1.8401], p=.319 was statistically not significant. In other words, regional firms in Hong Kong are more innovative than Global and Domestic firms.

At the aggregate level, an independent sample t-test was run to determine if there were any differences between the organizational innovativeness of global, regional, and domestic firms in Singapore and Hong Kong. Our study revealed that there was a statistically significant difference between the mean difference of all three group sizes in Singapore and Hong Kong. Global firms (M=1.43095, 95% CI [1.2456, 1.6163], t (83) = 15.359, p=.000. Regional firms (M=1.80377, 95%CI [1.6886, 1.9189], t (52) = 31.427, p=.000. Domestic firms (M=.8667, 95% CI [.3522, 1.3811], t (20) = 3.514, p=.002. The results indicated that, at all levels of operating sizes, firms in Hong Kong are perceived organizationally more innovative than firms in Singapore from the same category.

Despite the fact that Hong Kong's growth rate has been historically lower than Singapore and its regulatory environment more rigid, our findings revealed that firms in Hong Kong are organizationally more innovative than firms in Singapore. Their perception that the environment is more dynamic has spurred them to be more innovative. Another reason offered by interviewees during the post-survey interviews is that the maturity of the market and the higher stakes involved.

The senior executive of Company HK 1 commented, "Hong Kong is a very saturated market. The market is largely dominated by the big international firms. For the regional firms to grow and win market share, they need to be innovative. They are sandwiched between the big international firms and the local firms. If they didn't do things differently, they would be in trouble. Most of the local firms in HK are very small. They are either family-owned and doing in-house business, or waiting to sell out. They have no ambitions to do more."

A senior executive of Company HK 4 commented, "I think it is obvious why local firms are not very innovative. In a highly competitive market like HK, small firms' hands are tight. They are a follower rather than a leader. Regional firms are *more innovative because they are in the growth phase. To grow, they need to offer things that are different from their other competitors, which is usually the big boys. The big boys can rely on Head Office for support. The regional guys don't. So, they have to innovate themselves."*

One of the common themes that came up during the interviews were innovative companies proactively seeking out innovation, constantly probing what the future holds and flexibility. Innovative firms actively seek out innovation opportunities and discussing the future. Several of them have set up Innovation Laboratory or Hub in Silicon Valley, Singapore, and Hong Kong to seek our new innovative solutions and business models. However, that does not mean that setting up Innovation Labs or Hubs is the only way to go. Several regional firms interviewed have also started Accelerator Programs to nurture high potential start-ups and pioneer the next-generation corporate innovation. They are also seeking innovation in different areas.

Actively Seeking Out Opportunities

- *Company E (a regional Asian firm) commented, "While the global firms try to innovate by looking for the next big thing, we prefer to unlock value at the periphery of our core business. We find there are untapped opportunities for us to innovate at the edges of our core business. It is a better utilization of our capital and the risk is much lower."*

Probing the Future

- *Company C (a regional Asian firm) – "Every year, our senior executive team will go away for a couple of days to brainstorm what might happen in our market. We try to peer into the future and then to come back and do things differently from our competitors."*

- *Company E (a regional Asian firm) – "The world is becoming highly volatile, ambiguous and uncertain. As a group, we place a high priority in engaging with our customers, regulators, distributors. We engage with our key stakeholders regularly to update them on developments within the firm as well as to get a sense of their thinking and direction."*

Innovation Performance

A one-way ANOVA was conducted to determine if innovation performance was different for groups according to their firm size. Innovation performance score were as follows: Singapore Domestic ($M=4.6591$, $SD=1.59598$), Regional ($M=5.2167$, $SD=1.20520$) and Global ($M=4.4385$, $SD=1.22019$) and the differences between these groups were statistically significant, Welch's $F(2, 25.160) = 4.053$, $p = .030$. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (.77814, 95% CI [.1292, 1.4271], $p=.015$) was significant. The difference between Regional and Singapore Domestic (.55758, 95% CI [-.8229, 1.9381], p=.556) and between Global and Singapore Domestic (-.22057, 95% CI [-.1.5674, 1.1263], p=.901 were statistically not significant.

A similar analysis was conducted for Hong Kong Group. The perceived innovation performance score was as follows: Hong Kong Domestic (M=4.1875, SD=1.75124), Regional (M=5.8370, SD=.82953) and Global (M=4.3750, SD=1.2500) and the differences between these groups were statistically significant, Welch's F (2, 21.135) = 12.727, p=.000. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (1.46196, 95% CI [.6992, 2.2247], p=.000) was significant; and the difference between Regional and Hong Kong Domestic (1.64946, 95% CI [.0782, 3.2207], p=.040) was also significant. The mean difference between Global and Hong Domestic (.18750, 95% CI [-1.4261, 1.8011], p=.950) was statistically not significant.

At the aggregate level, an independent sample t-test was run to determine if there were any differences between innovation performance of global, regional and domestic firms in Singapore and Hong Kong. Our study revealed that the mean difference of Global and Regional firms in Singapore and Hong Kong was statistically significant. Global firms (M=.42113, 95% CI [.1561, .6861], t (83) = 3.161, p=.002. Regional firms (M=1.48585, 95%CI [1.1842, 1.7875], t (52) = 9.885, p=.000. The results indicated that at both the Global and Regional firm level, Hong Kong firms have a higher innovation performance than their Singapore counterparts. The mean difference for Domestic firms (M=.43452, 95% CI [-.3151, 1.1841], t (20) = 1.209, p=.241) was statistically not significant. We attribute this to their higher perception of environmental dynamism and higher organizational innovativeness.

Capacity to Compete Dynamically

During the interviews with the senior executives, risk-taking, experimentation, engaging with customers and stakeholders were central themes identified about how firms approach innovation.

- *Company A (a global European firm)* - "*Firstly, our size and global presence enable us to do what many of our competitors are not able to do. We learn of trends and developments in other parts of the world. This allows us to be a step ahead of our competition in bringing in new products and technologies into the market. Secondly, is our culture. This company was built on entrepreneurial risk-taking since our founding. And, that entrepreneurial and risk-taking culture continues today and permeates throughout the organization. It is what made us successful even today*".

- *Company B (a global USA firm) – "… innovation cannot come from top-down. We cannot mandate that staff go and innovate. Some of the best innovation we have seen come from bottom-up; from our people are trying to solve a real-life problem or a need encountered by a customer. We empower our staff to try. Our mantra is "Think Big, Start Small, Move Fast." And, if they fail? So, what! Hopefully, they learn something from it.*

More importantly though, is what is the learnings after each experiment and how is that learning shared across the organization. We have a Shared Library where all our innovation projects are stored. It acts as a central repository. This facilitates the sharing of successes and failures across the world. It helps us minimize repeating the same mistakes across the world, and replicate the successes more quickly."

- *Company C (a regional Asian company) – "For us, not innovating is not even an option. We do not have huge resources to back us up. We have to keep on innovating and reinventing ourselves to survive. Otherwise, we will be history. Our strength is that we are very flexible. We can launch something new in less than a month because we don't need to go through many layers of approvals. We don't have huge legacy IT systems that are developed by Group HO, and that is such a blessing. If I need to reconfigure my system to meet a client's needs, I call in my vendor and have him write me the program. Also, we can work with any small local vendors that are cheaper and quicker. The large companies can only use approved vendors that satisfied their due diligence processes. The process takes time, and such vendors are usually large companies and very expensive."*

Entrepreneurial Orientation

The essence of entrepreneurship is innovation (Hornaday, 1992) and innovative companies are entrepreneurial oriented. Innovative companies actively seek to find new services to offer to their customers.

A one-way Welch ANOVA was conducted to determine if the entrepreneurial orientation was different for groups according to their firm size. The reported score for perceptions of entrepreneurial orientation were: Singapore Domestic (M=5.3864, SD=.97701), Regional (M=5.550, SD=.73520) and Global (M=5.3033, SD=.98225) and the differences between these groups were statistically not significant, Welch's F (2, 26.975) = .883, p=.425.

A similar test was conducted for the Hong Kong Group. Perception of entrepreneurial orientation score was as follows: Hong Kong Domestic (M=4.7750, SD=1.27176), Regional (M=6.0109, SD=.59102) and Global (M=5.0435, SD=1.01313) and the differences between these groups were statistically significant, Welch's F (2, 20.891) = 10.326, p=.001. Games-Howell post hoc analysis revealed that the mean difference between Regional and Global (.96739, 95% CI [.3692, 1.5656], p=.001) was significant; and the difference between regional and Hong Kong domestic firms (1.23587, 95% CI [.0956, 2.3761], p=.034) was also significantly different. The mean difference between Global and Hong Kong Domestic was statistically not significant (.26848, 95% CI [-.9185, 1.4554], p=.827). This means that regional firms appeared to be more entrepreneurial oriented than global and domestic firms.

At the aggregate level, an independent sample t-test was run to determine if there were any differences between global, regional, and domestic firms in Singapore and Hong Kong. The results indicated that there was a statistically significant difference between the mean difference of all three group sizes in Singapore and Hong Kong. Global firms (M=1.23214, 95% CI [1.0170, 1.4473], t (83) = 11.389, p=.000. Regional firms (M=1.7500, 95%CI [1.5546, 1.9454], t (52) = 17.974, p=.000. Domestic firms (M=1.09524, 95% CI [.5756, 1.6148], t (20) = 4.397, p=.000.

Thus, the results indicated that at all levels of operating sizes, firms in Hong Kong are more entrepreneurially oriented than firms in Singapore.

A summary is as follows

- Regional firms in Hong Kong appear to be more entrepreneurial oriented than Global and Domestic firms in Hong Kong
- Firms informants in Hong Kong self-reported a significantly higher level of entrepreneurial orientation than did their Singapore counterparts.

Below are some quotes from post-survey interviews.

