THE IMPACT OF MANAGERIAL COGNITION, HUMAN CAPITAL AND SOCIAL CAPITAL ON STRATEGIC ENTREPRENEURSHIP AND FIRM PERFORMANCE: EVIDENCE FROM INDONESIAN ISLAMIC BANK INDUSTRY

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ABSTRACT

Debates amongst academicians and recent studies have not adequately explained the importance of of strategic entrepreneurial firms that continuously reveal opportunities and exploit their advantages. This paper discusses the dynamic managerial capabilities to clarify the process of creating and developing strategic entrepreneurship which allows firms to continuously find more effective exploration and exploitation. This paper proposes a conceptual framework that explores how managers with strong capabilities on the elements of dynamic managerial capabilities-managerial cognition, managerial human capital and managerial social capital enable firms to encounter opportunities and use their advantages, which in turn enhance firm performance. To develop the conceptual framework, the paper is built on the extant literature review of dynamic capability, dynamic managerial capability and strategic entrepreneurship. The study uses data of Indonesian Islamic banking industry, through which little conceptual model has been previously existed. The article concludes with theoretical implications.

Key Words: Dynamic Capabilities, Dynamic Managerial Capabilities, Strategic Entrepreneurship, Firm Performance, Islamic Banking

INTRODUCTION

While Islamic banks presence has played a vital role in the impressive expansion of the Indonesian banking industry over the last decades, its key factors to sustain the banks' performance in today's rapidly changing and competitive environment remains unclear. Being able to develop a superior value proposition may be considered quite difficult for some of the Islamic banks due to nature of the industry as the highly regulated industry. These issues raise the need for Islamic banks' capabilities to be able to develop strategies to make sustaining firm performance and competitiveness more feasible.

Many studies have suggested the potential importance of entrepreneurship for organization in regard with the uncertain environment. Within this perspective, the central role of entrepreneurship is on its ability to recognize and discover new market opportunities occuring within unanticipated environment (Shane and Venkataraman, 2000; Morris, Kuratko and Covin, 2008). However, borrowing the notion of "the age of temporary advantage" developed by D'Aveni, Dagnino and Smith (2010), opportunity discovery (entrepreneursial perspective) alone may not be sufficient to build competitive advantages of firms (e.g., Hitt, Ireland, Camp and



Sexton, 2001). This is because competitions recently become more disruptive, through both exogenous and endogenous changes, which in turn lead to the erosion of advantages even in large and established companies. Moreover, competitive advantage also requires a balanced process of the strategic focus (strategic management perspective). The lack of the strategic focus leads leads to less capable in managing, leveraging and coordiating the effective use of the resources needed to build competitive advantage of the organization (Sirmon, Hitt, and Ireland, 2007; Kyrgidou and Petrodou, 2011). As a consequence, an approach that proposes balanced capabilities both on discovering opportunities and at the same time emphasizing strategic focus towards the pursuit of the creation of advantage is of pivotal interest for organization (Ireland, Hitt, and Sirmon, 2003).

Strategic entrepreneurship (SE) presumes the proposition to clarify those concerned. SE is explained as the recognition and utilization of opportunities, while simultaneously generating and maintaining a competitive advantage (Kuratko, 2009). The SE concept is initiated as the combination of strategy and entrepreneurship function (Hitt et al, 2001). Through this integration, SE covers both the opportunity pursuing comportment associated with exploration strategies, and the advantage pursuing behavior associated with the exploitation strategies from current organizational capabilities to develop competitive advantages (Ireland and Webb, 2007). Simply, SE encompasses exploration and exploitation strategies.

To date, various frameworks have been employed to develop and refine the concept of SE such as the significance of strategic learning as a determinant in combination with entrepreneurial examination strategies (Siren et al, 2012). They revealed that strategic learning is empirically valid to enable strategic entrepreneurship. With different framewoks, Kyrgidou and Petridou, (2011) draw an argument that internal resources, in particular the competence to explor opportunities and exploit current competitiveness is expected to have an influence on determining strategic entrepreneurial firms. However, research result shows that competence on exploitation and exploration has nothing to do empiricially with the process on building strategic entrepreneurship. In addition, other approaches that have been employed are among others job stress and employee retention (Monsen and Boss, 2009), agency theory (Meuleman, Amess, Wright, Scholes, 2009). Scholars also have investigated the relevance of SE in family businesses (Kansikas et al, 2011).

