CHAPTER SIX

DISCUSSION AND FINDINGS

6.1 Introduction

This section looks over the results of the data analysis covered in Chapter Five of this study report. The findings and implications for the industry will be discussed thoroughly as well as the impact on practitioners. Research questions will be answered and explanations will be provided.

6.2 Review of Data Analysis Results

The presentation of the key findings of this research covers the findings from the various stages of the research. The findings provide a description of how the study firm manages its organizational resources and what makes it survive in the challenging and demanding business environment. The importance of these findings lies in the identified actual practices, actual intellectual capital measures and their influences on the performance of Small and Medium Enterprises (SMEs). It is important to note that the discussion in this chapter is based on the results from the small and medium enterprises that are operating in manufacturing and services: 56 percent comprise small-sized firms while another 44 percent represent medium-sized firms. It has been perceived that intellectual capital, knowledge sharing and innovation are very different between small and medium-sized firms. However, the difference of means between small and medium firms is not that much being 5.52 and 5.07, respectively. Therefore, it is reasonable to generalize the findings to fit the industry.

6.3 Readdressing the Research Questions

The presentation in this section provides answers to the research questions that were raised by the researcher in the initial stage of this study. The four research questions were posed to guide the study process. This section revisits the questions and furnishes answers with elaborations according to the findings of the research. The four research questions are:

RQ1: What is the impact of SMEs' intellectual capital on organizational performance?

RQ2: Does knowledge sharing mediate the relationship of intellectual capital and organizational performance?

RQ3: Does innovation mediate the relationship of intellectual capital and organizational performance?

RQ4: Does knowledge sharing and innovation mediate the relationship of intellectual capital and organizational performance?

6.3.1 The Relationship between Intellectual Capital and Organizational Performance

RQ1: What is the impact of SMEs' intellectual capital on organizational performance?

The first question, what is the impact of SMEs' intellectual capital on organizational performance (RQ1) can be answered by the survey findings. The intellectual capital has a direct positive impact on organizational performance. This finding implies that the knowledge from employees, from the systems, structure and from customers and the market can help increase the performance of the organization. It shows that the collective knowledge of the organizations, from its employees, its operation and its customer base,

does have an impact on the performance of the organization. It means that intellectual capital is more important to an organization that has a higher organizational performance. This indicates that by utilizing intellectual capital, it will drive better organizational performance. Often, intellectual capital is also referred to as organizational resources or assets that determine the survival of the organization as highlighted by Wang and Chang, (2005), Yang, (2008), Yaosheng et al., (2005), where intellectual capital is identified as a key resource and driver of organizational performance (Itami and Roehl, 1991; Teece, 1998, Mayo, 2000, Li, 2007; Hong et al. 2008).

The intellectual capital of SMEs can help them to improve their organizational performance if the knowledge is directed and controlled accordingly. This study looks at intellectual capital as a bundle of organizational resources. The concept of intellectual capital has three dimensions that are highly interrelated and difficult to segregate in practice (Goshal and Nahapiet, 1998), therefore, it is more practical to see the impact of intellectual capital on organizational performance as one dimension. Shiu (2006) and Chan (2009a, 2009b) empirically tested intellectual capital as one dimension towards organizational performance by utilizing VAIC (Value-Added Intellectual Capital) methodology and found that intellectual capital has a strong impact on the organizational performance of the companies on the Hang Seng Index in Hong Kong. Intellectual capital plays a vital role in facilitating knowledge flow in the organization (Mu et al., 2008). As human capital and structural capital are heavily loaded with knowledge (Hsu, 2008), especially tacit knowledge from its people and its operation, intellectual capital is a way to manage the organization to create wealth. An organization that knows how to capitalize its knowledge by utilizing the knowledge of its employees including their experience and education,

knowledge from its system and operation in cutting down cost but increasing efficiency, and utilizing its customers' and market information to its advantage, will be able to create more value and stay ahead of its competitors. Therefore, the management should recognize that intellectual capital is a vital facilitator to enhance organizational performance.

6.3.2 The Relationship between Intellectual Capital, Knowledge Sharing and Organizational Performance

RQ2: Does knowledge sharing mediate the relationship of intellectual capital and organizational performance?

