CHAPTER 7

CONCLUSION

7.0 INTRODUCTION

The aim of this study was to empirically test the notion advanced in the literature concerning the importance of internal organisational variables in the relationship between strategy and performance. In this study, this notion was tested by analysing the mediating role of combinative capabilities and explorative learning in prospector-oriented companies in the Malaysian manufacturing industry. Using cross-sectional analysis, the study concluded the analysis by testing the structural model that incorporated all of the hypothesised relationships analysed in this research. The main highlight of this study was the confirmation of the mediation proposition gained by testing the mediating role of learning and organisational mechanisms in the strategy–performance relationship. This final chapter encapsulates the study by firstly presenting an overview of the entire process, and then providing an indication of its theoretical and practical implications and contributions. The chapter ends by presenting the limitations and suggestions for future research.

7.1 AN OVERVIEW OF THE RESEARCH

Before commencing the empirical analysis, an extensive literature review was undertaken and presented in order to elaborate the issues related to the constructs involved in this study. Based on the discussion, the research aims were explicitly

extracted from the gap identified in the literature and these were consequently translated into the precise research objectives and hypotheses of the study.

The discussion in the literature review firstly established the importance of prospector strategic orientation in the overwhelming competitive landscape faced by firms nowadays. Using the competitive environment argument, the researcher rationalised why it was more pertinent to examine prospector orientation with regard to learning in order to understand the dynamics in the business environment. Despite many attempts by previous research efforts to relate strategy and knowledge constructs, it was concluded that learning remained an under-researched area, and therefore, that more studies related to the learning construct were warranted as a means of expanding the understanding of knowledge as a critical resource for firms.

As more studies acknowledged the importance of knowledge, many attempts were made to understand learning by classifying it based on the breath and depth of the process or the outcome of learning. In this process, most of the studies concluded that learning cannot be separated from other organisational constructs such as culture, structure and even strategy, and that these must be taken into account in order for it to occur and play a part in performance determination. Therefore, learning was aligned with other organisational constructs to give a comprehensive perspective of learning and how it can benefit firms.

Although many learning typologies were identified from the literature, the fact that the environment was seen to assume a significant role in explorative and exploitative learning (March, 1991) justified the relevance of this classification to the Miles and

Snow (1978) strategic typology. A few studies have ventured into this relationship and found evidence of a significant relationship between explorative learning and prospector strategic orientation. Besides, the importance of being innovative in the current competitive situation further justified the importance of both constructs to business firms.

Among the factors that were believed to be related to learning, the concept of combinative capabilities was suggested to affect absorptive capacity that was vital in determining the learning path of firms. The relationship between combinative capabilities which constitute system, coordination and socialisation capabilities, and learning were explained in detail, and arguments from different perspectives were presented to justify the significance and the direction of the relationships. From the discussion, the importance of both constructs supported the alignment proposition that suggested performance to be contingent upon the mediation of several factors. In this study, strategy was proposed to be an antecedent of performance. However, it requires learning and organisational mechanisms as mediating variables to determine variation in performance. This is in line with the arguments from environmental, structural, innovation, and knowledge sharing perspectives that conclusively suggested the existence of significant relationships among all three constructs: prospector strategic orientation, combinative capabilities, and explorative learning in performance determination.

Finally, based on the literature review, the discussion presented the theoretical framework of the study in which all constructs were tied together to put forth a model which supports the contention of alignment. It was found that it is generally

conceded in the strategic management literature that strategy determines the extent and type of learning and also organisational structure. Likewise, in the organisational learning literature, learning was also acknowledged to be enhanced by appropriate organisational constructs. Hence, using a contingency framework, this study synergised the perspective of both strategic management and organisational learning to put forward an extended model of the strategy-performance relationship that will further increase the understanding of the dynamics of the relationships in the pursuit of business performance.

7.2 SUMMARY OF THE RESEARCH FINDINGS

Using a cross-sectional survey design, this study examined the mediating proposition in the strategy-performance relationship in the Malaysian manufacturing industry. There were six variables involved: prospector strategic orientation, explorative learning, system capabilities, coordination capabilities, socialisation capabilities, and performance which were measured using a Likert-type scale developed according to previous studies. The research framework proposed a direct positive relationship between prospector strategic orientation and explorative learning, combinative capabilities and performance. On the other hand, this framework also proposed mediating hypotheses related to explorative learning and combinative capabilities. Structural equation modelling (SEM) was utilised to assess the framework by firstly confirming the extent of mediation of explorative learning and combinative capabilities, and the results were then translated to propose a model to be tested in terms of goodness of fit. The findings are summarised in Table 7.1.