Although scholars have paid significant attention on the importance of SE studies, and done some empirical research on various methods, little empirical attempt has been done to get a clearer understanding on the process of producing strategic entrepreneurial businesses to continuously uncover opportunities and exploit their advantages (e.g., Ireland, Hitt and Sirmon, 2003; Luke and Verreynne, 2006; Upson, Ketchen and Ireland, 2007; Monsen and Boss, 2009) from a dynamic capabilities standpoint and particularly the current approach, dynamic managerial capabilities.

Following Teece, Pisano, and Shuen's (1997) and Adner and Helfat (2003), we argue that, despite the varied aspects of internal and external resources used on aforementioned studies, the basic premise in constructing strategic entrepreneurship is basically defined by firms' capabilities to generate, develop or adapt its resources base, internal and external resources in order to adjust and fulfill the needs of a changing environment (Teece, Pisano, and Shuen, 1997). These capabilities may play a significant role when organizations manage their internal and external resources with effective approach to intensly discover opportunities and simultaneously exploit competitiveness for gaining advantage. The method coping with these capabilities is called the dynamic capabilities viewpoint (Teece et al, 1997). Helfat et al (2007)



define Dynamic capability (DC) as his capability of an organization to decisively produce, expand, or adjust its resource base, and contains a patterned and somewhat practiced activity. Furthermore, these capabilities are naturally built in the management where they may significantly contribute to the entrepreneurial process, which includes inferring opportunities, flourishing and applying feasible business models, developing capabilities, and directing the organization through transformations (Teece, 2016). Thus, Adner and Helfat (2003) proposed an approach that elaborates the importance role of management capabilities in dynamic standpoint, which is known as dynamic managerial capabilities (DMC).

Correspondingly, this paper is aimed at resolving this issue. Relying primarily on dynamic capabilities and framework of dynamic managerial capabilities, this paper aims to propose conceptual framework that explains how managers with strong emphasis on the dynamic managerial capabilities-managerial cognition, managerial human capital and managerial social capital enable firms to powerfully detect opportunities and exploit their advantages, which in turn improve the business performance. Therefore, to develop the conceptual framework, the paper is built on the extant literature review of dynamic capability, dynamic managerial capability and strategic entrepreneurship. Finally, this paper ends up with a number of research propositions.

LITERATURE REVIEW

Strategic Entrepreneurship

Entrepreneurship and strategic management as the basis of SE have been separately acknowledged as a potential means for sponsoring and sustaining firm competitiveness. Entrepreneurship perspective emphasizing on recognition and exploitation opportunities (e.g. Shane and Venkataraman, 2000), and strategic management field, associated with competitive positioning (e.g. Porter, 1980) are sufficient for a firm to enjoy sustained superior performance. Hitt et al, 2001 suggest an incorporation of these separated fields, known as strategic entrepreneurship (SE). SE covers opportunity- pursuing behavior (entrepreneurial) and advantage-pursuing behavior (strategic perspectives) in developing and taking actions for wealth creation (Hitt et al, 2001; Ireland and Webb, 2007). The background of SE construct is consistent with findings that most business are effective in opportunities identification but are less effective in competitive advantages development. In contrast, big, reputable cusinesses often are relatively more effective in developing competitive advantages but are less capable in recognizing new prospects (Ireland et al, 2003).

Currently, studies on SE becomes substantial and urgent. The potential advantage of the connection of entrepreneurship and strategy is noticeably renowned in the literatures (Burgelman, 1983; Miller, 1983; Venkataraman and Sarasvathy, 2001). Meyer, Neck, and Meeks (2002) advocate that SE proposes a strategic advantage because this intersection refers to as the creation-performance relationship. Focusing on that intersection, Kyrgidou and Hughes (2010) suggest the advantages of SE constructs. They claim that SE can be employed to help a firm develop new approaches, exploit new market potentials and continually refining strategy in a dynamic business environment (Kyrgidou and Hughes, 2010).

Dynamic Capabilities

The primary goal in strategic management is to help firms realize and sustain competitive



advantage. Literature on resource-based view (RBV) has suggested that VRIO model primarily drives the process of achieving and sustaining competitive advantage. The VRIOs are firm's valuable, rare, inimitable, and non-exchangeable resources (Barney, 1991). While RBV proposes to explain those primarily concerned, limited detail explanation of the theory has been provided to clarify how competitive advantages are achieved in the dynamic and disruptive environment (Eisenhardt and Martin, 2000; D'Aveni, Dagnino and Smith, 2010).

