

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Innovation sparks the revolution in technology and business processes. The purpose is to create exceptional value of products and services by transforming a novel idea into a commercial output. It is the fuel for growth, prosperity and viability of an organisation (Carmeli et al., 2006). Hence, innovation becomes increasingly important to sustain the business and create wealth for shareholders.

Past studies have identified organisational innovativeness as the key for firms to gain competitive advantage and superior performance (Hult, Hurley, & Knight, 2004; Peng, 2008). Changes in the external environment have pressured the organisation to constantly innovate itself to win over the market (Dasgupta & Gupta, 2009). The process of innovation involves idea generation, promotion, implementation and adoption by members of the organisation (Sapolsky, 1967; Rowe & Boise, 1974; Utterback, 1971).

According to Monge, Cozzens, and Contractor (1992), intentional innovation requires highly motivated individuals. For an innovation to take place, the people

must be willing to put some effort in generating an idea. But before that, individuals must possess intellectual capacity to think creatively, expert in the related field and work in an environment that facilitates innovation process (Amabile, 1998).

In any organisation, human capital is an important element for business operations. People are the driving forces in planning, organizing, leading and controlling firm's scarce resources. The art of managing people is essential for business sustainability. Given the importance of innovation, scholars are actively searching for explanation on which circumstances will provoke employees to display innovative behavior (Sanders, Moorkamp, Torka, Groeneveld, & Groeneveld, 2010).

Academics have been focusing on the role of leaders in inspiring and influencing people to perform tasks in order to achieve an objective. However, the role has slowly shifted to followers with the emergence of leadership theory (Seeley, 2006). Followers are more empowered to make important decision and independent in regulating owns behavior. Research has also suggested that dissemination of power and authority has allowed subordinates to play active role at workplace (Seeley, 2006).

As mentioned by Stewart, Courtright, and Manz (2011), individuals' behavior is ultimately controlled by internal forces. Though leaders are said to have

influential power over subordinates, employees are still in charge of their own behavior. Not even expensive, high-technology equipment will be able to configure or manipulate a person's behavior. Thus, it is up to the employees to decide own's reaction.

In the absence of external leadership, the focal point of many studies moves towards exploring how people manage and lead themselves (Stewart et al., 2011). Theoretically, the concept is known as self-leadership. It was gradually developed from the concept of self-influence – incorporating both cognitive and behavioral strategies (Houghton, 2000).

Self-leadership is associated with organisational success (Kawondera, 2007). According to DiLiello and Houghton (2006), organisations will be able to maintain competitive advantage with the help from strong self-leaders in an environment that supports innovation. Self leaders have authority over work processes and own behavior (Carmeli et al., 2006). They are very persistent in getting others to support their ideas and solutions (Stewart et al., 2011). However, further investigation is needed to test the relationship between self-leadership and innovative behavior (Carmeli et al., 2006).

Workers today are required to think creatively and critically in providing innovative solutions (Seeley, 2006). However, there are many obstacles throughout the innovation process. Sometimes, it takes years for an idea to be

considered as innovative and worthy. Frustration, resistance from co-workers and limited resources are some challenges waiting to take place.

Firms and their workforce are mutually interdependent. For firms to foster innovative climate, the workforce would have to display innovative behavior. To exhibit the innovative behavior, individuals need continuous support from organisations in providing resources and platform to generate, promote and adopt the idea. The cycle goes on throughout the innovation process. Instead of merely creating opportunity for business growth, organisational innovativeness is the oxygen for the firms' survival.

2.2 Organisational Innovativeness

Changes in technology, competition and workforce structure have transformed the traditional organisation throughout the 21st century. Scarce resources exaggerate the competition among firms for advantageous positions within the market. Global competitiveness has made it almost impossible for any organisation to disengage from continuous innovation due to the dynamic nature of most markets (Hurley & Hult, 1998).