The first two hypotheses were developed to address the issue of the missing link in the discussion of strategy-performance relationship. As postulated in the literature review, prospector strategic orientation was positively related to explorative learning, but not to performance. In order to present a more complete picture of the relationship between strategy and performance, direct relationships were examined between combinative capabilities and both prospector strategic orientation and explorative learning. Remarkably, the direction of the relationships was consistent for both constructs: system capabilities were negatively related and coordination capabilities were positively related to both prospector strategic orientation and explorative learning. The most interesting finding was the positive relationship that emerged between socialisation capabilities and both prospector strategic orientation and explorative learning. Not only was the direction opposite, but it was also consistent in both relationships. This finding indicates that prospector-oriented firms deal with a greater amount of tacit knowledge, and this knowledge can only be transferred and integrated through extensive socialisation.

The mediating hypotheses were developed to confirm whether both explorative learning and combinative capabilities are contingent factors in strategy-performance relationship. As shown in Table 7.1, both were found to mediate this relationship. Explorative learning fully mediated the relationship between prospector strategic orientation and performance, and between combinative capabilities and performance. On the other hand, combinative capabilities were found to partially mediate the relationship between prospector strategic orientation and explorative learning. Finally, the findings contribute to the gap in the literature by examining the

combined effects of both combinative capabilities and explorative learning on the strategy-performance relationship.

Table 7.1: Research Gaps, Research Objectives and Findings

Research Gaps	Research Objectives	Findings
Among many internal factors that have been analysed to understand this relationship, variation in learning approach has not been extensively examined although knowledge has been suggested to be the missing link in the discussion of strategy and performance (Asoh, 2004; Sun & Chen, 2008).	To determine the importance of strategy and learning constructs in performance determination	The findings did not support the relationship between prospector strategic orientation and performance, but did however, find support in explorative learning and performance.
By simply examining direct relationships between strategic orientation and performance, it is not possible to provide a complete picture to understand the dynamics of organisational behaviour from a strategic management perspective (Wiklund & Shephard, 2005).	To examine the relationship between prospector strategic orientation and explorative learning, and the relationship between prospector strategic orientation and combinative capabilities	There was a positive relationship between prospector strategic orientation and explorative learning. However, the relationship between prospector strategic orientation revealed mixed results. System capabilities were found to be negatively related, whilst coordination capabilities were found to be positively related to prospector strategic orientation. However, the result on socialisation capabilities was not supported.

Table 7.1 (Continued)

Research Gaps	Research Objectives	Findings
Fredrickson (1986) asserted that a balanced view of strategy must acknowledge that the strategic decision process and its outcomes can be facilitated, constrained, or simply shaped by organisational mechanisms.	To examine the role of combinative capabilities in determining the extent of explorative learning pursued by firms with prospector strategic orientation	The result on the direct relationship between explorative learning and combinative capabilities was similar to the result on prospector strategic orientation and combinative capabilities. Although system was negatively related and coordination capabilities were positively related to prospector strategic orientation and explorative learning, socialisation capabilities were found to be positively related which contradicts the proposition of this study.
In line with the conclusion of previous research on strategy, internal and external factors must be considered as contingent factors (Van de Ven, 1986; Su et al., 2008).	To examine whether combinative capabilities and explorative learning act as the contingent factor in the strategy-performance relationship	Both factors were found to be contingent factors in the strategy-performance relationship. Explorative learning was found to fully mediate the relationship between strategy and performance, and the relationship between combinative capabilities and performance. On the other hand, combinative capabilities were found to partially mediate the relationship between prospector strategic orientation and explorative learning.