- *Company HK 1 mentioned that – "Hong Kong is a very saturated market. The market is largely dominated by the big international firms. For the regional firms to grow and win market share, they need to be innovative. They are sandwiched between the big international firms and the local firms. If they* *didn't do things differently, they would be in trouble. Most of the local firms in HK are very small. They are either family-owned and doing in-house business, or waiting to sell out. They have no ambitions to do more."*

- *SG 2 commented, "I think regional firms are more ambitious to grow. They are relatively young, most of them are probably 20 to 30 years old. They are in a hurry to make a mark for themselves. Whereas, if you look at the large multinationals, most of them have been established more than 100 years ago. Some of them have been in Asia for 100 years. They have grown quite accustomed to their share of the market. Plus, no matter what you say, at the end of the day, Singapore is only a very very small part of their business. The bulk of their business is still back home in Europe or USA. Local firms lack the scale. It will get increasingly tough for them. They have to find their niche within the market or merge."*

- *SG 4 commented, "In Singapore, our local companies are bank-owned, and they focus mainly on their group businesses. When you have a god-father that feeds you business without you having to fight for it, that kills your innovative spirit. If you look at the regional firms, the situation is completely reversed. Take FWD for example. They are a new regional player. Set up about three years ago. Their owner is Richard Li, who is an entrepreneur. He is not happy with status quo. That forces his people to be innovative. Global firms don't have that kind of pressure. And it has to do with their culture and compensation."*

These findings are consistent with earlier studies that indicated Hong Kong managers to be more entrepreneurial. This matches the work of Paik, Vance, and Stage (1996) who indicated that Hong Kong managers reflected a relatively low uncertainty avoidance and are more entrepreneurial than their counterparts in Singapore and Taiwan. The anomaly for global firms in Hong Kong may be due to the more rigid regulatory environment in Hong Kong. Large global firms because of internal governance and compliance requirements are less willing to take risks and are less entrepreneurial. This was offered as a reason by several post study interviewees. Regional firms tend to be in an expansion mode. Indeed, unlike the domestic firms, they have gone beyond their national borders. In interviewing managers, it was suggested that without the bureaucracy of the global firms and with much stronger financial resources and the portfolio approach not available to domestic firms, regional firms could afford to be more entrepreneurial.

What is interesting, however, is why are regional firms in Singapore not as innovative as regional firms in Hong Kong? Shouldn't they be equally innovative since they are cut from the same mold? The answer lies in their perception of the environment and their entrepreneurial orientation. Despite operating in a tougher regulatory environment, regional firms in Hong Kong perceived the environment as more dynamic and are more entrepreneurially oriented. This drives them to be more innovative.

Summary

The purpose of this study was to address the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation.

This study and the resulting analysis were guided by the following questions:

- Does the firm size affect its perception of environmental dynamism?
- Does the perception of environmental dynamism affect the innovativeness of the firm?

In summary, our findings revealed that:

It appears that a positive relationship exists between the perception of Environmental Dynamism, Organizational Innovativeness, and Innovation Performance. Firms that perceived the environment as dynamic are more innovative and performed better.

Our study indicates that regional firms perceived an advantage over large global firms and local domestic firms. The results indicated that informants of regional firms perceived the environment as more dynamic than global firms and local domestic firms, and are organizationally more innovative. Our results indicated that at all levels of operating sizes, firms in Hong Kong are more entrepreneurially oriented than firms in Singapore. Theoretically, there should be no difference between regional firms in Singapore and Hong Kong since they share the same attributes. However, in practice, it appears that there is. The results indicated that because firms in Hong Kong perceived the environment as more dynamic than firms in Singapore, they are more innovative. This suggests that the firm's perception of the environmental dynamism of its industry plays a critical role in their innovativeness.

Chapter 5. Conclusion, Limitations and Future Research

This chapter provides a summary of the study. We will briefly review the purpose of the study, relevant literature, and research design; before discussing the conclusions derived from the findings of the study. We will also note the limitations of the study as well as propose recommendations for future research.

Introduction

The purpose of this study was to address the question of whether large firms in mature and regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation.

Business managers in mature regulated industries, like new and unregulated industries, operate under very challenging conditions, albeit a bit different, and need to create competitive advantages. One potential route to do this is through innovations.

Previous studies, however, suggest that large incumbents operating in mature regulated industries are at a disadvantage as the conditions of innovation are unfavorable to them; i.e. their size (Acs & Audretsch, 1987, 1991; Cohen & Levin, 1989; Kelly & Amburgey, 1991; Revilla & Fernández, 2013; Scherer, 1991), the maturity of the market (Abernathy & Clark, 1985; Klepper, 1997; G. T. Lumpkin & Dess, 2001; J. Utterback, 1994) and the regulatory environment.

Recent studies have counter-argued that large firms can be flexible and innovative (Arvanitis, 1997; Knott & Vieregger, 2015; Lee et al., 2010). Knott and Vieregger (2016) argued that large firms are chief engines of innovation. Wyatt (2015) argued that large corporations with Dynamic Advantage can be innovative. Thus, the debate appears to be far from settled and significant gaps clearly remain.

Most of the studies on firm size and innovation have, however, largely focused their attention on innovation in manufacturing (Gallouj & Djellal, 2011) and dynamic high-technology industries (Audia & Goncalo, 2007). Relatively little is known about the drivers of innovativeness in environments that are either not as volatile or largely service driven. Limited studies have been conducted in services industries and in non-dynamic environment (Caiazza, 2015); and even fewer studies in regulated financial services industries.

This led us to ask the question "Can large firms be innovative in an industry that is mature and regulated?"

In conducting this study, we employed a combination of interviews and web-based self-administered surveys. We interviewed seven senior executives for their views on the perception of environmental dynamism and innovation in the insurance industry and surveyed 158 respondents in Singapore and Hong Kong. Follow-up interviews were conducted involving 10 participants in Singapore and Hong Kong.

The insurance industry was selected for our study because it meets our selection criteria of:

1. the industry is mature and highly regulated
2. within the industry, innovation is believed to be common

Research Questions

This study and the resulting analysis were guided by the following questions:

- Does the firm size affect its perception of environmental dynamism?
- Does the perception of environmental dynamism affect the innovativeness of the firm?

Findings

Our study revealed that the firm's perception of the environmental dynamism of its industry plays a critical role in its innovativeness. The research results indicate a positive relationship between organizational innovativeness and perception of environmental dynamism. Firms that perceived the environment as dynamic have a higher propensity to innovate than firms that do not, even though the firms were in the same industry. In other words, innovating firms have a dynamic mindset in which they perceive of their market as dynamic.

In both Singapore and Hong Kong, our study revealed that informants of regional firms indicated that their firms saw their market as more dynamic, they were willing to innovate, and they tried to innovate more often that the informants from large global firms and local domestic firms. Regional firms perceived the environment as more dynamic than global firms and local domestic firms, and are self-perceived to be organizationally more innovative.

In addition, because firms in Hong Kong perceived the environment as more dynamic than firms in Singapore, the results indicated that at all levels of operating sizes, they were perceived to be more innovative than their Singapore counterparts.

This suggests that the firm's perception of the environmental dynamism of its industry plays a critical role in their innovativeness.

When asked why we saw the results, managers interviewed reported that:

- *SG 2 commented, "I think regional firms are more ambitious to grow. They are relatively young, most of them are probably 20 to 30 years old. They are in a hurry to make a mark for themselves. Whereas, if you look at the large multinationals, most of them have been established more than 100 years ago. Some of them have been in Asia for 100 years. They have grown quite accustomed to their share of the market. Plus, no matter what you say, at the end of the day, Singapore is only a very very small part of their business. The bulk of their business is still back home in Europe or USA. Local firms lack the scale. It will get increasingly tough for them. They have to find their niche within the market or merge."*

- *HK 1 commented, "Hong Kong is a very saturated market. The market is largely dominated by the big international firms. For the regional firms to grow and win market share, they need to be innovative. They are sandwiched between the big international firms and the local firms. If they didn't do things differently, they would be in trouble."*

- *SG 4 commented, "In Singapore, our local companies are bank-owned, and they focus mainly on their group businesses. When you have a god-father that feeds you business without you having to fight for it, that kills your innovative spirit. If you look at the regional firms, the situation is completely reversed. Take FWD for example. They are a new regional player. Set up about three years ago. Their owner is Richard Li, who is an entrepreneur. He is not happy with status quo. That forces his people to be innovative. Global firms don't have that kind of pressure. And it has to do with their culture and compensation."*

- *HK4 commented, "Regional firms are more innovative because they are in the growth phase. To grow, they need to offer things that are different from their other competitors, which is usually the big boys. The big boys can rely on Head Office for support. The regional guys don't. So, they have to innovate themselves."*

Implications of Findings

Previous studies suggest that the conditions of innovation are unfavorable to large firms operating in mature regulated industries owing to the characteristics of the industry or their firm size.

By demonstrating the effects of the perception of environmental dynamism on innovativeness, these results provide support that firms operating in mature regulated industry can transcend the traditional notion that large established firms operating in mature regulated industries are constrained by the characteristics of the industry or their firm size. The results indicate that to increase innovativeness; managers need to adopt a dynamic mindset.

Limitations

As with any research undertaking, there are several limitations to this study because of the methodology, the sample selected and the previous research results that we reviewed.

Firstly; this study was limited to a single industry setting. A single industry was chosen as the research team was familiar with the industry and felt that it adequately represented the industry structure characteristics that we wanted to study. Single industry studies can lead to external validity problems, and the generalizability of the results may be questionable. It should be noted, however, that a within industry comparison enhances the confidence in the internal validity of the research. That is, confidence that the constructs that are being investigated are actually being directly measured. By reducing the number of industries studied, the resulting differences in the population means can not be explained by being in different industries. Thus reducing extraneous variables increases internal validity Additionally, we had no reason to believe that the industry chosen was in any way unique such that the results cannot be generalized. We expect that these findings will be useful to the fields of innovation and competitive strategy in a mature market. It may be useful to extend future studies to include other mature and regulated industries, such as airlines, banks, healthcare, and others.

Secondly, this study was geographically limited to Singapore and Hong Kong only. Singapore and Hong Kong were selected as they share certain similarities, and yet exhibit differences. The research team was familiar with the industry and felt that it adequately represented industry structure characteristics that we wanted to study. The sample size was limited due to the number of firms in the market and the accessibility to management informants. Limiting the study to Singapore and Hong Kong can lead to external validity problems, and the generalizability of the results may be hampered. However, we had no reason to believe that the two geographies chosen were in any way unique such that the results could not be generalized. We expect that these findings will be useful to the fields of innovation and competitive strategy in a mature market. Future research might expand the geographical scope to include multiple countries and with a larger sample size, or to provide a longer period for informants to respond.