Number of innovations employed by the organisation determines organisational innovativeness (Tsai, Chuang, & Hsieh, 2009). As such, organisational innovativeness is defined as, "*the ability of a firm to continuously generate and*

implement innovation" (Moos, Beimborn, Wagner, & Weitzel, 2010, p. 1). As changes in the external environment are continuous and unpredictable, innovative firms constantly search for ways to suit their businesses with the market dynamism and economic challenges.

Authors in organisational theories unanimously agree that innovativeness is positively related to business performance (Peng, 2008). Numerous studies have attempted to explore this relationship in recent years (Lin et al., 2008). According to Jain, Siddiquee, and Singal (2010, p. 1), an innovative firm is commonly known as, "*a firm that adopts innovations*". Combination of resources, organisational characteristics and innovativeness of culture will give greater capacity for innovation implementation (Hurley & Hult, 1998). However, the first step would be to identify the potential idea that is worth to be adopted.

Previous researchers suggested that innovation process is very much complex and involves multiphase activities (e.g., Pierce & Delbecq, 1977). Sapolsky (1967) highlighted that there are three stages of organisational change i.e. possible change (invention), change proposal, and change adoption (implementation stage). His idea is supported by Utterback (1971) who described technical innovation model using three sub-processes i.e. idea generation, problem solving and implementation.

It is strongly believed that an organisation that is able to collate potential innovation, implement the novel idea and create value in its products or services would have an added advantage over its competitors. However, only if the firm assumes the risks involved in pioneering an idea will it be credited with an innovation (Rowe & Boise, 1974). Thus, perceiving the risks prior to commercialisation of novel ideas is relatively important in achieving organisational innovativeness.

Some of the risks involved are the uncertainty of acceptance among customers, ownership of the novel invention (either that belongs to the employee who proposed the idea or the organisation that he or she works at) and the originality of the idea. Unless the organisation claims legal right on the intellectual property such as through patent and copyright of materials, there is a high possibility for others to imitate the idea and proclaim the ownership.

The success of the firm's innovativeness largely depends on the information with regards to the firm's organisational management, decisions and R&D capability (Jain et al., 2010). As reported by Pierce and Delbecq (1977), differentiation within organisation is conducive to initiate innovation. In addition, businesses have to promptly anticipate the developing needs of customers and respond to them through the addition of innovative products and services (Hurley & Hult, 1998). In many cases, firms will invest in implementing new ideas only if they

perceive that the potential innovation will distinguish them from other similar players.

However, developing innovation strategies is a challenge for organisations as they need to meet the expectation of shareholders and respond to market needs concurrently (Dasgupta & Gupta, 2009; Semercioz, Hassan, & Aldemir, 2011). Additionally, Sapolsky (1967) suggested that amounts and types of inducement need to be assessed to maintain organisational innovativeness. Only with satisfactory reward and fair treatment will employees be motivated to participate in the development of innovation. Hence, firms need to find a balance between the needs of employees and business requirements when embarking on innovative proposal.

Realizing the importance of cultivating innovative culture, organisations are paying closer attention to facilitating change from within. If the environment facilitates the three stages of organisational change, it is likely that individuals will generate innovative idea and contribute towards organisational innovativeness (DiLiello & Houghton, 2006).

Despite several past studies in this area, there is a lack of conceptual clarity in defining organisational innovativeness (Rowe & Boise, 1974). Pax (2010) suggested that further research on factor of innovativeness is important to facilitate corporate decisions. Future studies should examine whether previous

findings can be applied in various context involving different levels of innovation (Lin et al., 2008).

Scott and Bruce (1994) suggested that there is an increasing need for studies within this field as organisations are facing increasingly turbulent environments and innovation has become a pre-requisite for every employee. As highlighted by An-Shih and Susanto (2011), employees who behave innovatively will benefit organisations and eventually lead to long-term survival of the firms.

To summarize, organisational innovativeness is vital for gaining competitive advantage over the rivals and it is suggested that success in innovation is dependent on employees' willingness to be part of the change process and support that they receive from the organisation.