The finding from the data analysis shows that intellectual capital has an influence on knowledge sharing. The result indicates that organization has a high level of intellectual capital and can help in disseminating the knowledge among the employees. The result also indicates that when collective knowledge is shared, it will enhance the organizational performance. However, knowledge sharing does not influence the impact of intellectual capital on organizational performance. The knowledge transformation and conversion takes place mostly in human capital, and structural capital is the heart of knowledge sharing (Hsu, 2008). It takes place in either a positive manner or vice-versa. Lee and Choi (2003) in their study found that organizational resources have an impact on knowledge sharing, as did the studies done by Yang (2005) and Cheng et al., 2008). Li and Zhu (2009) also found that intellectual capital has a strong positive relationship to knowledge sharing (Hsu, 2008).

Ravn (2004) state that knowledge is must not be stored in databases but organizational members must take intelligent actions, to bring out the dynamics nature of knowledge in pursuit of their goals which is through knowledge sharing. However, Kim

(2007) highlighted that in Asia context, knowledge sharing is taken place at individual level which resulted the improved performance on individual but not towards the organizational performance. This statement is further strengthen by Loebbecke et al. (2003), that SMEs provide an interesting setting as they are knowledge generators, but is poor at knowledge exploitation. Futhermore, full knowledge sharing is enabled by intention of full knowledge sharing; partial KS is enabled by the uniqueness of the knowledge (Ford & Staples, 2010).

To deploy knowledge sharing is not an easy task. Knowledge sharing in SMEs is unsuccessful even though supported by ICT (Mason et al. 2008) due to lack of understanding in socio-technical and conventional channels (face-to-face). A mixture of the channels is necessary for SMEs. Many SME owner-managers, however, are not familiar with the conceptual basis and potential benefits of KM models, the latest KM software tools and so forth. In order to encourage to be willing to share ideas, information and knowledge for collective intelligence for the organization, it requires visionary leadership, a "high organisational care culture" (Von Krogh 1998 as cited in Menkoff et al. 2004) where efficient and suitable communication and infrastructure exist. One possible explanation could be that only certain SMEs benefit from internal knowledge sharing, namely those that rely heavily on cumulative knowledge or operate in more dynamic environments or under other specific conditions (Garud and Nayyar, 1994 as cited in Zhou and Uhlaner, 2004). The weak support found for the mediating role of knowledge sharing in SME's organizational performance could be due to few reasons such as the size of SMEs that is too small or the diversity of their internal expertise too limited to benefit from such sharing. Or perhaps there are contingencies for which such sharing is less effective with respect to

innovation. The environment is also important for to encourage knowledge sharing. Culture and encouragement from top management would promote productive knowledge sharing.

Study in Thailand has shown that the company was successful in creating a sharing attitude and atmosphere by building relationships and adjusting the sharing and learning approaches to fit in with the nature of the target groups. Lacking of a proper and planned knowledge sharing activities could dampen the productive knowledge sharing. In order for owners/managers to ensure that a quality knowledge sharing session is taking place, they have to take an initiative by guiding the people into producing good ideas during the session. One possible explanation could be that only certain SMEs benefit from internal knowledge sharing, namely those that rely heavily on cumulative knowledge or operate in more dynamic environments or under other specific conditions (Garud and Nayyar, 1994). Knowlege sharing is still vital to organizational performance. The bundle of knowledge that exists in the organization can further help improve the performance of the organization if it is a process through knowledge sharing, which increases the value of knowledge and makes it more efficient. Mechanisms need to be in place to assist the sharing of information and ideas between individuals and they need to possess the skills whereby they learn about and from each other (Cornell and Voola, 2007). Agndal and Nilsson (2007) also point out that knowledge sharing is a way for intellectual capital to be generated in order for intellectual capital to remain effective. While Plessis et al. (2006) found that intellectual capital through knowledge sharing provides entrepreneurs with important skills such as negotiation, leadership, communication, problem solving, assessment and critical thinking. Ruta and Macchitella (2008) support the finding on the relationship of intellectual capital and knowledge sharing, as efficient intellectual capital not only influences the motivation of the

individual to share knowledge within the organization but also encourage employees to contribute in terms of the quality and quantity of the knowledge to other members in the organization.

These findings reveal that organizations that consider knowledge sharing to be a superior, compatible and uncomplicated means of achieving organizational objectives, will be able to use their intellectual capital for higher organizational performance. This also strengthens the previous studies (Lin and Lee, 2005; Pablos, 2005; Hussi, 2004; Li and Zhu, 2009) in which knowledge sharing involves social and human interaction that enhances the value of knowledge held by intellectual capital and, thus, boosts the organizational performance. Widen-Wulff and Suomi (2003) state that intellectual capital is the foundation or antecedent to knowledge sharing and, therefore it can leads to a better business performance.