Thirdly, to generate useful and reliable data for a between-group study, a large number of participants is often required. The number of participants in our study was limited due to the number of firms in the market and the accessibility to management informants. In addition, unequal sample sizes can affect the homogeneity of variance assumption. The unequal sample size between domestic, regional and global firms; and between Singapore and Hong Kong may affect the homogeneity of variance assumption and produce unreliable results and obscure genuine patterns and trends. However, we had no reason to believe this to be the case. We had used Welch’s ANOVA to compare the means. Welch's ANOVA is more robust than one-way analysis of variance (ANOVA) and maintains type I error rates close to nominal for unequal variances and for unequal sample sizes. It may be useful to extend future studies to include a larger and better-balanced sample size.

Fourthly, this study was a first attempt to understand the firm’s perception of environmental dynamism and its effect on innovativeness in mature regulated industry. It was a macro-level study with macro concepts. Future studies will need to examine each of the constructs at a more granular level.

Finally, the level of people interviewed and surveyed as part of the study was determined and chosen by the researcher based on the title or designation of the participants. Even though the researcher controls for the management level of the participants being studied through their job title or designation, the lack of control over other factors, such as job role, seniority within the firm or knowledge about the innovativeness of their firm, can affect the reliability of the study. We had no reason to believe the reliability of the study was affected in any way as our respondents were randomly selected and comprised of management-level staff.

Recommendations for Future Research

As pointed out above; future studies could be extended to include other mature regulated industries, a wider geographic scope and employ an enlarged sample size. This study was a first attempt to understand the firm's perception of environmental dynamism and its effect on innovativeness in mature regulated industries. This research was a macro-level study investigating rather macro concepts. Future studies will need to study the constructs at a micro and granular level.

Additional insights and thoughts that came up during this study that could form the agenda for future study are:

1. the relationship between pressure and innovativeness.
2. the relationship between driving-market orientation and innovativeness

Several of the senior executives interviewed mentioned the pressure was one of the factors that drove companies to be innovative.

- *Executive of Company C commented, "Companies get beaten up by the analysts and the stock market if they don't deliver on their growth and margins. So, there is a pressure for them to deliver. And, that pressure drives behavior in the company. They set sales targets for their sales force to go out and get sales. And, they track that monthly and quarterly. To improve margins, they put* *pressure on all departmental heads to keep their costs down. And, they track that as well. But, when it comes to innovation, they forgot the importance of pressure.*

So, my view is that if you want companies to be innovative, you need to put pressure on them to innovate."

- *Company SG5 commented, "If you look at who are the main regional players, the home market is probably very saturated. They are, in a sense, forced to go out of their domestic market. So, they have to grow. And, when you enter a new market, you need to be different."*

- *Company HK1 commented, "for the regional firms to grow and win market share, they need to be innovative. They are sandwiched between the big international firms and the local firms. If they didn't do things differently, they would be in trouble."*

Another insight drawn from the study was that innovative companies have a driving-market orientation to influence the market.

- *Executive of Company B commented, "From my perspective, innovative companies start by asking big questions and then try to answer them. Asking big questions require looking beyond the horizon to see what is there beyond what the naked eyes can see, and to look at how they can capture that space.*

It's that put the man on the moon kind of vision. Then they act on it with courage. It takes courage to be innovative because not all innovations will succeed. Most will fail. You need to be thick-skinned to accept failure."

- *Executive of Company D commented, "To maintain innovativeness, you need to be always on the lookout for opportunities. No one will hand it to you on a plate."*

Concluding Remarks

The purpose of this study was to address the question of whether large firms in mature regulated industries have a source of advantage that enables them to be innovative, and to gain a better understanding of how such firms approach innovation. Throughout this research journey, there were a number of insights gained, and exceptions found.

Our study indicates a positive relationship exists between the perception of environmental dynamism, organizational innovativeness, and innovation performance. Firms that perceived the environment as dynamic have a competitive advantage that enables them to have a higher propensity to innovate. In summary, it appears that one of the most significant barriers to innovation resides in the firm's own management and their ability to conceive of their market and environment as dynamic. Much like the work of Wyatt (2015), this study indicates that the management perceptions of firms working in the same industry are very very different. That is, where some see a static stodgy industry others see a dynamic environment ripe for innovation.

Similarly, while we began this research under the guise that the firm size mattered, we see evidence that it is size as well as the geographic orientation of the firm. Firms that were wholly domestic showed little impetus to innovate while firms that were regional in nature demonstrated the highest willingness to undertake innovations. This insight came out in the quantitative analysis and was further amplified in the interviews as managers related stories of the aggressive regional players and their desires to grow. This would seem wholly logical as firms that move beyond their borders are generally in some way more expansive in their business models. The management orientation to the market, as they choose to move beyond their comfortable home markets is one of expansion and a willingness to confront the different.

Overall, this study is a step towards developing a more thorough understanding of innovation in mature regulated industries. From the quantitative analysis and the insights gained from the interviews with managers, we would offer the following prescriptive advice to managers operating in mature regulated markets. Even though the mature regulated industry enjoys some level of stability because of its industry structure, the pace of change in the industry is not a given. It is rather a dynamic environment if treated as such. In essence, in reacting with its environment, the firm often has the ability to drive the environment. Companies operating in mature regulated industries need not throw in the towel and give up on growth opportunities through innovation. In referencing back to the work of Bock and George (2014), the business model innovations are often still very much within reach. Firms may need to reconfigure its resources, and the path may not always be clear-cut. But there are opportunities for those that venture forward.

First and foremost, management needs to overcome its perception problem by adopting a dynamic growth mindset and looking beyond the horizon to see what others are unable to see. Regardless of good or tough times, opportunities for innovation may indeed always be there. Those that see the market as dynamic are more likely to be able to see opportunities and pursue innovation.

Secondly, a healthy dose of pressure and curiosity can drive companies to be more innovative. Pressure keeps the innovative companies on their alert and constantly exploring, searching, creating and exploiting opportunities in the market. Market driven curiosity pushes the team to keep asking "Is there a better way of doing things?" The Hong Kong market was reported by informants to be more innovative, and they indicated that the firms perceived the market as both dynamic and competitive. Hence we see more innovative perceptions and activities indicating that innovation is sought.

Thirdly, innovation is a discipline. Innovative companies have a distinct philosophy towards innovation and risk-taking; they have the right people with the right mindset in place, and they strive to remain flexible in their structures and processes to be responsive to changes.

Last but not least, it appears that innovative companies are not content with simply responding to market changes. They are entrepreneurially oriented and seek to influence and drive the changes in the market.

The author hopes the findings of this study will help managers operating in mature regulated industries understand the importance of their firm's perception of its environmental dynamism as well as pave the way for more comprehensive research on this matter.

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Appendix 1 – IRB Approval

SMU
SINGAPORE MANAGEMENT UNIVERSITY

20 February 2017

Patrick Tan Siong Kuan
SMU Student
Lee Kong Chian School of Business

Dear Patrick,

IRB APPROVAL OF RESEARCH
CATEGORY 2: Expedited Review
Title of Research: A Study of Innovating and Non-Innovating Firm's Perception of Environmental Dynamism and Innovation in a Mature Regulated Industry
SMU-IRB Approval Number: IRB-17-017-A018(217)

Thank you for your IRB application for the above research that we received the latest revised application on 14 February 2017.

I am pleased to let you know that, based on the description of the research in your IRB application, the IRB has determined that your research falls under Category 2 and has approved your application.

Please note the following:

1. Indicate the above SMU-IRB approval number in all your correspondence with the IRB on this research.

2. If any adverse events or unanticipated problems involving human subjects occur during the course of the research project, you must complete in full the SMU-IRB Adverse Events Report Form (see SMU-IRB website) and submit it to the SMU-IRB within 24 hours of the event.

3. If you plan to modify your original protocol that was approved by the SMU-IRB, you must complete in full the SMU-IRB Protocol Modification Request Form (see SMU-IRB website) and submit it to the SMU-IRB to seek approval before implementing any modified protocol.

4. This IRB approval for your research is valid for one year (12 months) from the date of this letter. If you plan to extend your research project beyond one year from the date of the IRB approval, you must submit a request to renew the research protocol using the Continuation Review Form (see SMU-IRB website) or Protocol Modification Request Form ***prior to the IRB approval expiry date***.

5. Please be reminded to be compliant with Singapore's Personal Data Protection laws in carrying out your research activities.

If you have any queries, please contact the IRB Secretariat at irb@smu.edu.sg or telephone +65 6828-1925.

Yours Sincerely,

LI Jing
Committee Member
Institutional Review Board

Administration Building 81 Victoria Street Singapore 188065
Tel: +65 6828 0100 Fax: +65 6828 0101 www.smu.edu.sg Reg. No. 200000267Z

Appendix 2 - Semi-Structured Questionnaire

1. What is the competitive situation in the industry? And, how is your firm responding to it?
2. What is the secret to being an innovative company?
3. Still, very few insurance companies are considered as innovative. What do you think is missing?
4. What would you say is the strength of your company in innovation?
5. How do you maintain innovativeness in a successful company?
6. Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?
7. How does your firm figure out what innovations to work on, besides talking to customers about what they want?
8. Is size important for innovation?
9. What are three changes in the industry relating to innovation that is of most concern to you?
10. What are some key issues relating to innovation that troubles you?
11. Are there any other points you would like to raise?

Appendix 3 – Survey Questionnaire

Default Block

SMU-IRB: Participant Information Sheet and Informed Consent Form (Online)

Title of Research Study: A Study of Innovating and Non-Innovating Firm's Perception of Environmental Dynamism and Innovation in a Mature Regulated Industry.

Principal Investigator, Title, and Affiliation: Patrick Tan, SMU Student, LKCSB

1. Purpose of Research Study:
Companies operating in mature regulated markets faced a major challenge to innovate. This research study is designed to understand the relationship between the perception of environmental dynamism and innovation in a mature regulated industry. The results from this study will contribute to our understanding of the role of perception of environmental dynamism in fostering or inhibiting organizational innovativeness.

2. Study Procedures and Duration:
Participants will be asked to complete an online questionnaire. The broad questions asked are:
- What do their firms think about the industry and its environmental dynamism?
- What are the types of innovation their firms engage in?