Table 7.1 (Continued)

Research Gaps	Research Objectives	Findings
Comparatively less research has been conducted to evaluate the issue of organisational learning and combinative capabilities and their combined effects on firm performance.	To test a structural model that explains the mediating role of combinative capabilities and explorative learning in the strategy-performance relationship	The structural model that integrates combinative capabilities and explorative leaning as mediating factors revealed an acceptable fitting model with above 0.9 goodness of fit indices. Both prospector strategic orientation and combinative capabilities explained 86% of variance in explorative learning and all variables explained 49% of variance in performance.

7.3 THEORETICAL CONTRIBUTIONS

Recent literature in organisational learning has suggested that organisational success is increasingly dependent upon a balance between exploration and exploitation (Liu, 2006; Sidhu et al., 2007). Although the focus of recent literature has shifted to discover the means and mechanisms to achieve a balance between the two, it cannot be denied that more attention should be given to explorative learning due to its importance in encouraging innovation (Gima, 2005). Based on the findings, the present study has extended the existing strategic management and organisational learning literature.

Firstly, from a strategic management point of view, this study contributes to the resource based view (RBV) that posits knowledge as the most important resource that needs to be translated into internal competencies for innovation (Barney, 1991; Kogut & Zander, 1992). By addressing the reasons why scarce resources should be allocated to exploration as compared to exploitation, this study has managed to illustrate the importance of explorative learning to prospector-oriented firms and, therefore, the mediating role of explorative learning must not be neglected. In addition, the importance of explorative learning must also be supported by organisational competencies (discussed as combinative capabilities) in order to enhance learning. Using the contingency premise, this study provides support that both combinative capabilities and explorative learning mediate the relationship between strategy and performance and provide evidence of the influence of both constructs in performance determination.

The fact that this study presented an integrated analysis of the strategy-performance relationship, has provided a comprehensive perspective of the connectedness between strategic management and organisational learning. From the research framework, this study was able to confirm the antecedent conditions affecting explorative learning and its implications for performance, thereby contributing to the extant literature that attempts to integrate both perspectives in explaining variation in performance.

Secondly, from the organisational learning perspective, this study was able to advance the organisational learning literature by explaining how companies with prospector strategic orientation can enhance explorative learning through the development of appropriate combinative capabilities. Previous studies have been more focused on the structural requirements of learning which generate typical conclusions in respect of contributing factors such as flexibility, autonomy and communication. This study, however, was able to link the issue of absorptive capacity by introducing combinative capabilities as a contingent factor that affects learning. This generates a rational discussion to explain the requirements of explorative learning and infer the importance of different kinds of structural mechanisms that encourage learning and yet have some elements of control. The findings also gave support to the notion of ambidexterity in structure that is gaining popularity in current writing.

Although the intention of this study was to confirm the importance of aligning strategy, organisational mechanism and learning, it also provides guidelines for managing organisational learning processes. It suggests that the survival of any

organisation depends upon the development of appropriate organisational mechanisms to achieve sufficient exploration to ensure future viability, especially taking into account, today's turbulent environment.

Thirdly, this study has also enriched the current understanding of the scope of explorative learning by including experimentation in the measurement of explorative learning. As mentioned in the literature, many prior studies discussed exploration according to an information acquisition and processing perspective (e.g. Sidhu et al., 2004, 2007) and therefore, limited the definition of explorative learning. It is even suggested in these studies that there is still room to extend the measurement beyond the information search dimension, and therefore this study is one of the several attempts to widen the scope of exploration orientation. By incorporating the experimentation dimension, the measurement used in this study offers strong support for the definition of explorative learning that encompasses variance maximisation, experimentation, and new knowledge acquisition which involves risk and uncertainties.

Finally, in addition to the contribution from the strategic management and organisational learning perspective, this study also contributes to the literature by being perhaps among the first to test empirically the relationship between combinative capabilities and explorative learning. The insignificant negative relationship between socialisation capabilities and explorative learning as postulated by March (1991), explained the absence of tacit knowledge in March's conceptualisation of exploration. This evidently has shown the importance of tacit knowledge in prospector strategic-oriented firms and the accumulation of this type

of knowledge in explorative learning as highlighted in the study by Miller et al. (2006). The findings of this study give credence to the importance of tacit knowledge in innovation as proposed by Nonaka (1994), and future discussion of explorative learning should be extended to incorporate the role of tacit knowledge in encouraging experimentation and searching for information.