The necessity for organization to concurrently involve in exploitation and exploration is significant in this regards. Teece, Pisano and Shuen (1997) then fostered and proposed the dynamic capabilities (DC) concept. They suggest that dynamic capabilities fit to tackle those concerned since the essence of dynamic capabilities perspective is the way firms adjust, integrate and reconfigure its resource and skill base to react to the dynamic competitive environment (Eisenhardt and Martin, 2000; O'Reilly and Tushman, 2008; Teece, Pisano, and Shuen, 1997). The basic premise built on the theory is that capabilities to sensing and seizing new opportunities, which in turn reconfiguring their internal and external resources in line with identified opportunities and changes are the key factors to create and sustain their competitiveness (Teece, 2012, 2009).

The framework of DC has attracted scholars. Some conceptual and empirical studies on the methodology have been done (e.g., Helfat, 1997; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003; Verona and Ravasi, 2003; Teece, 2007, 2009). For example, Zhou and Li (2009), based on their empirical research conducted in 380 firms in China represented as the emerging economies, indicate that strategic orientation strategic orientations are significant carters of adaptive competence, a key feature of dynamic capabilities. Marcus and Anderson (2006) observed the way dynamic capabilities support firms' capability on social responsibility and the organization's competitive advantage. They found that DCs affect comapny's capability in a business competency, not a social competency.

Dynamic Managerial Capabilities

Dynamic managerial capabilities (DMC) represent the ability of managers to decisively generate, encompass, or modify an organization's resource base (Adner and Helfat 2003; Helfat et al. 2007). The development of DMC approach is envisioned to extend the supporting dynamic capabilities standpoint (Eisenhardt and Martin, 2000; Teece, Pisano, and Shuen, 1997) by highlighting the role of managers, individually and in teams (Augier and Teece, 2009; Harris and Helfat, 2013; Kor and Mesko, 2013; Martin, 2011; Teece, 2012), specially in its emphasis on the capacity of managers, individually and in teams, to influence strategic change" (Helfat and Martin 2014).

Adner and Helfat (2003) suggest that there are three essential elements of DMC that provide the capability to direct strategic change, i.e., managerial cognizance, managerial social assets l, and managerial human assets. These capabilities come from the previous studies on firm's managerial human capital done by Castanias and Helfat (1991, 2001), on social relationships by Burt (1992), and on managerial cognition by Hambrick and Mason (1984).

The significanc of DMC method for organization is derived from the proposition built in the theory. DMC proposes to deliver a particular attention on managerial impact on strategic change. Moreover, it helps to explain the relationship between the managerial decision eminence, strategic change, and organizational operation. Recent empirical works have concluded accordingly. Martin (2011) discussed Dynamic Managerial Capabilities and the Multibusiness Team using inductive approach and a constant comparison analysis. The study



proves that executive leadership groups played a generous role in detecting and grabbing opportunities and managing threats in a resolute way.

Another work by Sirmon and Hitt (2009) revealed that the DMC deals with how the critical role of managers in managing resources linked to firm performance. Recently, Helfat and Martin (2015) elaborate more. Reviewing and assessing several previous works on the DMC approach, they concluded that managers with strong capabilities emphasis on the managerial perception, social capital, and human capital, firm performance and different outcomes. However, amongst those conceptual and empirical study on the DMC, the approach remains limited (Castanias and Helfat, 2001; Helfat and Martin, 2015), especially on strategic entrepreneurship.

Through amplification on the extensive role of management capabilities in determining the current and future of organization, Adner and Helfat (2003) further proposed a concept of dynamic managerial capabilities (DMC). DMC is defined as the capability of managers to generate, encompass, or adjust the resource base of an organization. In this circumstance, competitive advantage holds when a resource or capability (or set of resources and capabilities) produces relatively more value than do similar resources and aptitudes of opposing organizations (Helfat et al., 2007). DMC is further propositioned with three attributes, i.e., managerial human capital, managerial social capital and managerial cognition (Adner and Helfat, 2003).