The time to complete the questionnaire should be no more than 10-15 minutes.
Participation in this study is voluntary. Participants may choose not to answer any question and may withdraw at any point during the survey by closing the browser. Participants who wish to withdraw after the survey may do so in writing to the Principal Investigator within 7 days. All data collected will be destroyed and not be used in the report.

3. Benefits of Study:
An executive summary of the initial results will be available to all respondents in 3rd Quarter 2017. If you wish to obtain the executive summary, you may provide your e-mail address in the space provided at the end of the survey.

4. Possible Risks of Study:
There are no anticipated risks or adverse effects in this study beyond what one would typically experience in daily life.

5. Confidentiality and Privacy of Research Data :
This survey is strictly confidential. Your identity will be anonymized, and your answers will never be used in any way that would identify you or your company. Information from the questionnaire will be compiled into an overall research report. The report may be published at a later time in aggregate form only. Individual responses will not be part of these reports. All data collected will be password protected and kept in a locked drawer. Only the researcher has access to it. The data will be destroyed after three years.

6. Contact Details:
For questions/ clarifications on this study, please contact the Principal Investigator, Patrick Tan, at email address patricktan.2012@phdgm.smu.edu.sg, or mobile number: +65 8168-8839. Alternatively, you may contact his Supervisor, Dr Philip Zerrillo, at email address pzerrillo@smu.edu.sg and/or office number: +65-68280260.

- If you have any questions or concerns regarding your rights as a participant in this research study and wish to contact someone unaffiliated with the research team, please contact the SMU Institutional Review Board Secretariat at irb@smu.edu.sg or + 65 68281925. When contacting SMU IRB, please provide the title of the Research Study and the name of the Principal Investigator, or quote the IRB approval number (IRB-17-017-A018(217)).

- Please bookmark or save a copy of this information sheet and informed consent form for your records.

Participant's Declaration:

I understand that participation is voluntary. Refusal to participate will involve no penalty.

I declare that I am at least 18 years of age.

If I am affiliated with Singapore Management University, my decision to participate, decline, or withdraw from participation will have no adverse effect on my status at or future relations with Singapore Management University.

I have read and fully understood the contents of this form, and hereby give consent to the Singapore Management University research team and its affiliates for this project to collect and/or use my data for the purpose(s) described in this form.

By clicking the "I Agree" button, I consent to participate in this study and agree to all of the above.

If you do not wish to participate in the survey, you may close the browser now to exit.

○ I Agree

1. The name of your Group/Firm is

[ ]

2. Your job role

Senior management	Middle Management	Junior Management
○	○	○

3. Where is your group/firm from?

Singapore	Hong Kong	Asia (excluding Singapore & Hong Kong)	Europe	USA	Others
○	○	○	○	○	○

4. The size of your group/firm is considered

Small	Medium	Large
○	○	○

5. Considering the situation in your industry, the management of your firm view

	Extremely slow	Slow	Slightly slow	Average	Slightly fast	Fast	Extremely fast	Do not know
5.1 - The pace of change in customer needs is	○	○	○	○	○	○	○	○
5.2 - The pace of change in competitors' strategies/actions is	○	○	○	○	○	○	○	○
5.3 - The pace of change in technology is	○	○	○	○	○	○	○	○
5.4 - The pace of change in regulations is	○	○	○	○	○	○	○	○

Considering the situation in your firm, the management of your firm view:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Do Not Know
6.1 - Our firm has a prominent role in the industry association	○	○	○	○	○	○	○	○
6.2 - Innovation is part of our DNA	○	○	○	○	○	○	○	○
6.3 - Our firm develops leaders at all levels	○	○	○	○	○	○	○	○
6.4 - Our firm is able to restructure to address new opportunities	○	○	○	○	○	○	○	○
6.5 - Our firm is able to change our work process to address new opportunities	○	○	○	○	○	○	○	○
6.6 - Our firm seeks to find new services to offer to our customers.	○	○	○	○	○	○	○	○
6.7 - Our firm empowers employees to take initiatives.	○	○	○	○	○	○	○	○
6.8 - Our management seeks new ways to improve our work processes.	○	○	○	○	○	○	○	○

Considering the frequency of the following activities, the management of your firm view

	Not very often	Not often	Slightly not often	Average	Slightly often	Often	Very Often	Do not know
7.1 - Our firm engages in discussions about what might happen in our markets	○	○	○	○	○	○	○	○
7.2 - Our firm shares information of how the firm is performing	○	○	○	○	○	○	○	○
7.3 - Our firm seeks out innovation opportunities.	○	○	○	○	○	○	○	○
7.4 - Our firm collaborates with external parties on new innovation opportunities.	○	○	○	○	○	○	○	○

Relative to the competition in your industry, the management of your firm view

	Very infrequent	Infrequent	Slightly infrequent	About the same	Slightly frequent	Frequent	More frequent	Do not know
8.1 - Our firm introduces new services to the market.	○	○	○	○	○	○	○	○
8.2 - Our firm introduces new technologies to the market	○	○	○	○	○	○	○	○

Relative to the competition's ability to change, the management of your firm view

	Much Slower	Slower	Slightly slower	About the same	Slightly faster	Faster	Much faster	Do not know
9.1 - We are able to change our structure	○	○	○	○	○	○	○	○
9.2 - We are able to change our work process	○	○	○	○	○	○	○	○

Considering the performance in your firm, the management of your firm view

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Do not know
10.1 - Our firm's revenue growth is significantly above the industry average.	○	○	○	○	○	○	○	○
10.2 - Our firm's revenue growth is significantly influenced by our innovations.	○	○	○	○	○	○	○	○
10.3 - Our firm's gross margin is significantly above industry average.	○	○	○	○	○	○	○	○
10.4 - Our firm's gross margin is significantly influenced by our innovations.	○	○	○	○	○	○	○	○

If you wish to receive a copy of the summary report, please provide us with your email address below.

Appendix 4 – Transcribed Notes

Appendix 4A

Company: **A**

Nationality: European

What is the competitive situation in the industry? And, how is your firm responding to it?

The industry is very competitive. Product differentiation in this market is very low, and insurance products have low switching costs. The entry barriers in Singapore is probably one of the lowest in the world as MAS actively encourages more companies to set up shop here. Don't get me wrong. I think this is all good. Competition is good. We welcome competition.

To maintain our leadership position, we have to keep launching new products and services to meet the needs of our customers and be ahead of our competition. So far, we have been able to maintain our lead because we are more aggressive than our competitors.

What is the secret to being an innovative company?

There is really no secret to being an innovative company. To be an innovative company, you need to constantly listen to the customers, sense what is happening in the market, know what the markets need and to constantly seek out innovation. It is as simple as that. Simple as it sounds, but can be hard to achieve.

Over here, innovation is everyone’s responsibility. From the CEO down to the office-boy. It is not just the job of the product managers to innovate. It is everyone's job. We expect innovation from our sales and marketing guys, from our IT folks, and our secretaries as well. In our line of business, we spend twice as much on selling as we do on product development. Our product is an intangible product, and you don’t see it until you have an accident or a loss. Can you imagine? If our sales guys are not innovative, how are we going to move the products?

Unless innovation is in the company’s DNA, it will be treated as just another project. As such, our corporate strategy is premised on innovation. We live and breathe it in everything we do. Without innovation, we die.

So far, I must say we have been pretty fortunate. We have been recognized globally as one of the most innovative companies in the world for the past three years, sharing the same platform with Apple, Google, Facebook, etc. All of this was made possible only by the tenacity of men and women who were able to follow their entrepreneurial instincts and constantly innovate in order to meet the great challenges of our time.

Still, very few insurance companies are considered as innovative. What do you think is missing?

I would say that is only partly true. As an industry, I think insurance has been fairly innovative. Insurance as an industry is fairly innovative because, over the years, we have evolved to meet the changing protection needs of customers.

It's just that the kind of innovation we do does not excite the world. Few people would wake up in the morning and say "Wow! This insurance company has such an innovative product. I must go stand in line under the hot sun to get it." You would say that for an iPhone or a Samsung gadget. And, honestly, with financial products, you don't want the companies to be overly creative. The whole sub-prime crisis was caused because someone thought of a creative way to repackage junks and sold them as quality-rated bonds.

That said, the industry can definitely do better.

What would you say is the strength of your company in innovation?

I would say it has to be our size, global reach, culture, and agility.

Firstly, our size and global presence enable us to do what many of our competitors are not able to do. We learn of trends and developments in other parts of the world. This allows us to be a step ahead of our competition in bringing new products and technologies into the market.

Secondly, is our culture. This company was built on entrepreneurial risk-taking since our founding. And, that entrepreneurial and risk-taking culture continues today and permeates throughout the organization. It is what made us successful even today.

Thirdly, I believe we have set up by recognizing very early that we need to change and we need to enter into an agile, innovative mode. I think it created a spirit which is now quite well distributed throughout the organization.

How do you maintain innovativeness in a successful company?

Well, if it is in your DNA, then it is a part of you. You live and breathe it naturally. That's how we do it. That's the key to maintaining innovativeness throughout the company.

What makes us so big is our agility. We are a brand no more than 35 or 37 years old, and clearly, we grew so big because we are agile. And we continue to remain agile. To me, there is no contradiction, but it is an art and a big capability for a company to keep its agility. And to make sure the organization doesn't kill innovation.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

I would say partially. It depends on what is the innovation about.

For stuff that we have strong domain knowledge or is a part of our core capabilities, we prefer to do them in-house. Reasons being (1) we can do it better than anyone else, (2) we need to protect our proprietary assets.

Increasingly, we are also collaborating with external partners, such as vendors, our distributors, institutions, etc. We feel this is important, especially for digital technologies. This is an area that is relatively new to us. If partnering with someone can shorten our learning curve, why not? The challenge is finding the right partner.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

Talking to customers about what they want is the best way to innovate. We don't want to innovate for the sake of innovating. Whatever we do, we do it for our customers.

Besides that, it is also getting involved with the industry. We see that we have a responsibility to contribute to the development of the industry. This also helps us in return. Our active involvement in the industry allows us to connect with other business and consumer associations. Through such interactions, we developed a *better understanding of the challenges that consumers and businesses are facing. This allows us an industry to cater to their needs.*

Is size important for innovation?

Yes. I clearly answer with a Yes. As I mentioned earlier, one of the advantages we have over our competitors is our size and global reach.