7.4 MANAGERIAL IMPLICATIONS AND CONTRIBUTIONS

This study has important implications for managers. Firstly, the findings suggest the importance of developing appropriate combinative capabilities to support explorative learning. Previous studies have offered simplistic structural prescriptions (Eisenhardt & Tabrizi, 1995), but this study provides evidence of the mediating role of both combinative capabilities and explorative learning in strategy-performance relationship. In other words, the findings of this study indicate the need for managers to become more explicitly aware of the importance of allocating resources to the development of appropriate organisational mechanisms to support learning orientation in line with the strategy outlined by the top management. Therefore, the findings act as prescriptive guidance to assist managers not only in terms of allocating resources, but also in diagnosing and correcting misfit in the internal aspect of the firms.

Another implication of this study is the need for managers to manage exploration in terms of information search and encouragement of experimentation in the organisation. This exercise should, however, not undermine the importance of exploiting the acquired new knowledge and transforming the tacit knowledge into

explicit knowledge. It is also a challenge to the management to simultaneously establish organisational mechanisms that can stimulate the search for new knowledge and standardisation of found knowledge. However, as suggested by He and Wong (2004), the organisational tension between exploration and exploitation may be a hindrance in building an ambidexterity-oriented firm that could accommodate both learning in competitive situations.

Another important managerial implication is the need to understand the pattern of organisational learning in order to manage and guide it within its unique context. Management must be aware of the complexity involved in organisational learning, since it encompasses a multi-level process that spans from individual intuitive insights to major resource allocation decisions that determine the extent and type of learning. Therefore, this study provides an insight into the importance of aligning a firm's objectives to the internal variables or factors important to learning in order to avoid waste of effort and resources. It is evident that failure to link these issues appropriately may in fact discourage learning and, therefore, inhibit innovative pursuits desired by the management.

7.5 LIMITATIONS OF THE STUDY

The purpose of this study was to empirically test several hypotheses advanced in the literature regarding the mediating role of internal mechanisms in strategy – performance relationship. Two internal mechanisms were highlighted: combinative capabilities and explorative learning that are suggested to mediate the relationship between prospector strategic orientation and performance. Combinative capabilities

are related to organisational mechanisms that are identified to support the learning process, whilst explorative learning explains the learning orientation suitable for prospector firms which compete in a highly volatile environment.

From the study, it can be concluded that the nature of inter-functional dynamics plays an important role in determining the level of explorative learning in a firm. In this respect, socialisation capabilities supported the inter-functional integration effort and this facilitated the explorative learning orientation which is important to prospector-oriented firms. Greater coordination capabilities are required to ensure inter-functional cooperation which are supported by greater socialisation capabilities and lower system capabilities through the elimination of rigid procedures and through allowing flexibility to flourish in the organisation. These three elements promote and encourage the practice of explorative learning through information acquisition, which is practically translated into experimentation.

Although the findings of this study provide insights into the dynamics of explorative learning, the results should be interpreted in the context of inherent limitations, which are now presented and discussed.

1) The data collection is confined to the manufacturing sector in Malaysia. Although the study collected data from a variety of sectors in the manufacturing industry, and thereby achieved a greater source of variance, the generalisability of the findings to other industries remains limited. Furthermore, it has been argued that the knowledge requirements in different industries may affect the extent of explorative learning (Garcia et al., 2003).

Therefore, the validity of the results may be restricted to Malaysian firms in the manufacturing sector, and the generalisability of the study's findings may not be capable of extension to other countries because different settings may produce different results. Therefore, it is suggested that future research should extend this study to sectors other than manufacturing and also to other countries, to test whether the present measurement and substantive findings also hold in other contexts. As such, research that extends the measure to other types of business would strengthen the validity of the measurements and increase the range of applicability. In fact, a study incorporating multiple industries would permit a comparison of the degree of explorative learning in different industrial settings and give some idea of the importance of explorative learning according to industry.

2) The next limitation is related to the source of the data. This study employed a single informant approach whereby the perceptions of the Chief Executive Officer (CEO) or Managing Director (MD) were gathered to measure the constructs. As mentioned earlier, the reason for this practice was because previous strategic management studies had suggested that the CEOs or senior executives were the most knowledgeable respondents for a study such as this. Although the study cannot show with certainty that it was truly the top management personnel who answered the questionnaire, the insistence in the covering letter on obtaining responses from the top management was an effort to minimise the occurrence of possible bias emanating from the wrong respondent completing it.