Organizations should not only manage knowledge itself, but also the knowledge worker, organizational structure and customers continuously to obtain and sustain higher organizational performance (Lee, 2004). The ability of the company to interact with its employees as well as relevant partners will influence the profitability of the entire capital and, hence, improved the economic performance of the company (Jakobsen, 2003).

Husted and Michailova (2002) argue that there is no "standard" wisdom of how to develop knowledge sharing activities as some of the knowledge sharing activities in large organizations failed and turned hostile. Knowledge sharing hostility takes place when individuals are against the knowledge sharing activities and refuse to share their knowledge. In promoting and encouraging knowledge sharing, managers have to set a good

example by sharing their own knowledge, share relevant success and positive stories and create a high degree of transparency.

Therefore, knowledge sharing should be encouraged extensively in the organization to assist employees to share the quality and quantity of their knowledge. Knowledge that is embedded in the intellectual capital will be able to grow through knowledge sharing and, thus, knowledge creation could be created. It is obvious that organizations that utilize knowledge sharing will be able to increase the value of their intellectual capital in achieving higher organizational performance. This is supported by Xia et al. (2007) in their SMEs study in Singapore that employees' skills, professional and technical knowledge with firm's internal and external relationship are the significant predictors in organizational performance.

Knowledge sharing has a strong positive impact on organizational performance as determined by Yang (2005), Cheng et al., (2008), Du et al., (2007), Hoffman et al., (2005), Keskin (2005). Choi and Lee (2002) stress that the process of knowledge sharing must be in the streamline of the interplay between human-orientation and technology information.
In this study, intellectual capital and knowledge sharing were determined to be very strongly related. Organizations that foster intellectual capital and knowledge sharing lead to effective firm performance (Wang and Lan, 2008). Owners striving to better improve their organizational performance will be well served by organizational knowledge sharing by focusing their intellectual capital.

Ruta and Macchitella (2008) found that the willingness to share knowledge depends on the structural or social capital on the quantity of knowledge shared but the quality of knowledge shared depends on human capital. Wicket and Herschell (2001) point out that in

SMEs, the flat organization structure (Rita and Macchitella, 2008) and closeness to its customers are the SMEs strengths. A small or medium-sized company that can successfully leverage its knowledge about current and potential customers can ultimately beat competitors through this sustainable advantage. In addition, in small or medium-sized companies, personal relationships have traditionally been a major contributor to success.

6.3.3 The Relationship between Intellectual Capital, Innovation and Organizational Performance

RQ3: Does innovation mediate the relationship of intellectual capital and organizational performance?

The findings show that intellectual capital has a positive relationship with innovation. This indicates that organizations with a high level of intellectual capital are significantly better in their innovation than organizations with low intellectual capital. The findings suggest that innovation involves to a broad extent the collective knowledge of human capital, structural capital and relational capital that enables the implementation of new ideas, processes, solving-problem means, products, services or business model (Lin and Chen, 2008). The ability of a firm to innovate and improve continuously has been proven to be related to the employees' skills and knowledge (Nonaka, 1991; Nonaka and Kenney, 1991). The results correspond with the findings of Calatone et al. (2202) that a firm has a better innovative capability to further enhance its innovation when its unique competence is more distinctive. This unique competence of an organization can be regarded as its organizational intellectual capital.

The other findings show that innovation has a positive relationship to organizational performance. The results also endorse the positive relationship between innovation and organizational performance, which is similar to the previous studies by Norbani and Saat (2008) on the innovation impact on organizational performance in Malaysian SMEs as well as Hilmi (2008), and is similar to previous studies (Gopalkrishan, 2000; Daneels, 2002; Lee and Sukoco, 2007). This is also supported by Hadjimanolis (2000) in his study on small manufacturing industries in Cyprus, when he investigated the impact of the characteristics of organizational members, characteristics of firm and environmental factors to innovation and organizational performance, which showed a positive strong impact of independent variables to the dependent variable while considering the mediating effect of innovation (King, 1990; Wolfe, 1994; Avlonitis et al., 1994). Yamin et al. (1997) found that innovation is the antecedent of organizational performance in the Australian manufacturing industry. Hobday (1996) found in his study on Malaysian' SMEs innovation that innovation is central to an organization's success. This finding is consistent with a study done by Wolff and Pett (2006), which found that process innovation and product innovation are SMEs strategic orientation to innovation. This is further supported by Hollestein (1996), Pratalli (2003), Susman et al. (2006).