2.3 Self-Leadership Theory

The world evolves over the years and changes have contributed towards the development of several leadership theories. Traditional top-down command (also known as hierarchical leadership style) is no longer relevant in a borderless setting (Kawondera, 2007). Modern era marks the end of external leadership, along with the advent of globalization and technological advancement (Kawondera, 2007). Knowledge is the essence of society and innovation is the basis for competitiveness (Carmeli et al., 2006). Global competitiveness has

made it almost impossible for any organisation to disengage from continuous innovation (Hurley & Hult, 1998).

As suggested by DiLiello and Houghton (2006), vision of top management and how they reward would drive organisations towards innovation. However, only individuals with conviction, persistence and energy in promoting innovation will become successful (Kawondera, 2007).

In the absence of traditional leadership, employees are expected to be able to make smart decisions by influencing and leading themselves towards achieving desired outcomes (Kawondera, 2007). According to DiLiello and Houghton (2006), an organisation will be able to maintain competitive advantage with the help from strong self-leaders in an environment that supports innovation. Therefore, self-leadership may be the key ingredient to fostering innovation in an organisation.

Pratoom and Savatsomboon (2010) suggested that innovation is directly affected by self-leadership. His theory is supported by Pearce and Manz (2005) study which highlighted the importance of self-leadership in innovative organisations. Several other studies have also recognized self-leadership as a predictor of innovation (Carmeli et al., 2006; Kawondera, 2007).

It seems that moving towards innovative era has developed growing interests among scholars to conduct research on self-leadership (e.g., Houghton & Neck, 2002; Neck & Houghton, 2006; Stewart et al., 2011). Based on previous studies, it was found that several related theories were underpinning the concept of self-leadership (Houghton & Neck, 2002). The concept was originated from self-management and self-control theories in which people govern their own behavior through a set of strategies (Neck et al., 1999).

There were many definitions to conceptualize self-leadership based on previous studies. Houghton (2000) described self-leadership as, comprehensive theory of self-influence that is applicable in modern organisations. Yun, Cox, and Sims Jr. (2006) defined it as thought and actions that influence people in motivating and controlling themselves. Self-leadership consists of three broad dimensions i.e. behavior-focused strategies, natural reward strategies and constructive thought pattern strategies (Carmeli et al., 2006; Houghton, 2000; Kawondera, 2007). These dimensions contributed to the personal effectiveness of individuals (Norris, 2008). Summary of self-leadership dimensions and subscales is shown in Table 1.

Behavior-focused strategies supposedly will increase self-awareness of individuals in managing owns behavior in order to improve personal performance (Neck & Houghton, 2002). According to Stewart et al. (2011), the behavior-focused strategies will also help individuals to eliminate undesired behaviors.

This is because, individuals who adopt behavior-focused strategies are generally conscious of their own behavior (Carmeli et al., 2006). Hence, it is likely for them to display innovative behavior so as to enhance their performance in an innovative firm.

Table 1: Summary of Self-Leadership Dimensions and Subscales

Dimensions	Subscales
Behavior-focused strategies	Self-goal setting
	Self-reward
	Self-punishment
	Self-observation
	Self-cueing
Natural reward strategies	Focusing thoughts on natural rewards
Constructive thought pattern strategies	Visualizing successful performance
	Self-talk
	Evaluating beliefs and assumptions

Source: Houghton, J. D., & Neck, C. P. (2002). The Revised Self-Leadership Questionnaire. Testing a Hierarchical Factor Structure for Self-Leadership. *Journal of Managerial Psychology*, 17(8), 672-691.

However, awareness alone is not enough to influence one's behavior. Another dimension of self-leadership, i.e. natural reward strategies, deals with the need to motivate individuals towards displaying the desired behavior. This is in-line with the concept of self-appreciation by compensating one's accomplishment with rewards. The form of reward varies from tangible to cognitively based incentives (Stewart et al., 2011).