If you think what happens in our Group. We invented a customer portal in Spain 3 years ago, today a lot of other entities around the world, including Singapore, has taken 80% of that and adapted it for local use. Or take telematics for example. We were also able to reuse what have been invented. We were the first one in South East Asia to launch telematics through the Pay-as-you-grab solution with Grab Taxi. This would not have been possible for us without the help from the group. We sent our actuary to Paris for six months. When he came back, we could launch the offer in 2 months. So, we have the benefit of being global with teams in different countries with different maturity of innovation. They are all innovating, testing different things. If it works, we can import it very quickly.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Changing needs of customers

2.Digitization

3. Regulation

What are some key issues relating to innovation that troubles you?

1) that we lose our entrepreneurial spirit. All of that we have achieved thus far was made possible because we have men and women who have an entrepreneurial spirit within them which pushes them to innovate. If we lose that tenacity to innovate, that would be the end.

2) Regulations. The pace of change is not going to slow down. Regulations need to keep pace with the changes. That is always a challenge because regulations will always lag development.

3) limiting innovation to technology. Too many people associate innovation with technology. That is a mistake. The worry is that when you get too fixated on solving every problem with technology, you lose the personal touch.

Are there any other points you would like to raise?

Yes. One final point.

Insurers should anticipate the future. It is not enough to just look at the digital transformation that is sweeping through the industry today.

The one area that will likely have an enormous impact on the future of this industry is big data. That is likely to change the way we do things, From the way we analyze and predict risk, to pricing it, etc. It is crucial that insurance companies and regulators work together.

Appendix 4B

Company: B

Nationality: USA

What is the competitive situation in the industry? And, how is your firm responding to it?

This market is highly competitive. To give you a perspective of what I'm saying here. If you look at Japan, where we have a huge presence there, Japan is the largest market in Asia and the 2nd largest insurance market in the world. Its premium volume is around US$500 billion. Singapore is around US$28 billion. That's what? About five over percent of Japan's volume? We have 80 insurance companies in Singapore. And, how many insurance companies are there in Japan? They have about 40. Do the math. We have double the number of companies, and we are only doing about 5% of what Japan is doing. That's how competitive this market is.

I know MAS wants companies to use Singapore as a springboard to do regional business. Unfortunately, that's easier said than done. Most foreign companies come in with high hopes about writing regional businesses. But, then reality strikes. Our neighbors are not very happy to see foreign currency outflow. So, there are all kinds of restrictions put in place because they too want to develop their own insurance industry. So, you have a situation where all these companies that have come in fighting for a share of the Singapore domestic business as well.

As a company that has been here for more than 50 years, we are in a slightly advantageous position. We have built up strong business ties with our brokers, agents, and clients. That is not easy for newcomers to break. At the same time, we keep refreshing our products and services to meet the customers changing needs.

What is the secret to being an innovative company?

I don't think there is such a thing as a secret to being an innovative company.

One of the problems in the world is that everyone is trying to find the Holy Grail of Innovation.

Everyone is trying to make changes and innovate. If you don't sing to the same tune, then all those prophets of doom (aka management consultants) will prophesize that your company will be disrupted and you will die. They will cite Kodak, Nokia, etc. as examples. It's a swim-or-die mentality. I disagree with that kind of approach looking at innovation.

From my perspective, innovative companies start by asking big questions and then try to answer them. Asking big questions require looking beyond the horizon to see what is there beyond what the naked eyes can see, and to look at how they can capture that space. It's that put the man on the moon kind of vision. Then they act on it with courage. It takes courage to be innovative because not all innovations will succeed. Most will fail. You need to be thick-skinned to accept failure.

Another point I want to emphasize is innovation cannot come from top-down. We cannot mandate that staff go and innovate. Some of the best innovation we have seen come from bottom-up; from our people trying to solve a real-life problem or a need encountered by a customer. We empower our staff to try. Our mantra is "Think Big, Start Small, Move Fast." And, if they fail? So, what! Hopefully, they learn something from it.

More importantly though, is what are the learnings after each experiment and how is that learning shared across the entire organization. We have a Shared Library where all our innovation projects are stored. It acts as a central repository and facilitates the sharing of successes and failures across the world. It helps us minimize repeating the same mistakes across the world, and replicate the successes more quickly.

Still, very few insurance companies are considered as innovative. What do you think is missing?

The challenge for most insurance companies is people. Insurance people are trained to be risk-averse. You look at a building, and you look at all the things that can potentially damage it; from fire, lightning, earthquake, to floods, etc. And, then you think of all kinds of ways to eliminate or minimize the risks before you agree to protect it. Same with life. You look at the person, send him for medical examinations to find out what's wrong with him. Then, you decide whether to insure him or not. It is very difficult for people who are trained to be risk-averse to suddenly become creative or innovative.

To be innovative, a company needs people who can think outside the box. People who dare to challenge fundamental assumptions and status quo.

Unfortunately, the industry is not very good at attracting talents. People who are creative and innovative would rather join the tech industries where things are moving at lightning speed. Why join a stodgy industry?"

What would you say is the strength of your company in innovation?

Being part of a global organization is our greatest strength.

Firstly, our balance sheet is one of the strongest in the world. Not every company can claim that.

Secondly, we have one of the largest networks of offices around the world. Our customer from the USA can enjoy the same services whether in Bueno Aires or Bangkok.

Thirdly, our technology and data analytics capabilities are far superior to any of our competitors.

Let me give you an example. Cyber security threats are very real. But, it is something that is very new in this part of the world and governments and companies are only beginning to wake up to the risk. For our group, this is something that we have been managing for several years now. We have dedicated teams in the USA that is devoted to scanning the environment, researching and monitoring developments in this and other spaces. With our global network, we were able to anticipate the development in Asia and develop the appropriate solutions for it.

At the heart of our strategy is that we are a “Glocal.” Globally, we are a very large company with offices in more than 130 countries. But, each country is so different from one another. The USA is different from Spain; Singapore is different from Australia. The people are different, language is different, food is different, and the business culture is different. We cannot assume they are the same and impose a “one size fits all” strategy. So, while we are a global company, all our strategies are developed locally to meet local needs.

How do you maintain innovativeness in a successful company?

Our advantage is the strong support from our head office and our global network.

We don't want to have to do everything ourselves here. That would be too tiring. We can leverage on what our colleagues in other territories are doing, and they similarly leverage on what we are doing here.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

In our company, we prefer to grow organically. We don’t like major acquisitions. For us, the only way we can achieve our growth targets is to more innovative than our competitors. We need to get more and better products out the door faster than our competitors. We can only do it if we build strong capabilities within. If we rely on acquiring innovations from the outside, we will lose our competitive edge soon. We will be allowing lethargy to set in and we will be giving away our edge.

One story I always tell my people. “Two friends were having a walk in the forest when suddenly they came across a hungry tiger on the prowl. One of them quickly took out his pairs of running shoes and put it on. His friend remarked, “Don’t be silly! You can’t outrun the tiger”, to which he replied, “Yes, I know that. But, all I need is to outrun you”. All we need is to out-run our competitors. And, we do that by being more innovative and one step ahead of them."

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

I would say we rely on our head office and our counterparts in the other countries to help us. We have teams constantly scanning the environment looking at trends. That helps us decide where to focus our innovation activities.

Participating in industry associations help us understand the environment better as well.

Is size important for innovation?

As I mentioned earlier, being part of a global organization is our greatest strength.

The strong financial balance sheet of our group, the global network that we can leverage on to tap innovations from elsewhere. Without the size, we would be trying to do everything ourselves, which would have been impossible.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Regulatory developments
2. Customer needs
3. Technology

What are some key issues relating to innovation that troubles you?

1) we lose sight of our purpose. Why are we innovating? With all the frenzy going on about innovation, disruption, fintech, there is a danger that we lose sight of why are we innovating. I have seen too many organizations innovating for innovating sake, and following blindly what the others are doing. It's like an arms race out there. Company A builds an Innovation Hub, Company B and C quickly follows. Suddenly, you see all these innovation hubs sprouting up, and you wonder what are they doing. Is that sustainable?

2) the regulatory environment. Some of the innovations will work and be successful. Most of them will fail, and some will blow up. How will the regulators respond to that? Will they clamp down further? Will they accept that innovations carry risk?

Are there any other points you would like to raise?

No.

Appendix 4C

Company: C

Nationality: Hong Kong

What is the competitive situation in the industry? And, how is your firm responding to it?"

The basic elements of insurance protection don't change very much. In fact, I don't think there has been any fundamental change in the last 50 or 100 years. But, customer needs are changing very rapidly. And, with a small domestic market in Singapore, the competition is just crazy.

As a company, we are here for the long-term. We compete by offering better service to our customers at a competitive price. That's how we differentiate ourselves from the competition.

Now, even though I said the competition is crazy, we actually welcome it. The pressure from the competition is good. Without pressure, companies get lethargic and complacent. Competition keeps us on our toes. It pushes us to be innovative. That is why we welcome it.

For us, not innovating is not even an option. We do not have huge resources to back us up. We have to keep on innovating and reinventing ourselves to survive. Otherwise, we will be history. Our strength is that we are very flexible. We can launch something new in less than a month because we don’t need to go through many layers of approvals. We don't have huge legacy IT systems that are developed by Group HO, and that is such a blessing. If I need to reconfigure my system to meet a client's needs, I call in my vendor and have him write me the program. Also, we can work with any small local vendors that are cheaper and quicker. The large companies can only use approved vendors. And, they usually have a complicated due diligence process to go through. The process takes time, and such vendors are usually large companies and very expensive. By the time they are done, we would be miles ahead.

What is the secret to being an innovative company?

I am not sure if there is indeed any secret to being an innovative company. For us, being innovative means a few things.

First, we need to be customer-centric. We need to know what the customers want better than the customer knows it himself or herself. How are their needs and expectations changing?

Second, we need to have our ears on the ground. We need to not only listen and see but also to sense what is happening around us, not only in Singapore but also around the region and the world. That's really important because the world is becoming very flat. Sooner or later, the developments in other parts of the world will come. We want to be 100% prepared. We want to be on our front foot ready for it; not on our back heel and back-pedalling.