The results also indicate that organizations that have a high level of intellectual capital are likely to generate new ideas and develop new business opportunities, thus, facilitating innovation activities (Darroch and McNaughton, 2002) significantly better in their organizational performance than those with a low level of intellectual capital. These

results suggest that when knowledge is combined, especially knowledge from customers and market, it would help illuminate the product and features should be developed.

When innovation is considered in the relationship between intellectual capital and organizational performance, it improves the organizational performance. The result corresponds with the findings of Calatone et al. (2002) and Chen et al. (2006). This proves that innovation is an important link between intellectual capital and organizational performance.

The mediating effect of innovation is further supported by Han et al. (1998) who empirically tested and substantiated innovation's mediating role in the market-orientation-corporate performance relationship (Agarwal et al. 2003; Yli-Renko et al. 2003). By financial measures, organizational performance of SMEs is positively affected by the propensity for innovative activities, efficient organizational structure and use of external indicators for improving entrepreneurial performance (Joã0 and Mãrio, 2008), which is similar to the findings of this study.

6.3.4 The Relationship between Intellectual Capital, Knowledge Sharing, Innovation and Organizational Performance

RQ4: Do knowledge sharing and innovation mediate the relationship of intellectual capital and organizational performance?

The final question concerning whether knowledge sharing and innovation mediate the intellectual capital and organizational performance (RQ4) has been answered with the strong positive result of the mediating effects of knowledge sharing and innovation on the

relationship between intellectual capital and organizational performance. The results indicate that when knowledge is shared, organizations have a high level of innovation. Organizations involved in a high level of knowledge sharing are better in their innovation as collective knowledge from employees, system, structure, customers and market enables the generation of new ideas for products and a reduction in the cost of process innovation.

The results indicate that organizations with a high level of intellectual capital need to be involved in knowledge sharing in generating innovation to enhance organizational performance. However, the results indicate that when knowledge sharing is considered, intellectual capital does not have an impact on innovation.

The significant effect of intellectual capital on knowledge sharing and innovation suggests that knowledge sharing and innovation are important constructs. The strong connection of intellectual capital and knowledge sharing is consistent with Wiig (1997), Ruta et al. (2008), and Doctor and Ramachandran (2008). The strong effect of knowledge sharing on innovation is consistent with the study done by Mei and Nie (2007) that highlights the importance of a firm's knowledge interaction. This shows that knowledge sharing is a key issue in order to enhance the innovation capability of organizations (Saenz et al., 2009; Lee and Choi, 2006), which, in turn, enhances the organizational performance (Lee and Sukoco, 2007). A study done by Huang and Li (2008) reveals that knowledge sharing is coupled with mutual trust and that communication helps organizations to be innovative (Gilbert and Cordey-Hayes, 1996). This empirical result suggests that organizations with a high degree of knowledge sharing among its employees can produce more innovation.

Chen and Huang (2007) found that knowledge sharing is the mediating link between human resource strategic planning and innovation relationship, which supports this study's finding on the effect of knowledge sharing on intellectual capital and innovation relationship. The findings show that together knowledge sharing and innovation are the mediating mechanisms through which intellectual capital benefits organizational performance. This finding supports other findings on how managing knowledge as a strategic resource is one of the foundational weapons that enables a firm to sustain distinctive competencies and competitive advantages (Nonaka and Takeuchi, 1995; Grant, 1996; Spender, 1996; Sarin and McDermott, 2003, Argote et al., 2003). Brachos et al. (2007) found that intellectual capital is crucial for fostering knowledge sharing and innovation. This contribution is important since the need for developing an organizational context where knowledge sharing and innovation flourish is constantly put forth in the business press while the empirical and research based evidence for its importance has been scarce. The analysis further reveals that knowledge sharing and innovation fully mediates the relationship between intellectual capital and organizational performance, which is the contribution to intellectual capital theory as well as innovation theory and its relation to knowledge. This findings mirrors that of previous studies by Liao and Chuang (2006) who explored the integration of knowledge resources, knowledge management process capability, innovation and firm performance as well as by Lee and Choi (2007) on the knowledge management enablers, knowledge management process, innovation and organizational performance. Chang and Ahn (2005) stress that the basic building blocks of the performance-oriented knowledge management approach are knowledge, process, product and performance.

Chen et al (2006) found in their survey that 56 percent of SMEs in the United Kingdom believe that they are effective or effective in leveraging knowledge from other organizations to improve their business performance; however, findings in this study suggest that SMEs should leverage their internal knowledge for better outcomes. Leveraging knowledge should focus on every aspect of SMEs, not just knowledge from customers and competitors alone.