Establishing Strategic Entrepreneurship from a Dynamic Managerial Capability Perspective

As discussed previously, the major concern of the strategic entrepreneurship studies is to find a balanced capabilities on how firms' explotation strategies build and sustain advantages while concurrently uncovering new opportunities (Hitt et al., 2011; Hitt et al., 2001; Ireland et al., 2003). SE literature highlights that firms' capabilities to manage resources deliberately is significant because those process resources positioning allows the simultaneous use of opportunity- and advantage-seeking behaviors (Hitt et al., 2001; Ireland et al., 2003). Moreover, in the hyper-competitive environment, it is clearly seen that acquiring resources is quite difficult, leading to a consequence where a temporary advantage is achieved through efficiently sensing, creating timely required modifications and applying resources management dynamically with regard to reacting to environmental change (D'Aveni et al. (2010).

The view of dynamic managerial capabilities relates to strategic entrepreneurship. As discussed earlier, varied aspects of internal and external resources have been used to allow strategic entrepreneurship. Drawing on the dynamic capabilities and dynamic managerial capabilities (Teece et al, 1997; Adner and Helfat, 2003) may explain strategic entrepreneurship. These capabilities may play a significant role on how organizations manage their resources with effectively to powerfully discover opportunities and simultaneously develop competitiveness for an advantage.

Some previous studies have emphasized on this dynamic capabilities-entrepreneurship relationship, including Newbert et al. (2008), who define entrepreneurship skills as vigorous competences. Arthurs and Busenitz (2006) state that as an entrepreneurial entity advances, the necessity for dynamic capabilities becomes obvious. Branzei and Vertinsky (2006) explained the relationship between entrepreneurial ventures and DCs through innovation. Their main argument is that DC is basically what an entrepreneur does.

Essentially, Teece, Pisano, and Shuen (1997) highlighted two keys ideas, i.e., dynamic and capabilities. First, the so-called dynamic reflects firms' capacity to create new competences,



new organizational and industry configurations so as to match the requirements of unanticipated environments such as technological changes and markets (Schoonhoven and Romanelli, 2001). These abilities reflect firms' aptitude to identify, discover and explore new prospects in which scholars have agreed that opportunity acknowledgment is at the heart of entrepreneurship (Brown and Eisenhardt, 2000; McCline, Bhat and Baj, 2000).

Furthermore, this opportunities assessment is different from the one that only repeat steady and familiar tasks; but it is more wished-for exploration of something not explored before (Schreyogg and Kliesch-Eberl, 2007) or unexploited prospects (Hitt, Ireland, Camp, et al., 2001). In this regard, excellent skills in identifying prospects and grasping opportunities skill is significant for the aim of this opportunity detection and recognition (Teece, 1998).

Second, the term 'capabilities' is associated with the generous function of strategic management in suitably adjusting, mixing, and reconfiguring organizational skills, resources, and competences so as to realize a fit to changing environment (Schoonhoven and Romanelli, 2001). The term also regards with strategic resources management by which it is managers' competence to purposefully produce, encompass, or modify the resource base of the organization" (Helfat et al, 2007) so as to intensely uncover opportunities and simultaneously use current competitiveness for getting advantage.

Management capabilities possess the vital obligation to make decisions from which opportunities are most promising, consistent with vision and strategy, and composing the firm's resources accordingly (Linden and Teece, 2014). Moreover, Teece (2007) recognized managerial capabilities related to opportunity detection and exploitation, i.e., "(1) sensing (recognizing and evaluating opportunities outside the business), (2) seizing (assembling resources to seize significance from those opportunities), and (3) transforming (continuous renewal)". Teece (2016) highlights that dynamic managerial capabilities is entrepreneurial management to create and discover market opportunities and at the same time managing resources strategically through asset orchestration (Teece, 2016). Recently, Beck and Wiersema (2013) develop a model to elucidate the function of dynamic managerial capabilities in controlling an exclusive set of resources for the firm, which in turn lead to dissimilarities in firm strategies and accomplishment results.

Indonesian Islamic Banking Context

Despite the theoretical arguments built above, this paper takes place at Indonesia Islamic banking industry. Kyrgidou and Hughes (2010) suggest the need for examining empirically the SE in financial institutions. They posit that SE is less applicable for firms that have dilemma or paradox: balancing between regulations compliant requirements (to avoid systemic impact and moral hazard problems) and creative innovation (to build competitive advantage). Meanwhile, Islamic banking industry is even more highly regulated. Not only comply with regulations by the authorities, but also they have to meet all the requirements on Islamic law and ethical compliant. Thus, the current paper exploring on the context of Indonesian Islamic banking industry is quite desirable.