Thirdly, we need to be agile. This is something that you hear a lot about in this company because one of the things we guard ourselves against is to become too big and bureaucratic that nothing moves. Yes, we have big ambitions to grow big. But, we want to remain agile like a small company. An analogy I gave to me team is that we don't want to be a super-tanker. If you turn the steering wheel on a super-tanker to the right, it will be several miles later before you actually see the tanker turns. We want to be a flotilla of speedboats. That gives us the strength as a group, and also the flexibility of being small and responsive.

Still, very few insurance companies are considered as innovative. What do you think is missing?

It is not natural for companies to be innovative unless there is pressure.

Companies get beaten up by the analysts and the stock market if they don’t deliver on their growth and margins. So, there is a pressure for them to deliver. And, that pressure drives behavior in the company. They set sales targets for their sales force to go out and get sales. And, they track that monthly and quarterly. To improve margins, they put pressure on all departmental heads to keep their costs down. And, they track that as well. But, when it comes to innovation, they forgot the importance of pressure. Why? Because analysts and the stock market don’t punish them for not delivering on innovation. In fact, if they innovate and the innovation don’t turn out as expected or affects current performance, they would get punished. There is thus little incentive for them to be innovative.

When we started, the competition was tough, and capital was tight. Some insurance products are very capital-intensive, but if we don't do it, we won't be able to get a beachhead in the market. We were under tremendous pressure to find successful products – and we did. It was extremely stressful. We had to find a way to innovate because survival was at stake.

So, my view is that if you want companies to be innovative, you need to put pressure on them to innovate.

What would you say is the strength of your company in innovation?

Our strength is our size and the way we are organizationally structured.

First, as a group, we are financially strong and able to compete head-on-head with the big firms, yet, we are flexible like the small firms.

Secondly, as I shared earlier, we operate like a flotilla of speedboats. Although we belong to the same group, every local entity has full autonomy to do what is best for its local customers. Our regional office acts on a consultative, rather than a governance approach. Country teams are more willing to pick up the phone and speak to their regional counterparts because they know that the regional guys are there to help and not to lord over them. This encourages collaboration, both with regional office as well other country entities

How do you maintain innovativeness in a successful company?

Well, I mentioned earlier that you need to apply some pressure to make the firm innovative. By the way, not all pressure is bad. This is good pressure that we are applying.

We apply the pressure by demonstrating genuine curiosity about what's happening in the market and what the people are working on. You push the teams to come up with new ideas and new products. You challenge them constructively by asking "Is there a better way of doing things?"

You need discipline to keep it going. You need to apply the pressure in a constructive way that generates enthusiasm and motivates people to keep the innovative process going. That can only be done when you have built up sufficient trust in the teams.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

I would say partially. Until now, the biggest way of innovation was through collaboration. We collaborated with Facebook, universities, and others small start-ups too. Because we need to bring in this mood of how to innovate. As a group, I think this would remain more than 50% of how innovation is created. But, moving forward, we want to try and create some of this internally as well. I heard what Piyush shared about what they are doing in DBS. They develop their leaders and create an innovative spirit inside all the teams so that innovation permeates through the entire organization. That's what we will do more as well.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

Every year, our senior executive team will go away for a couple of days to brainstorm what might happen in our market. We try to peer into the future and then to come back and do things differently from our competitors.

Getting involved with the industry association is also important. In every market that we enter, we try to get involved with the industry associated. We contribute by helping to raise the standards in the industry, but at the same time, it provides us with accessibility to information and stakeholders.

Is size important for innovation?

I think size is important up to a certain level. For insurance business, you need to be of a certain size to have the financial resources and strength.

If you are too small, there are a lot of things you can't do because you lack the infrastructure and resources. Some products, such as universal life products, are very capital-intensive. Small companies won't be able to develop them. You also need to have a certain scale for customers to recognize your brand name and know that you have the financial strength to be here for the long-term.

But, if you are too big, you can be hampered by your size. Bureaucracy is a disease of the big firms. Communication breaks down because of silos.

This is where we mid-sized Asian firms come in. What we lack in terms of global network or financial resources, we made up it for it with our better understanding of the market. We have sufficient strength to come out with products to match the global firms, and at the same time are as flexible as the local firms. Plus, we are hungrier because the stakes are higher for us.

I think what is more important than size is curiosity and a willingness to learn.

The digital world is something that we are unfamiliar with. We are not afraid to admit that we don't know much about it and need to learn from it. Our firm has instilled 'a garage mindset' within the organization, and we are learning from Facebook, LinkedIn, etc. on digital sourcing, detecting the latest trends, etc. It is quite fascinating what we can learn from those young kids.

I believe what's important is that we need to have a curious mind. Always asking questions. Always trying to learn new ways to serve our customers better, either through better products or services.

Without a curious mind, we will accept things as status quo and try and copy what everyone else is doing.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Entry of new players - fintechs, insurtechs

2. Pace of regulatory changes

3. Technology"

What are some key issues relating to innovation that troubles you?

1) that we lose our hunger for innovation and our curiosity. As I mentioned earlier, for us, innovation is a matter of survival. If we lose that hunger for survival or curiosity, we will be somebody else's lunch.

2) bureaucracy - we have big ambitions as well. As our company grows, the risks of bureaucracy setting in is very real. It is something that we guard against constantly. We need to remain agile to innovate because bureaucracy kills innovation.

Are there any other points you would like to raise?

Yes. With technology becoming more advanced and ubiquitous, we are at an inflection point. The opportunities are there.

As an industry, we need to act fast to seize this moment, while remaining keenly aware of the challenges we face. We have to be nimble to keep up with changing demands, and it must start with knowing the customer.

Appendix 4D

Company: D

Nationality: Swiss

What is the competitive situation in the industry? And, how is your firm responding to it?"

The insurance industry is a very tightly regulated industry. There are strict regulations governing everything from solvency margins, risk management, to even the appointment of senior officers of the company. It is not easy for a newcomer to come in and disrupt the industry because the barriers of entry are very high. Unlike the high-tech industries, things don't change very fast in insurance. And, rightly so because insurance is a long-term product and you want the industry to be stable. The regulators would not want to see too much volatility and changes in the industry because that would affect the long-term viability of some of the companies as well. In a sense, we are quite well-protected.

The competition within the industry is, however, quite tough because there are so many companies offering the same types of products. Our company is different. We compete by offering a very specialized product targeting at the ultra-high network group.

What is the secret to being an innovative company?

I read somewhere that innovative companies must reinvent themselves. The world has changed. And, the pace of change is increasing. We cannot solve today's problem with yesterday's solution.

That's why I think the secret to being innovative is to keep reinventing yourself and your company.

Still, very few insurance companies are considered as innovative. What do you think is missing?

This is not at all surprising. In fact, I think it is to be expected.

The insurance industry has high entry barriers, high capital requirements, stringent regulatory controls, and heavy infrastructure requirements. All these discourages new entrants.

You can't set up an insurance company in a basement garage. You will have the regulators breaking down your door if you do. All those start-ups who are trying to disrupt insurance don't fully understand the nature of the business and the structure of the industry.

Because of the high entry barriers, incumbents are in a very comfortable position. It is almost like an old boys' club. Everyone maintains their positions and everyone is happy.

What would you say is the strength of your company in innovation?

For us, our brand and financial strength are our strength.

We are a very well-established brand with more than a 100 year of history. People trust our brand name. Financially, we are very sound because of our S&P's AA+ rating.

Our size and resources give us an advantage that other companies would not have.

How do you maintain innovativeness in a successful company?

To maintain innovativeness, you need to be always on the lookout for opportunities. No one will hand it to you on a plate.

Innovation doesn't have to a big discovery or a major change. And, it doesn't have to be disruptive.

There so many things that can be improved on even within existing businesses; products and processes. I think in the insurance industry; the best innovation will most likely come from looking for improvements in existing processes and systems. There are so many inefficiencies in this industry.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

Yes. Most of our innovations are developed internally. No one knows our customers better than we do, and no one knows our products better than we do. So, we found it is better that we do it in-house through our in-house innovation teams.

We have an Innovation and Transformation Office that is charged with the responsibility to manage all innovation projects in the company.

Having an Innovation and Transformation Office helps us as well because innovation involves change and people resists change for various reasons. It may be because they do not understand the need to change, they fear the change, they lack the skills and knowledge, or they are overly connected to the old way, etc. Our guys from Innovation and Transformation Office will help to drive it through so that our innovations do not fail for the wrong reasons.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

Our Innovation and Transformation Office has the responsibility to scan the environment and report of any interesting developments. They also scan what is happening in other parts of the world. I don't think there is any shortcut to this.

Is size important for innovation?

Absolutely! Look at the number of innovations in insurance, and you will see that they all come from large firms.

Several years ago, NTUC-Income came out with its team of Orange Force riders to help motorists who met with an accident on the roads. I think they invested more than a $1 million in it. The small companies won't be able to match that.

And, which are the companies looking at telematics, cyber-security, now? It is the likes of Allianz, AXA, AIG, etc. Small companies won't have the resources to do it.

For our company, it is even more important. The average case size for most companies is $1million. For my company, the lowest case size starts at $10 million, and the average is $50 million. Small companies won't have the expertise, infrastructure to handle what we do.

What are some key issues relating to innovation that troubles you?

1) building a strong innovation culture and embed it across the entire organization. At the moment, innovation is too much top-down. Our challenge is getting the whole company to embrace innovation.

2) finding the opportunities. The opportunities are getting fewer as more and more companies are eyeing this industry.

Are there any other points you would like to raise?

No.

Appendix 4E

Company: E

Nationality: Hong Kong

What is the competitive situation in the industry? And, how is your firm responding to it?"

We are a late comer to the scene, but we see huge potential for growth; especially in the health space, in Singapore. Singapore has one of the fastest-ageing population in the world. As the population ages and people are living longer, the demand for health insurance products will see exponential growth.

Is the market competitive? The answer is yes and no. Yes, if you choose to compete with everyone else. As a newcomer, that would have been suicidal for us.

No, if you find offer something that our competitors are not offering. The world is becoming highly volatile, ambiguous and uncertain. So, we have to be smarter and faster. We need to think different. We need to be different. We target the health space because that is not well developed yet. There are huge opportunities that we can tap there.

We recognized that on a global scale, we may not be big and cannot compete with the likes of Allianz, AXA, etc. However, there is beauty in being small. Someone once said, "In shallow ponds, shrimps make fools out of dragons." We may not be big, but we are nimble. We have the flexibility to seek out opportunities and respond very quickly to the market needs because we know, Asia, better than the big players.