Knowledge sharing leads to the innovation outcomes as well as organizational performance as supported by Tsai (2001), Harlow (2008) and Smith et al. (2005). Organizations that maximize knowledge sharing opportunities and innovation capabilities are demonstrated in this study. This shows that knowledge sharing can improve other capabilities of the organizations which is consistent with the results of other studies (Zahra et al., 2000, Szulanski and Jensen, 2006), which will improve the overall operational efficiency and effectiveness of the organization. Intellectual capital can improve knowledge sharing, which in turn greatly enhances innovation and ultimately organizational performance (Mu et al., 2008).

The knowledge sharing that takes place through day-to-day management processes appears to be the most relevant, whereas in the case of small and medium enterprises, people focused knowledge sharing is the most important (Saenz et al. 2009).

Dynamic teamwork, more often than not, arises from a small team whereby every member has the opportunity to contribute and share. Size is important in innovation. Today, bigger organizations opt for smaller teams to generate new knowledge and ideas. SMEs are always regarded as the best platform for innovation because of their small size and closeness to the main knowledge and idea contributors – its customers. This integrative process from

intellectual capital to knowledge sharing and innovation leads to higher performance in the organization as shown in this finding.

Market orientation is important for SMEs; however, most SMEs are dependent on government agencies in manoeuvring their market orientation. Therefore, SMEs should start paying attention to what is happening in the market they are operating in while strengthening their relationship with their customers.

In addition, the findings show the positive impact of knowledge sharing on innovation, which has been supported by the findings that show that knowledge sharing is an important antecedent to innovation. Even though knowledge sharing sounds easy, in reality, it is difficult to get people to share their knowledge as people consider that "knowledge is power". Sharing knowledge during social gathering is simple but sharing knowledge for the sake of the organization's performance is a challenge. Innovation is a resource-intensive business where managers must continuously build and exploit unique resources and capability, especially from their people (Yap et al., 2005). Innovation is a product of creative ideas. Knowledge sharing is idea generation and idea implementation that requires innovation. Japan has long shown to the world how much their knowledge sharing practices have helped them be more competitive and innovative.

This study also shows that knowledge sharing acts as a mediator between intellectual capital, innovation and organizational performance. These findings suggest that organizational performance does not occur in a vacuum but is determined by a certain set of strategic choices made by the owners.

The next section shows the summary of the findings of this study.

6.4 Summary

Table 6.1 shows the summary of the research questions as discussed earlier.

Table 6.1 Summary of Discussion

Research Question	Objective	Data Analysis
RQ1: What is the impact of SMEs' intellectual capital on organizational performance?	To investigate the relationship between intellectual capital and organizational performance in SMEs	Intellectual capital in SMEs influences organizational performance.
RQ2: Does knowledge sharing mediate the relationship between intellectual capital and organizational performance?	To find out the impact of knowledge sharing on the relationship between intellectual capital and organizational performance.	Knowledge sharing has a weak impact on the relationship between intellectual capital and organizational performance.
RQ3: Does innovation mediate the relationship between intellectual capital and organizational performance?	To find out the impact of innovation on the relationship between intellectual capital and organizational performance.	Innovation has a strong impact on the relationship between intellectual capital and organizational performance.
RQ4: Does knowledge sharing and innovation mediate the relationship between intellectual capital and organizational performance?	To investigate the mediating effects of knowledge sharing and innovation on intellectual capital and organizational performance.	Intellectual capital has an impact on organizational performance through knowledge sharing and innovation. The best path for better performance is starting with intellectual capital through knowledge sharing and innovation. Knowledge sharing and innovation partially mediate the relationship between intellectual capital and organizational performance.

Source: compiled by researcher.

The presentation in this section provides answers to the research questions posed by the researcher in the initial stage of the study. Four research questions were posed by the

researcher. The questions have been used to guide the study process. This section revisits the questions and furnishes answers with elaborations according to the findings of the research.

This chapter presented the research discussions. The intellectual capital has a strong positive impact on organizational performance. Knowledge sharing is an important link between intellectual capital and organizational performance, which helps to enhance the performance. Innovation has also proven to be an important link in the relationship between intellectual capital and organizational performance.

The intellectual capital through knowledge sharing and innovation gives a better performance of SMEs. Knowledge sharing also has a strong positive impact on innovation. Together, knowledge sharing and innovation are the important links for intellectual capital to enhance the organizational performance.

In the next chapter, the conclusions and recommendations are presented.