Carmeli et al. (2006) added that natural reward strategies focuses on the positive experience and process through which it is achieved. Therefore, it is believed that natural reward strategies enhance innovative behavior by instilling positive perceptions and building enjoyable aspects into innovative activities (Prussia, Anderson, & Manz, 1998). However, it depends on the perception of individuals about the form of reward offered to them in return of displaying desired behavior.

To strengthen individuals' self-leadership, they must think positively in anything they do. The right mind setting can be achieved through constructive thought pattern strategies. It refers to constructive thought patterns of individuals (Carmeli et al., 2006). Individuals who applied constructive thought pattern strategies will look at challenges as an opportunity for improvement.

Houghton and Neck (2002) described constructive thought pattern strategies as the process of evaluating and challenging irrational beliefs and assumptions. It helps individuals to rationalize innovative behavior as important requirement towards achieving organisational innovativeness. Eventually, people develop habitual ways of processing information that will influence their perceptions (Neck et al., 1999). Therefore, workers who believe that their organisation is innovative will likely display innovative behavior at the workplace.

2.4 Innovative Behavior

Innovative behavior is one area of research that is of interest to scholars in various fields. Researchers are unanimous in defining the term (Scott & Bruce, 1994). Messmann and Mulder (2011) noted that most studies analyzed the activity dimension in order to describe innovative behavior. Janssen (2004, pg. 202) suggested that, '*innovative behavior consists of idea generation, idea promotion and idea realization*'.

Similarly, An-Shih and Susanto (2011, p. 113) defined innovative behavior as, '*the creation, promotion and implementation of new ideas that benefit organisations*'. This operational definition of innovative behavior is from the set of activities that individuals do throughout the innovation process. Thus, the authors suggest that innovative behavior refers to the actions taken by individuals in order to provide solutions to a problem by generating idea, seeking avenue to implement it and creating value by adopting the idea.

Referring to technical innovation model by Utterback (1971), the first process of innovation is the idea generation. Creation of novel idea demands great efforts from employees. Employees' perceptions towards fairness in the exchange relationship between the reward for innovation and the effort that they have to give in will influence their innovative behavior (Janssen, 2004). Individuals will be

reluctant to contribute in the idea creation if they perceive inequality in return for their efforts.

Without much opportunity provided by firms in order to commercialize an innovation, workers are less motivated to contribute their ideas. They are unwilling to share their thoughts when there is inadequate support or encouragement provided by the organisation. This will not be beneficial to organisations, as businesses have to promptly anticipate the developing needs of customers and respond to them through the addition of innovative products and services (Hurley & Hult, 1998). Without the ability to provide solutions for customers, firms may lose their share in the market to more innovative rivals.

For that reason, An-Shih and Susanto (2011) suggested that organisations have to manage innovative employees as valuable assets and reward them appropriately in proportion to their contributions. Although organisational innovativeness seems to be in-line with the concept of innovative behavior, organisations should not assume that employees are sharing common interests in relation to their innovation goals.

Bridging the gap between employees' expectation and organisational interest is essential to cultivate innovative behavior (Pundt et al., 2010). Organisation must clearly communicate to its employees concerning organisational expectation and outcomes of their behavior, and the impact of such behavior on firm's

innovativeness. Simultaneously, employees must be willing to contribute towards the development of innovative ideas (Monge et al., 1992). Only then, would the innovation process is deemed to be completed and successful.

In turbulent times, innovation is a critical engine of growth and survival. The importance of innovative behavior in an organisation is well recognized in many studies (An-Shih & Susanto, 2011; Janssen, 2004; Scott & Bruce, 1994). Messman and Mulder (2011) suggested that individuals became active innovators when they have an interest and develop the need to innovate in reacting to the available opportunities.

It is likely for individuals to generate innovative ideas and contribute towards organisational innovativeness should they receive enough support from the organisation (DiLiello & Houghton, 2006). Hence, organisations have to promote innovate behavior in order to be in an advantageous position. Based on the discussion, I will be exploring the relationship between innovative behavior and organisational innovativeness.