Asia is our territory. And, we don’t have layers and layers of bureaucracy to get things approved. We are more responsive. I see that as our biggest advantage.

What is the secret to being an innovative company?

For us, the secret of innovation lies in having the 3 Ps.

1. People - we need to have the right people with the right mindset to innovate. Innovation cannot come from the top alone. It has to come from everywhere. Every staff must feel empowered to want to innovate and take ownership of it. That kind of things, you can't mandate. You can only encourage.

2. Philosophy - the company's philosophy towards innovation and risk-taking is important. Innovation involves taking risks. Does the company celebrate risk-taking and entrepreneurship? Or does it frown upon failure?

3. Processes - to be innovative. Innovation means breaking old things up, and it means you have to respond fast enough to changes. You need to have processes and structures that are flexible enough, that you reconfigure easily to capture new opportunities that arise. "

Still, very few insurance companies are considered as innovative. What do you think is missing?

I would say the challenge lies in the structure of the industry.

If you look at the industry, it is dominated by some very large global firms, and then some small domestic companies. There are very few in-betweens. The large global companies have the financial muscles to do a lot of things. But, they are bogged down by bureaucracy. I used to work in a major global firm. The bureaucracy in there drives people nuts. To do a simple product revamp, it needs to go through 3 different committees and the process can take between 3 to 6 months. On the flip side, the small firms lack the financial means and resources to do it.

The dominance of the market by a few large companies means everyone is happy just to maintain their market share and not rock the boat. The big boys know that competition among themselves is a zero-sum game. Whatever they do, the others will follow suit. There is thus no first-mover advantage for them to be innovative.

What would you say is the strength of your company in innovation?

Our strength is our people. We have good people who are very close to the ground. They are always listening to the customers and trying to anticipate their needs. They are always trying to anticipate what is changing next.

We empower our people. People are happier when they are empowered. Happy people are more creative, and they are better able to take care of our customers. This, I feel is a no-brainer, but I see so few companies doing it.

How do you maintain innovativeness in a successful company?

I would again refer you to the 3 Ps that we spoke of earlier. It's our people, our processes, and our philosophy.

Innovation is a big part of us in this company. It is in everything we do. It is us. Our people felt empowered and trusted to innovate. They know we encourage it. They know we expect it. They know we are disappointed if we don't see it.

Our processes are built to be flexible enough to support innovation. We openly share information across the company so that ideas can flow freely.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

Our innovation is coming mainly through our partnership with other companies. As long as it serves the customer needs, and it makes us some money, we are not ashamed to say "It's not invented here."

Why do companies feel they need to invent everything themselves? I find that silly.

For a company like ours to try and innovate everything ourselves, that would be either too expensive or simply impossible. So, we collaborate freely with anyone with a good idea. We believe that's how ideas multiple.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

While the global firms try to innovate by looking for the next big thing, we prefer to unlock value at the periphery of our core business. We find there are untapped opportunities for us to innovate at the edges of our core business. It is a better utilization of our capital, and the risk is much lower.

Is size important for innovation?

No. I don't think so. You can see that there are big firms that are innovative, and there are some firms that are innovative. It can cut both ways.

We may not have the kind of resources of a global company, but we are definitely nimbler, and we listen to our customers more. That's our advantage.

As a group, we place a high priority in engaging with our customers, regulators, distributors. We engage with our key stakeholders regularly to update them on developments within the firm as well as to get a sense of their thinking and direction. We can do that because they are accessible to us, and we are accessible to them.

I may be the CEO of this company. But, I am still personally in touch with some of our key customers and intermediaries. That personal relationship remains important in this business. If my key customer wants to see me in a "kopi-tiam," I will be there for them. I don't think the CEOs of big firms will do that.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Changes to regulations
2. Competing products
3. Technology

What are some key issues relating to innovation that troubles you?

1) Flexibility & Speed - how do we maintain the flexibility and speed to keep pace with changes in the market?

2) risk attitude - how to inculcate and maintain a risk-taking attitude, but still live within the laws?

Are there any other points you would like to raise?

Yes. The challenge of dealing with digitization and personal touch.

Digital technology has become very advanced. It has improved the efficiency of our processes because we were able to digitize many of the processes and empowering the customers to DIY. However, buying insurance can be an emotional experience and technology is not able to deliver that.

Appendix 4F

Company: F

Nationality: Singapore

What is the competitive situation in the industry? And, how is your firm responding to it?"

Competition in this market is quite insane. There are very few product differentiation in this market. People just compete on price.

This industry is a highly intermediated industry. There is a limit to what we can change because customers continue to prefer using an agent or broker to help them source the best quote than to buy direct. We are not like AirBnB or Uber.

For example, look at some of the direct players, such as DirectAsia. They have been in the market for several years now and have hardly caused a dent in any of the major players' portfolio. Our job is to provide the best service to our agents and brokers so that they continue to distribute our products.

What is the secret to being an innovative company?

Having the right culture and mindset. I think that's important to being an innovative company.

Innovative companies must consistently come out with innovations that improve lives.

Take the example of Creative Technology. They invented the soundcard that allows computers to talk. Without that, we will not be able to watch movies or listen to music on the computer. They were one of the first companies to come out with an MP3 player; even before the iPod.

But, look at what happens now. They are a whimper of their old self. Most people don't even know of their existence.

They failed because they did not build an innovative culture and mindset within the organization. So, their innovation fizzles out after a while.

Still, very few insurance companies are considered as innovative. What do you think is missing?

Most people may argue that insurance industry is not very innovative. I actually disagree with it. I actually believe that the industry has been responsive to changes in the environment. They just do things differently, and people don't understand it.

The reason is that when people talk about innovation, they are always thinking of something that is disruptive, something that changes the whole industry or they are thinking of digital technology. If you define innovation like that, then we are not innovative.

For us, innovations can come in different shapes and sizes, and not every innovation need to disrupt our world. If we are constantly disrupting the world, then how can progress be made?

Over the years, new products have been developed to meet customers' needs. Old products have been improved. Technologies have been introduced to improve efficiency. To me, all these little things are innovation.

What makes us different is that we think of ourselves as a small company. This makes us hungry. When we are hungry, we need to be better and faster than our competitors. We need to read the tea leaves and see the changes before anyone can. That's a skill that needs to be developed.

What would you say is the strength of your company in innovation?

That's a great question. I would say our strength is because we are local. Being a local company, we understand the market better. We have our local connections which allow us to do things differently.

Being local also means customers trust us because we are here for long-term. For the foreign-owned companies, Singapore is a very small business. Probably, a decimal point in their entire portfolio. If things don't work out, they pack their bags and go home. For us, Singapore is 100%. We can't go anywhere. We are here to stay.

How do you maintain innovativeness in a successful company?

Competition. Having strong competitors force you to be innovative. It's the same with sports. It's the same in business.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

We develop most of our ideas in-house, but we work with external parties closely to develop them.

As a local company, we are not subject to all kinds of controls by the head office so that it a major plus. We can work with anyone.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

For us, we look at what our major competitors are doing. Insurance is a small industry, and everybody knows everybody. So, we talk and exchange notes. That's how we would figure out what we need to work on.

Is size important for innovation?

There is no straightforward answer to this question because it depends on what you mean by innovation.

If you mean some breakthrough innovation that requires heavy investment, then the answer would be a YES.

But, for many other innovations, I think local companies have an advantage because of our small size. We can test things faster.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Customer needs
2. Technology development, especially digital
3. Increased claims

What are some key issues relating to innovation that troubles you?

1) having the right talent. Without the people, nothing happens. But, getting the right people is a constant challenge for small companies like ours. Not many people want to join insurance, and even fewer wants to join a local company.

Are there any other points you would like to raise?

No.

Appendix 4G

Company: G

Nationality: Singapore

What is the competitive situation in the industry? And, how is your firm responding to it?"

Unlike the mobile phone or high tech industries where change happens once every six months to a year, in our industry, things don't change for 20 to 30 years. Whether it is with life or general insurance products, you can do minor tweaks here and there, add in bells and whistles, but, fundamentally, it is the same core. How many insurance innovations have you seen that has revolutionized the world or made profits for the company? I cannot think of any yet.

As a small company, the competition is tough. And, there is a limit on what we can do. We let the big boys fight among themselves. For us, we are happy to play in our little corner because we have a group of very loyal agents and loyal customers that continue to support us. We don’t disturb them; they don’t disturb us.

What is the secret to being an innovative company?

If there is a secret to being an innovative company, I would love to know as well.

I don't want to sound cynical, but while many firms have talked about innovation, how many are properly organized for innovation? From what I see, most companies are still organized along product-silos, Property and Casualty, Marine, Engineering, Motor, etc. and have not learned. It is as if the customer needs are in silos.

For us, being innovative means satisfying the needs of our customers, our agents and brokers and key stakeholders.

Still, very few insurance companies are considered as innovative. What do you think is missing?

What I think missing is the drive. The drive to search and seek out what customers need and to improve on their offerings.

The established companies are in very cozy positions. If you look the market share of the top 5 companies, it has not changed much for the past 5, maybe even 10 years. They are all happy keeping status quo.

In a market where growth is quite slow and new business hard to come by, no one wants to rock the boat. You rock the boat, the first person that falls overboard could be you.

What would you say is the strength of your company in innovation?

That's a tough one because we have not been involved in that many innovation projects so far.

Most of the projects we embarked on are IT-related. For example, last year, we did a major revamp of our IT systems to improve our invoicing and billing process. We try not to overload ourselves with too many projects as our resources are limited, and it hinders our people from serving our customers. Ours is a people's business. We want our staff to be out there meeting with our agents and brokers.

How do you maintain innovativeness in a successful company?

I would suggest you need to create the right environment that encourages innovation. The top management must take the lead to innovate.

Innovation is not easy and not a natural thing for most companies to do, especially when you have monthly targets to meet and day-to-day problems to solve. Unless it is directed from the top, I cannot see people below would do anything about it.

Are your innovations mainly developed in-house, acquired externally, or done in collaboration with external partners?

No. Most of our innovations are IT related. We work with IT vendors on them.

How does your firm figure out what innovations to work on, besides talking to customers about what they want?