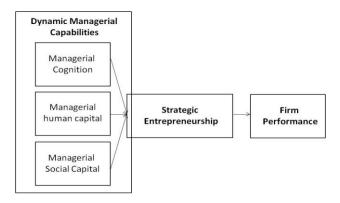
A CONCEPTUAL MODEL

Based on the aforementioned arguments, this paper proposes that strategic entrepreneurship is defined by vigorous managerial capabilities based upon Adner and Helfat's (2003) three attributes, i.e., managerial thought, managerial social assets, and managerial human



asset. The authors suggest that those three support the DMC to influence firms to develop strategic entrepreneurship, which in turn lead to firm performance. A composed model is further extended and aimed at explaining that there are crucial steps in order to realize the main purpose of this paper. First is to examine how the three attributes of DMC influence SE positively. Second is to examine the results of SE conduct on firm performance.

Figure 1
CONCEPTUAL MODEL OF THE RESEARCH



Managerial Cognitive Capability and Strategic Entrepreneurship

Managerial cognizance is associated with managers' abilities to identify what is happening and what will happen as the foundation for decision making (Adner and Helfat, 2003). Cognition refers to the process by which corporeal input is converted, decreased, expounded, stored, recovered, and utilized (Neisser, 1967, p. 4). It involves mental processing, that uses abilities such as perceiving, thinking, reasoning, learning, and understanding, and involves problem solving and decision-making (Walsh, 1995; Elstein and Schwartz, 2002).

Managerial thought is to examine future decisions and consequences (March and Simon, 1958; Cyert and March, 1963). It is also conditional on bounded reasonableness (Simon, 1947, 1955), and is vital in detecting and grasping exploration of new opportunities and exploitation strategies. Gavetti (2012) has claimed excellent mental processes may evade this trick and have greater accomplishment in detecting potential strategic opportunities. Smith and Tushman (2005) have recommended that upper managers should build a contradictory understanding that allows them to practice exploration and exploitation concurrently.

Following Chaston and Smith (2012), the current paper propose managerial cognitive capability is measured by intuitive and rational information processing. While previous works show that rational cognition affect managers to decide effectively (Daft and Lengel, 1986; Dean and Sharfman, 1993; Janis and Mann, 1977), currently managers' intuitive cognition ('gut feel' or 'hunch') is significant for taking decisions and solving problems (Blume and Covin, 2010), particularly in uncertaint condition (Khatri and Ng, 2000). This measure was developed by Epstein et al (1996). Accordingly, it is assumed that managers who emphasize on their cognitive capability have a greater possibility to enable strategic entrepreneurship.

Propositions 1: There is positive correlation between managerial cognition and strategic entrepreneurship in Indonesian Islamic banking industry, highly regulated industry.



Managerial Human Capital and Strategic Entrepreneurship

The second component of DMC is managerial human capital. Managerial human capital is defined as learned abilities and knowledge from individuals' experience, training, and education (Adner and Helfat, 2003; Helfat and Martin, 2015). According to Ireland et al (2003), human capital is a leading enabler of SE performances as human capital development eases managers to entrepreneurial competences, e.g., nimbleness, inventiveness, and talents to manage resources strategically (Alvarez and Barney, 2002; Ireland et al, 2003).

Managerial human capital concept in this paper is based on Marvel and Lumpkin (2007) in which prior knowledge represents human capital, indicated by four dimensions, i.e., (1) methods to serve markets, (2) customer difficulties, (3) markets, and (4) technology. Two main ideas of human capital exist in knowledge and experience (Becker, 1964). In this sense, prior knowledge is vital in determining opportunity detection and recognition. Venkataraman (1997) posits that entrepreneurs will detect only those opportunities straight connected to their knowledge. It means that prior knowledge generates a passage that allows entrepreneurs to notice and recognize only certain opportunities, but not others (Ronstadt, 1988).

Therefore, an increase managerial human capital leads to the possibility of enabling strategic entrepreneurship associated with two attributes: exploring opportunity strategies and exploitation strategies. Correspondingly, proposition is as follows:

Propositions 2: There is positive correlation between managerial human capital and strategic entrepreneurship in Indonesian Islamic banking industry, highly regulated industry.