2.5 Self-Leadership and Innovative Behavior

According to Politis (2006), self-leadership is the foundation of effective self-influence and personal improvement. Individuals with high self-leadership are perceived to have powerful minds that are able to think creatively and positively.

Referring on this statement, it seems that self-leaders are generally motivated by 'the way they think' and it reflects on 'the way they behave'.

Although self-leadership strategies seem to encourage the positive behaviors of individuals, so far the concept has not clearly defined the way to behave and how to behave as desired. Most of the time, employees have to be independent in thinking and managing their own behavior (Alves et al., 2006). There is no specific guideline or standard provided by organisations that would be helpful in guiding the employees' work behavior. Hence, most of the time people rely on their internal and external environment to influence their silent emotional decision.

In a research by Dolbier, Soderstrom, and Steirhardt (2001), they found that strong self-leaders know how to make decisions that would suit them well. Findings from their research suggested that self-leadership and perceptions of effective working environment are significantly related. Hence, if an organisation likes to encourage innovative behaviors among its employees, leaders will have to ensure that the firm provides an innovative environment at the workplace. In addition, in an innovative working environment, self-leaders are also motivated by their internal consciousness such as their preference and personality (Yun et al., 2006). The ability to think positively and to control one's behavior is a skill that can be applied at work. According to Carmeli et al. (2006), dimensions of self-leadership are skills that are important in building innovative behavior.

For example, behavior-focused strategies navigate a person's behavior towards attaining specific goals. If individuals have decided to contribute towards idea generation, they will focus their behavior towards that direction. They become highly motivated to achieve the goals and will feel guilty should they fail to accomplish them (Carmeli et al., 2006). Hence, if they are determined to become innovative, it is likely that they will display the desired behavior.

Natural reward strategies are believed to have an impact on innovative behavior by providing incentives in exchange of the desired working behavior (Pundt et al., 2010). As mentioned by DiLiello and Houghton (2006), the organisation that wants to foster innovative culture must be able to demonstrate excitement for the idea that has been created and the task that has been accomplished. In other words, the strategy is to create an enjoyable working environment that would instill positivity and determination in self-leaders to work towards the goal in their own pleasant way of doing things.

Finally, the constructive thought pattern strategies are important to stimulate creativity in self-leaders (Carmeli et al., 2006). In order to behave innovatively, they must first have the ability to think creatively. As reported by DiLiello and Houghton (2006), creativity may be related to self-leadership in ways that could synergize the organisational leadership. They also suggested that self-leaders considered themselves to be potentially more innovative and creative than others. They are mentally and emotionally tough in dealing with difficult

situations. Hence, they will look at problem as an opportunity to create solutions and to visualize the situation in their minds before navigating their behaviors.

Based on the above discussion, the following hypothesis is suggested for this study:

H₁: Self-leadership is positively related to innovative behavior

2.6 Innovative Behavior and Organisational Innovativeness

Innovative organisations employ innovative workforce to accelerate its innovation process, i.e., the creation of idea, promotion of idea and adoption of the change. Thus, these firms are highly demanding for competent, motivated and flexible apprentice (Messmann & Mulder, 2011). The strategic implementation of innovation begins at the early stage of workforce recruitment.

Employee must be able to provide creative solutions to meet the expectation of customers. He or she is expected to address the emerging challenges at the workplace. However, a person's creativity is subjected to certain limitation such as experience, information and knowledge on the topic. Hence, it is very important for employer to know the extent of innovative behavior, creative thinking and problem solving skill possessed by the subordinates (Messman & Mulder, 2011).

A stringent requirement of an employee's performance has its price. As innovative workers are considered as valuable assets, costs of hiring these people are relatively higher than an average employee. Hence, compensation is seen as a tool for motivation to encourage workers to display innovative behavior at the workplace (Carmeli et al., 2006). It is also a strategy to reduce turnover rate among innovative personnel.