Our agents and brokers are our eyes and ears. They are the ones that are regular contact with the customers. We rely on them to provide us with information.

Is size important for innovation?

I would love to have more innovations as well. But, as a small company, we recognize our limitations. There are things we can do, and there are things we cannot do. We just have to accept that is a limitation because of our size.

If a large firm loses $1m in investment, it is nothing for them. They can easily write it off. If we lose $1 million, that could be big trouble because it will affect our solvency margin.

So, size is definitely important for innovation.

What are three changes in the industry relating to innovation that is of most concern to you?

1. Customer needs
2. Regulatory changes
3. Competitors' actions

What are some key issues relating to innovation that troubles you?

No major issue is troubling me at this time.

Are there any other points you would like to raise?

No

Appendix 5 - Follow-Up Survey Transcribed Notes

Company: SG1

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

Regulations are considered to be a necessary evil. We all know why regulations are needed, but at the same time, it can such a pain when you need to implement and comply with it.

In most places, regulations would be an impediment to innovation. I think it is different in Singapore. I think it is quite reasonable.

In Singapore, I would say MAS is quite an evolved regulator and the fact that Ravi Menon, the boss of MAS, has said that MAS will allow robo-advisor so that we enter into a new era shows that MAS wants the industry to evolve in order not to lag behind other countries. So clearly, MAS would be a promoter of innovation. I have been once with MAS people from the Capital Markets who told me if you think we need to change anything in the regulations in order for you to serve better your clients, you have to come and tell us. So, this is something I would not hear from any other regulator in this world, so I really think MAS is a regulator that wants to encourage innovation and not hem it."

Why do you think regional firms are more innovative than global or local firms?

The advantage that regional firms have over global firms is that they are more flexible and in-tune with the market conditions. Local firms suffer from a lack of resources. Local firms are heavily reliant on traditional channels of distribution. They cannot afford to upset their distributors because the impact will be significant. Larger firms have a slightly better leverage over their distributors. If they slowly shift away, the impact is less great.

Company: SG 2

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

Insurance is probably one of the most heavily regulated industry in the world. There are pros and cons to it. Heavy regulations help maintain stability in the market by keeping less serious players out of the market. Cons, it increases the cost of doing business and sometimes, slow down the progress of innovation. Regulators, by nature, are a highly risk-averse group of people.

MAS in Singapore is probably an exception, and we need to give credit to them. MAS is a very enlightened regulator. Their ambition is to build Singapore into a major insurance hub, and you can see they spare no expense to woo international players to come to the market.

They are also driving change. Fintech is a very new frontier, and I know most regulators around the world are scared shit of it. Especially after the Global Financial Crisis, regulators are paranoid of risks. Governance and compliance requirements have increased significantly.

Regulators are not good at leading change. It's not in their DNA. But, MAS is different. You can see they want to drive change. Setting up the Fintech Sandbox was a bold move. It means taking risks. But, if you want to have innovation, you need to take risks. Innovation and risks go hand-in-hand. You try 100 things, maybe 1 or 2 will succeed. That's what they have to deal with. Of course, they will tread carefully. Regulators are still regulators. But, as least, I'm glad they are willing to take the first baby step. I'm sure other regulators around the region are watching closely how they handle it."

Why do you think regional firms are more innovative than global or local firms?

I think regional firms are more ambitious to grow. They are relatively young, most of them are probably 20 to 30 years old. They are in a hurry to make a mark for themselves.

Whereas, if you look at the large multinationals, most of them have been established more than 100 years ago. Some of them have been in Asia for 100 years. They have grown quite accustomed to their share of the market. Plus, no matter what you say, at the end of the day, Singapore is only a very very small part of their business. The bulk of their business is still back home in Europe or USA.

Local firms lack the scale. It will get increasingly tough for them. They have to find their niche within the market or merge.

Company: SG 3

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?"

I see regulations are absolutely necessary. It protects the consumers, and it protects the genuine players. Without regulations, the insurance market will be no different from a casino. The key is to maintain a good balance with sufficient governance and controls without killing innovation. That I think is a major challenge for most regulators.

Most innovations happen at the boundary of existing technologies or core offerings. Innovators want to push that boundary or even go beyond it.

Regulators, on the other hand, want to keep you within the boundary. That's the tension. It is inevitable most regulations hinder innovation because of it.

So, far, I think MAS is maintaining a good balance. They are encouraging innovation and opening the way up for companies to do it. Most regulators would want to box you in, whereas, MAS encourages you to get out of the box

Why do you think regional firms are more innovative than global or local firms?

I believe global firms are less innovative because of the bureaucracy they have to deal with, in large organizations. You need to go through different levels of approval to get things done in most large companies. And, most of those people approving have no clue what you are doing and your market conditions. Why would they want to stick their neck out to approve something that they are not familiar with?

Regional companies probably have the advantage because their Head Office is located in Asia. They are in the market. They have a better sense of what is happening around.

I think local firms can be innovative. But, they have a fixed mindset that they are too small to be able to impact the market. So, they prefer to stick to doing their small business

Company: SG 4

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

The regulatory environment has become much tougher, and I don't see the situation improving.

After GFC, regulators have become much tougher, especially in the USA and Europe. I think the situation is slightly better in Singapore, but not much.

Why do you think regional firms are more innovative than global or local firms?

In Singapore, our local companies are bank-owned, and they focus mainly on their group businesses. When you have a god-father that feeds your business without you having to fight for it, that kills your innovative spirit.

If you look at the regional firms, the situation is completely reversed. Take FWD for example. They are a new regional player. Set up about three years ago. Their owner is Richard Li, who is an entrepreneur. He is not happy with status quo. That forces his people to be innovative.

Global firms don't have that kind of pressure. And it has to do with their culture and compensation.

Company: SG 5

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

I think regulations are a major hindrance to us trying to do business. Unfortunately, and sad to say, our regulators are staffed by a team of young bureaucrats who have no industry knowledge or experience. They are not accountable to deliver on any bottom-line, so it is easier for them to say no to things, then to say yes.

Let me give you a recent example. We wanted to launch a brand-new product that was developed by one of our partners in Europe. 100% of the risks will be carried by our partner as we are only acting as a fronting partner. MAS disallowed it. They wanted our partner to put up capital and meet solvency requirements here. Why would our partner do that? They would be tying up their capital in a very small market. Because of that, we lost a business opportunity. "

Why do you think regional firms are more innovative than global or local firms?

I think regional firms are more innovative because they are in an expansion phase. If you look at who are the main regional players, their home market is probably very saturated. They are, in a sense, forced to go out of their domestic market. So, they have to grow. And, when you enter a new market, you need to be different. Otherwise, there is no way you can compete with the local incumbents who may enjoy government's protection.

The big multinationals have too many things on their plates. Asia is too far away and too small to worry too much about.

Company: HK 1

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

My opinion is that the regulatory environment is Hong Kong is very rigid and broken. Insurance companies are governed by the Office of the Commissioner of Insurance. But, if you want to sell insurance products through bancassurance channels, you need to comply with regulations set by the HKMA, the banking regulator as well. And, if your products have an element of investment in it, you need to comply with the Securities and Futures Commission regulations as well. Three different regulatory bodies with very different interests and they are not aligned. That's how complicated it can be. For example, in 2015, the regulators were concerned about the sales of investment-linked products. But, as all three regulators have different views on how to do it and could not agree among themselves, they each passed their own regulations. This led to total market confusion. Most companies decided to stop selling the product because compliance with the three different sets of regulations would be close to impossible and the cost not worth it.

Why do you think regional firms are more innovative than global or local firms?

Hong Kong is a very saturated market. The market is largely dominated by the big international firms.

For the regional firms to grow and win market share, they need to be innovative. They are sandwiched between the big international firms and the local firms. If they didn't do things differently, they would be in trouble.

Most of the local firms in HK are very small. They are either family-owned and doing in-house business, or waiting to sell out. They have no ambitions to do more.

Company: HK 2

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

If you look closely at how the HK OIC is set up vis-à-vis MAS, you will see a difference in the way they supervise the industry. HK OIC's approach is more prescriptive, whereas MAS's approach is more consultative.

Why do you think regional firms are more innovative than global or local firms?

I think regional firms are more innovative because they are small enough to be agile, yet big enough to be able to invest in innovation.

Most of the big global firms are struggling with their IT legacy systems. Until they can solve the problem, it will continue to bog them down.

Company: 3

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

HK's Insurance Commissioner is always playing catch-up with MAS.

MAS was one of the first to come out with the Fintech Sandbox. HK OIC followed. They don't want to be first, and they also don't want to the last. "

Why do you think regional firms are more innovative than global or local firms?

From my observations, I thought global firms are more innovative than regional firms. They have the financial muscle to do a lot of things which regional firms and local firms cannot afford.

For, e.g., many of the global players have set up Innovation Hubs either in Singapore or Hong Kong to look at innovation.

Company: HK 4

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

HK's OIC is very rigid in its approach. There is little room for negotiation once they have decided on something. And, they are always playing second fiddle to the HKMA. As a result, the insurance industry is always lagging behind the banking industry.

Why do you think regional firms are more innovative than global or local firms?

I think it is quite obvious why local firms are not very innovative. In a highly competitive market like HK, small firms' hands are tight. They are a follower rather than a leader.

Regional firms are more innovative because they are in the growth phase. To grow, they need to offer things that are different from their other competitors, which is usually the big boys. The big boys can rely on Head Office for support. The regional guys don't. So, they have to innovate themselves.

Company: HK 5

What are your views about the regulatory environment? Do you view it as rigid or flexible and why?

The HK OIC is a government department. As a government department, it is not unexpected that they are very conservative in their approach.

A recent example would be the Fintech space. Despite a lot of fintech start-ups setting up in HK, the regulators dragged its feet in giving clear direction what is acceptable and what is not acceptable. It was only after Singapore came out with its Fintech Sandbox that HK followed. "

Why do you think regional firms are more innovative than global or local firms?

It is not easy to be innovative in the insurance industry because whatever you develop, it can be easily copied.

The small local players won't want to invest in it because it is not worth their money. HK is also a tightly regulated market. For the global players, why would they want to take risks? Better to do what everyone else is doing than to be called up by Office of Insurance Commissioner for any breach.

Regional companies are more innovative because they are forced by circumstances. They need to establish themselves as a credible player. Therefore, they have to be more innovative.