Managerial Social Capital and Strategic Entrepreneurship

Managerial social capital refers to Managers' competences in developing and benefiting from high quality social relationships to improve firm performance (Adner and Helfat, 2003). Managerial social capital contains formal and informal relationship that may produce value inside and outside of the organization (Adler and Kwon, 2003). This formal and informal work relation provides managers with conduits for information that may be helpful in sensing new opportunities (Adner and Helfat, 2003).

We represented managerial social capital with network capabilities. The variable is measured in four aspects: activities Coordination, relations skills, partner knowledge, and internal communication (Walter et al, 2006; Diamantopoulos and Winkelhofer, 2001). The construct regards with internal and external relationship as suggested by Ader and helfat (2003). Thus, the proposition is as follows:

Propositions 3: There is positive correlation between managerial social capital and strategic entrepreneurship in Indonesian Islamic banking industry, highly regulated industry.

Strategic Entrepreneurship and Firm Performance

One of the main interests in promoting SE behavior is that it has pivotal relationship on performance. Conceptually, a firm involves in SE when it concurrently seeks for exploration for future business areas and exploitation of existing areas. Excellent performance often comes from



effective SE (Hitt et al, 2011; Ireland and Webb, 2007). Firm is strongly suggested to engage in SE – simultaneously exploring for future business domains while exploiting current domains – in order to consistently produce superior performance (Webb, Ketchen, and Ireland, 2010; Ireland and Webb, 2007; Schendel and Hitt, 2007).

Perhaps, study by Zahra and Covin (1995) is the best proof of a strong positive relationship entrepreneurship-performance. They collected data from three separate samples and a total of 108 firms. With longitudinal study, they examine the impact of entrepreneurship on a financial performance index consisting of both growth and profitability indicators. They recognized a positive and strengthening connection between corporate entrepreneurial behavior and succeeding financial performance. Indeed, Covin and Slevin (1991) propose that the central motive for the growing interest in entrepreneurship comes from the confidence that such activity can improve firm performance. The main significance of a strong entrepreneurial posture highlighted by Covin and Slevin (1991) is that the entrepreneurship construct stimulated positive result.

Despite the significant proofs of positive entrepreneurship-performance relationship, the empirical studies have reported a high variety of performance indicators (cf. reviews by Combs, Crook, andShook, 2005; Venkatraman andRamanujam, 1986). As stated by Lumpkin and Dess (1996), performance indicator is a multi-aspect thought and the association between entrepreneurial behavior and performance may rely on the standards employed to evaluate performance. This is due to firm performance is a multilayered construct that cannot be fully reflected by single indicator (Zhao, Seibert, and Lumpkin, 2010; Brush and Wanderwerf, 1992).

In this case, a common difference is between financial and non-financial indicators. Financial performance is a firm's capability to generate new resources from daily operations over a certain period of time (Peterson and Peterson, 1996 in Aktan and Bulut, 2008) such as sales revenue, profit, liquidity, and rentability. Non-financial measures include goals related to operational effectiveness such as internal control, job satisfaction, and so forth. Therefore, the proposition is as follows:

Propositions 4: There is positive correlation between strategic entrepreneurship and firm financial performance in Indonesian Islamic banking industry, highly regulated industry.

Propositions 5: There is positive correlation between strategic entrepreneurship and firm non-financial performance in Indonesian Islamic banking industry, highly regulated industry.

CONCLUSION

In conclusion, clarifying mechanism process in building strategic entrepreneurship through the construct of dynamic capability (DC) and dynamic managerial capabilities (DMC) is promising. This study demonstrates a conceptual model of a causal relationship of how firm with emphasis on the three underpinning attributes of dynamic managerial capability enable to build strategic entrepreneurial firms to intensely discover opportunities for future business and exploit current competitiveness for gaining advantages. Our model highlights the importance of dynamic capabilities and thus dynamic managerial capabilities as strategic change, in particular strategic entrepreneurship for accelerating firm performance and suggests that managers should focus more on developing capabilities to institutionalize the managerial mental capability, managerial human capital and managerial social capital for strengthening both opportunity-



pursuing and advantage-pursuing strategic actions and firm performance. Finally, we suggest that future research should emphasize on the function and mechanisms of dynamic managerial capabilities (DMC) in various industry contexts.

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