In addition to better compensation package, research found that workers tend to display innovative behavior if they were given more freedom and autonomy to make their own decisions (Jong & Hartog, 2010). Independent employees are able to explore options beyond the work scope; hence, they are more exposed to the external environment.

However, total freedom and independence are not necessarily what innovative workers crave for (Yun et al., 2006). Still, they have to depend on the organisation to support them throughout the innovation process. Firms need to facilitate innovation by providing the necessary resources such as funding, training, equipment and manpower to implement the change. This is known as the 'psychological climate' whereby firms showing their support towards the individuals in hoping to promote innovative behavior of the individuals could gain from the potential outcomes of the desired behavior (Scott & Bruce, 1994).

Innovation would begin with an individual generating an idea in the organisation, and later the person will have to work with a larger group to implement the idea (Janssen, 2004). If the implementation is successful, the company's performance will improve. As mentioned by Scott and Bruce (1994), cohesiveness of workgroup is the foundation of idea promotion. In other words, when members accept and support the idea of another member, it is likely that others will be motivated to share their thoughts within the workgroup.

Of course, the intention is not just to encourage the creation of idea. Ideally, workers displaying innovative behavior will positively influence the organisation's performance (Carmeli et al., 2006; Janssen, 2004; Scott & Bruce, 1994). This argument is supported by other studies that revealed organisational innovation is related to innovative behavior (e.g., Dasgupta & Gupta, 2009; Jong & Hartog, 2010; Pierce & Delbecq, 1977).

Based on the discussion, the following hypothesis is proposed:

H₂: Innovative behavior is positively related to organisational innovativeness

2.7 Self-Leadership, Innovative Behavior & Organisational Innovativeness

Thus far, to the best of my knowledge, there are no empirical study that has discussed on self-leadership, innovative behavior and organisational

innovativeness in a single report. However, the relationships between the constructs were briefly discussed in separate literatures over the decades.

In a study by Politis (2006), he suggested that behavioral-focused strategies of self-leadership are associated with job satisfaction that encourage positive employees' attitude towards the job and in enhancing an organisation's performance. A worker who applies behavioral-focused strategies tends to be responsible and accountable of their work performance, as they are in control of their own behavior. Innovative workers who are satisfied with their job will contribute wholeheartedly to the organisation and eventually help the firm to achieve organisational innovativeness (Sanders et al., 2010).

Employees who perceived their workplace as rewarding and enjoyable are more likely to demonstrate competency and self-control, resulting in an improvement in performance (Carmeli et al., 2006). This is in line with natural reward strategies of self-leadership and innovative behavior. For example, a worker who is happy to go to work despite the challenges he or she faces will produce excellent results and desirable behaviors.

As mentioned by Sanders et al. (2010), employees will behave beyond their role expectation if they perceive the reward to be fairly acceptable with their level of contribution. For that reason, An-Shih and Susanto (2011) suggested that organisations have to manage innovative employees as valuable assets and

reward them appropriately in proportion to their contributions. It is believed that natural reward strategies will enhance innovative behavior by instilling positive perceptions and building enjoyable aspects in the innovative activities (Prussia et al., 1998).

On the other hand, Janssen (2004) noted that the individuals' innovative behavior depends on their perceptions of fairness in the organisation. If they have good impression towards the workplace, workers are more willing to perform innovatively and contribute towards the organisational innovativeness. Otherwise, they will be reluctant to contribute in the idea creation process if they perceive inequality in return for their effort.

According to Houghton and Neck (2002), self-leaders are generally open to change as constructive thought pattern strategies would help individuals to rationalize innovative behavior as important requirements towards achieving organisational innovativeness. Self-leaders also considered themselves to be potentially more innovative and creative than others when dealing with difficult situations (DiLiello & Houghton, 2006).