Although strategic management studies stress the importance of addressing senior managers because they are considered the most knowledgeable sources of information, the use of multiple respondents is still considered to be the most desirable method to ensure reliability of the information. Furthermore, using multiple respondents will minimise common method bias that arises from using self-reported measures (Auh & Menguc, 2005) and will allow examination of inter-informant response consistency (Sidhu et al., 2004). However, some studies using the Miles and Snow (1978) strategic typology found substantial agreement on the perception on strategy among top managers within a company (e.g. Snow & Hrebeniak, 1980). Furthermore, several other studies have also shown that selecting knowledgeable senior managers as key informants results in reliable and valid data on strategy and performance (Kumar et al., 1993; Zahra & Covin, 1993). Nevertheless, it still remains that the data were from single informants. Therefore, it is suggested that future studies use multiple respondents to establish inter-respondent reliability. Another option is to use triangulation by incorporating qualitative procedures to strengthen and support the findings of the research.

3) The next limitation is related to the study sample, which is comprised of medium and large companies; small companies were excluded from this study. However, it was suggested in some studies that innovativeness is more apparent in small-sized companies. However, this study has argued the rationale for focusing on larger-sized companies given that innovation research asserts the presence of slack resources is important to innovation.

Future research should therefore be extended to both small and large companies and this will not only expand the conclusions but may also answer the conflicting premise presented in the innovation literature.

4) Due to the exploratory character of this study, the scales developed and used were necessarily limited. Thus, the empirical analysis is regarded more as an illustration of the theoretical ideas rather than a definitive test. Nevertheless, the results presented offer interesting insights into explorative learning and its relationship to strategy and performance. Another limitation related to the scale, is the use of perceptual scales to measure some of the variables. This may lead to the possibility that the findings may have been a result of some common affective component underlying the scales rather than a true relationship. For instance, in terms of strategic orientation, Snow and Hambrick (1980) believe that sometimes respondents may be misguided by the complexity they see in the firm, thus making it impossible for them to classify their firms accordingly. Furthermore, increasing evidence from the literature has revealed that strategy formulation is linked to top management's personal philosophy and personality (Kotey & Meredith, 1997). Therefore, it is likely that self-interest and personality may influence the interpretation of strategy.

   Taking into consideration this issue, a proactive measure was undertaken whereby clear instructions were given to respondents to provide answers that reflected the actual situation. In light of the steps taken, the possibility of an affective component cannot be definitely ruled out. Hence, in terms of

methodological approach, triangulation in the form of multiple measurements may be suggested in future research to draw a more definitive conclusion about the proposed relationships.

5) There is also the inherent limitation of using cross-sectional data. Although the conclusion of this study has provided some inferences on the causal relationships, causality cannot be clearly established in the absence of longitudinal analysis (Kickul & Gundry, 2002; Sidhu et al., 2007; Spector, 1981). As argued by Choi, Poon and Davis (2008), the use of a cross-sectional design gives a snapshot view of the issue rather than illuminating the dynamic aspects of learning. It is suggested that future research could, therefore, verify causality by empirically using longitudinal design and lagged models. The dependent variables can be measured with a two to three year time lag to allow for the effect of explorative learning in the initial period to materialise. This would help to specifically measure the result of explorative learning that is contingent upon strategy and combinative capabilities, rather than comparing differences associated with practices across firms (Benner & Tushman, 2003).

Despite these limitations, this study has made progress towards addressing important gaps in the literature. In one respect, it advances the multidimensional operational measure of explorative learning by incorporating experimentation in the existing boundary spanning search scale. Furthermore, the integrative approach used in this study has not only filled the gap in the literature, but also interconnects strategic

management and organisational learning perspectives in explaining variation in performance.

7.6 SUGGESTIONS FOR FUTURE RESEARCH

As with other research studies, the identification of limitations serves as the basis for recommendations regarding future research, and these are now discussed. Firstly, in light of the limitation of using a single industry setting, future research should extend this study to other industries as well, not only to justify the importance of learning constructs in the strategic management context, but also to test the plausibility of the framework in different industry settings. A greater ability to generalise would result from such an effort, and likely the importance of the learning construct would receive stronger confirmation.