Based on the discussion, it is found that each dimension of self-leadership influences people to behave innovatively and eventually contribute towards organisational innovativeness. Hence, I will be exploring the extent to which

innovative behavior mediates the relationship between self-leadership and organisational innovativeness. Therefore, the following hypothesis is suggested:

H₃: Innovative behavior mediates the relationship between self-leadership and organisational innovativeness

2.8 Moderating Role of Environmental Dynamism

Today's environment is more diverse, dynamic and it changes fast due to globalization and technological advancement. Changes in the external environment have pressured the organisation to constantly innovate itself to win over the market (Dasgupta & Gupta, 2009). As suggested by DeTienne and Koberg (2002), the work environment encourages innovation when technology and the market change rapidly. They have also added that innovative ideas are fostered and developed based on the environmental conditions at the workplace.

In this study, the organisational environment refers to the context in which a firm operates its business. It is made of individuals, groups, other organisations, as well as technological and social forces (Sia, Teo, Tan, & Wei, 2004). Although firms have no control over the external factors, it is important for them to understand the external environment as those factors indirectly affecting their business decisions. According to Duncan (1972), firms must be able to adapt with changes in the environment for long-term survival.

From the economics perspective, both the internal and external environment provide resources to firms. Scarcity of resources makes organisations to search for more information about the environment. To achieve superior performance, firms need to study the dynamic environment carefully (Sia et al., 2004). Technological changes, fluctuations of demand and supply, and the divergence of customers' preferences characterize the dynamic environment in organisations today (Jansen, Vera, & Crossan, 2009). All of these details are critical for firms to make important business decisions such as forecasting the new nature of demand and commercializing novel product for the current market.

Organisations tend to perform better when they make quick decisions in a highly dynamic environment (Sia et al., 2004). If decision makers do not have sufficient knowledge about the environment, it will lead to greater level of uncertainty (Duncan, 1972; Li & Simerly, 1998). In addition to understanding the environment, employers need to know the extent of innovative behavior, creative thinking and problem solving skills that the subordinates have (Messman & Mulder, 2011). Adequate knowledge on environmental dynamism and innovative behavior of workforce helps firms to make better decisions when engaging in innovation process.

Environmental uncertainty consists of two dimensions i.e. complexity and dynamism (Duncan, 1972; Sia et al., 2004). It is more significant to decision makers in interpreting environmental uncertainty. Dynamism is a perceptual

phenomenon in predicting the extent of unpredictable change (DeTienne & Koberg, 2002). It is measured by the frequency of changes in external events, trends, and the number of possible outcomes in the environment (Sia et al., 2004).

Environmental dynamism is therefore described as the rate of change and unpredictability of change in a firm's external environment (Li & Simerly, 1998). Sia et al. (2004) defined it as the rate and volume of changes in the environmental factors. From these definitions, I conclude that environmental dynamism is referring to the velocity and volatility of change in a firm's external environment.

Additionally, environmental dynamism will result in higher complexity and innovation as organisations become adaptable and responsive to external cues (Sia et al., 2004). Consequently, managers have lots of options in innovation (DeTienne & Koberg, 2002) due to the increasing trend of competitive intelligence in dynamic environment.

Organisations that hold important information about the external factors have additional advantage over others. They will be the first to take action and to be able to quickly adapt to market change. Thus, in-depth understanding of the environment is useful in predicting innovation responses (DeTienne & Koberg, 2002). Based on this argument, it is suggested that individuals' perceptions of

environmental dynamism within the firm is essential to organisation effectiveness and its ability to adapt to change.

According to Messman and Mulder (2011), individuals become active innovators when they have an interest and they develop the need to innovate in reacting to the available opportunities. As mentioned by Bei and Jin (2010), more technology and market opportunities are available in a dynamic environment. Therefore, environmental dynamism provides the possibility for individuals to actively create new ideas and engage in innovative behavior. As businesses need to respond to market changes, it is crucial for them to support the implementation of innovative solutions for customers (Hurley & Hult, 1998).

Strong psychological climate will be able to foster innovative behavior among employees and exaggerate the innovation process (Scott & Bruce, 1994). As mentioned by Tsai et al. (2009), the number of innovations employed by the organisation determines organisational innovativeness. Additionally, Gul (2011) found that environmental dynamism significantly influence organisational innovativeness. From these statements, I found that environmental dynamism could be a potential moderator between innovative behavior and organisational innovativeness as it influences people to be an active innovator by providing more opportunities to innovate and eventually increase the number of innovations employed by the firm.

There have been several studies in the past that examined the impact of external environment on innovation and performance (Jansen et al., 2009). However, environmental dynamism has not been well-discussed empirically (Bei & Jin, 2010). Sia et al. (2004) recommend that future research examine the perceived innovative work arrangements for organisations in the dynamic environment. Duncan (1972) calls for additional studies on the interface between individual differences and organisational properties.

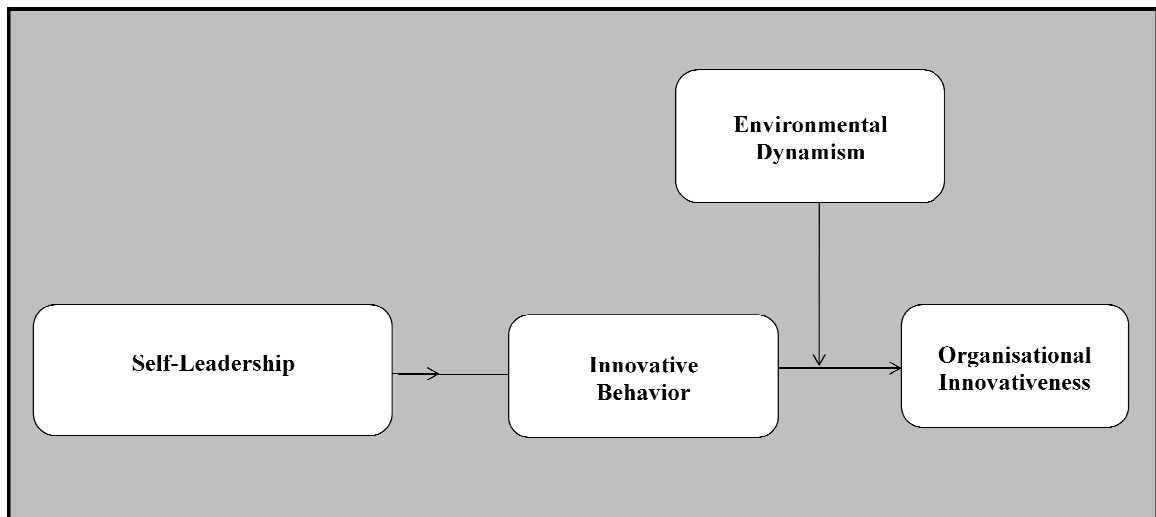
Based on the discussion, the following hypothesis is suggested:

H₄: Environmental dynamism moderates the relationship between innovative behavior and organisational innovativeness

From the literature reviews, four hypotheses were developed to address the research questions as listed in Chapter 1. From these hypotheses, a research framework was created to illustrate the relationship between the dependent and independent variables, as well as the moderator and mediator that exist in the relationship. The overview of research framework is illustrated in Figure 1.

2.9 Research Model and Hypotheses

Figure 1: Research Framework



Referring to the above framework, organisational innovativeness is the dependent variable that is explained by the relationship between self-leadership, innovative behavior and environmental dynamism. To summarize, following are the hypotheses that were empirically tested in this study:

- H₁: Self-leadership is positively related to innovative behavior
- H₂: Innovative behavior is positively related to organisational innovativeness
- H₃: Innovative behavior mediates the relationship between self-leadership and organisational innovativeness
- H₄: Environmental dynamism moderates the relationship between innovative behavior and organisational innovativeness