In order to understand the dynamics of learning in the strategy-performance relationship, a longitudinal approach should be employed in future research. By measuring explorative learning over time, future studies will be able to present a more conclusive interpretation of the significant impact of different types of organisational learning on performance. As Lant and Mezias (1992) have suggested, based on a simulation model of learning, longitudinal dynamics are very important to understand learning in cases of organisational convergence and reorientation. Moreover, studies on learning dynamics in relation to strategy are still under-researched and, therefore, this issue warrants the attention of future research efforts.

In addition to the above potential of future studies, the notion that the knowledge base will eventually erode in the long run and the ability to exploit will deteriorate

through time, has compelled researchers to investigate ways to rejuvenate learning from different perspectives. Future research should explore the issue of resource allocation, especially in respect of how to optimise resource distribution in order to achieve balance in terms of exploration and exploitation. As explained in the literature, excessive focus on exploitation may result in organisational myopia (Levinthal & March, 1993; Radner, 1975) and competency traps (Levitt & March, 1988; Liu, 2006), and excessive exploration may encourage firms to indulge in unnecessary risk-taking, that subsequently leads to a waste of resources. There is ample evidence in the literature that firms are striving to find mechanisms that allow them to excel in both operational efficiency and innovation. Current studies are moving towards explicating the ambidexterity hypothesis in order to combine operational excellence in terms of price, quality, variety, and speed with innovation excellence (Jansen et al., 2005; Kale & Wield, 2008; Simsek, 2008). However, the attempts are still limited in terms of empirical evidence and therefore, future studies should explore this notion since the findings will inevitably help firms in maintaining and improving competitiveness through time and that will ensure survival in the long run.

Another interesting venue for future research resides in the assumption contained within the Miles and Snow (1978) framework that all strategic types are equally viable across all environments (Zajac & Shortell, 1989) and the opposing view that strategy is incumbent on the environment within which firms operate (DeSarbo et al., 2005; Hambrick, 1983). Although this study did not attempt to examine learning according to different types of strategic stance, it would be interesting to discover whether different types are equally likely to occur over time and place, and if this

does not hold, whether there is a possibility that learning-related factors might contribute to the prevalence of different types of strategy. This proposition has some basis since findings from studies of top managers have suggested that their background, experience, and prior knowledge, all have some influence on their psychological and cognitive interpretations that shape strategic decisions. Therefore, future studies may examine the possibility of learning being an antecedent of strategy in an inter-related or cyclical form of relationship.

Prior studies on exploration often relate exploration to external knowledge acquisition, and more studies on exploration focus on networks such as those developed in strategic alliances, mergers, and acquisitions (Carayannis et al., 2006; Lavie & Rosenkopf, 2006) to explain exploration. This is in line with March's (1991) explanation of explorative and exploitative learning that envisages exploration as acquiring new knowledge from external sources, rather than a re-combination of existing knowledge from internal sources. The findings of this study have provided support for the notion that exploration can come from internal knowledge as well, and future research could explicate the process of re-combining internal knowledge as a source of explorative learning. After all, internal resources are more easily assessed, and form a reliable source for knowledge sharing and integration. Therefore, it is interesting to investigate how internal sources of knowledge can maximise explorative learning through different approaches in socialisation and coordination mechanisms. Hence, it is suggested that future studies should adopt a more rigorous approach, especially in terms of the methodology used and the variables being investigated, in order to have a better understanding of organisational learning in relation to strategic management.

7.7 CONCLUSION

In conclusion, the present study is an attempt to reconcile the strategic management and organisational learning perspectives by examining contingent relationships between prospector strategic orientation and explorative learning in performance determination. In order to present a more comprehensive analysis of this relationship, combinative capabilities were included to demonstrate the importance of appropriate infrastructures to encourage certain type of organisational learning. The findings and discussion have drawn attention to the need for further investigation to further understand the relationship between strategy and learning which is still elusive and lacking in empirical evidence. However, the findings of this study have managed to unravel new understanding related to the strategy-performance relationship that gives theoretical as well as practical implications to the existing body of knowledge.