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Syed Asad Abbas Bokhari, Muhammad Aftab, Muhammad Zafar Yaqub, Murad Ali, Ali Malik

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Syed Asad Abbas Bokhari

Center of Convergence Security & e-Governance,
Inha University,
Nam-gu, Incheon 402-751, South Korea
Email: asad.bokhari@inha.edu

Muhammad Aftab

International Graduate School,
Namseoul University,
Cheonan 31019, South Korea
Email: aftab@nsu.ac.kr

Muhammad Zafar Yaqub*

King Abdulaziz University,
Jeddah 22254, Kingdom of Saudi Arabia
Email: mzyaqoub@kau.edu.sa
*Corresponding author

Murad Ali

Department of Leadership and HRM,
Newcastle Business School,
Northumbria University,
City Campus East, NE1 8ST, Newcastle Upon Tyne, UK
Email: murad2.ali@northumbria.ac.uk

Ali Malik

QFBA,
Northumbria University,
West Bay, Doha, Qatar
Email: m.malik@northumbria.edu.qa

Abstract: Entrepreneurs of small and medium enterprises generally strive very hard to achieve a sustained advantage over their competitors; dynamic managerial capabilities of these entrepreneurs could profoundly prove to be one significant source of such an advantage. The primary objective of this study has

been to investigate the significance of valuable, rare, inimitable, heterogeneous, non-substitutable dynamic managerial capabilities of the entrepreneurs in creating a sustained competitive advantage for their SMEs. Overall, the findings demonstrated substantial positive effects of various facets of dynamic managerial capabilities of the entrepreneurs on sustained competitive advantage, providing further empirical substantiation to the central tenets of the resource-based view (RBV) of the firm. In essence, the research findings not only ascertain the association between various facets of dynamic (managerial) capabilities and competitive advantage, but also offer some useful insights to those seeking to sustain the competitive advantage.

Keywords: dynamic capabilities; managerial capabilities; VRIN framework; sustainable competitive advantage; SMEs; resource-based view; RBV.

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Biographical notes: Syed Asad Abbas Bokhari is aspiring PhD in Convergent Security and e-Governance at Inha University, Republic of Korea while working as Teaching cum Research Assistant with the same institution. He attained a Master of Business Administration from Virtual University and Integrated Program in Business Administration from Ajou University, Republic of Korea. His research interests are smart cities, artificial intelligence, governance, and innovation. Some of his research has been published in Impact Factor Journals (*Sustainability*, *Applied Sciences*, *Sage Open*), ESCI/Scopus Journals (*Asia-Pacific Journal of Business Administration*, *Journal of Small Business Strategy*), KCI Journals (*Industry Promotion Research*) and international journals (*AJIBM*).

Muhammad Aftab received an MBA degree from Ajou University and a PhD degree in Global eGovernance (Public Administration) from the Inha University Republic of Korea. In March 2018, he joined the International Graduate School, Namseoul University, where he currently serves as an Assistant Professor and Department Chair for Master of Arts in Global Techno-Entrepreneurship. He has published several scholarly articles in prestigious international refereed journals such as *International Review of Administrative Sciences*, *Data & Brief*, *IEEE*, and *Industrial Promotion Research*, etc. His current research interests include public entrepreneurship, entrepreneurship policy, AI in government services, and participatory governance.

Muhammad Zafar Yaqub earned his PhD from University of Vienna, Austria. Earlier, he finished his MBA (with distinction), MA (Economics) and MA (Political Science) degrees from reputed educational institutions. Besides KAU, he has Adjunct Association with University of Vienna, Elite Innovation College Cambridge, University of Applied Sciences, and Al-Faisal University. He has been affiliated, as co-editor, associate editor and/or reviewer with eminent scholarly journals like *Management Science*, *Industrial Marketing Management*, *Small Business Economics*, *European Journal of International Management*, *Managerial & Decision Economics* etc. He has been a member of eminent scholarly bodies such as SMS, AIB, BAM, ANZAM, and EMNET.

Murad Ali is an Assistant Professor at Newcastle Business School, Northumbria University, UK. His main research interest is in the advancement of research methods to further the understanding of HRM, OB, knowledge management and innovation. His approach is quite interdisciplinary and has published in top-tier journals recognised by academic rankings (FT50, CNRS, CABS4). He has been an editorial board member of *Journal of Business Research* and an Associate Editor of *Asia-Pacific Journal of Business Administration*.

Ali Malik is a senior academic, researcher and Fellow of Higher Education Academy of UK (FHEA). He has over two decades of academic and industry experience in international environment. His areas of teaching and research interests are management accounting, financial markets and institutions, Islamic banking and finance and contemporary issues in accounting and finance. Currently, he is associated with QFBA-Northumbria University in Doha. Prior to this, he served University of Hertfordshire as Principal Lecturer. He had previously been involved with many leading UK higher education institutions in a variety of roles.

1 Introduction

How firms could achieve and/or sustain their competitive advantage, through an effective utilisation of their resources, capabilities, or competencies, has always remained a fundamental question in the field of strategic management (Eisenhardt and Martin, 2000). A significant stream of research has emerged, advancing and reinforcing the argument that firms can attain and sustain competitive advantage if they could possess, control and/or effectively leverage critical organisational resources (including entrepreneurial and managerial resources) or at a higher level of abstraction, capabilities or competencies that are heterogeneous, non-substitutable and perfectly immobile (Barney, 1986, 1991b, 2001; Peteraf, 1993). Barney's VRIO framework (Barney, 1991b) embodied in the resource-based view (RBV) of the firm has remained a critical juncture in explaining dynamics of the interplay between resources, strategy, and the sustained competitive advantage (Barney, 2001; Lado and Wilson, 1994; Peteraf, 1993).

Scholars, over the years, have profoundly extended the RBV of firm to the notions of dynamic capabilities (Eisenhardt and Martin, 2000; Teece et al., 1997). The RBV propounds that critical organisational resources can significantly contribute to attain and sustain competitive advantage through developing dynamic capabilities, which correspond to the organisational and managerial processes, e.g., coordination and integration, learning, reconfiguration and transformation; firm assets positioning; and path dependency (Eisenhardt and Martin, 2000; Teece and Pisano, 1994; Teece et al., 1997). Such dynamic capabilities transcend across all levels, spheres, and domains of the organisations as the means to effective resource optimisation primarily through attaining unique resource permutations and/or configurations. Evidence from previous empirical research provides substantial foundation for the contention that the heterogeneity in the way management accumulates, organises/configures, and utilises its resources, business processes and/or operations has a significant bearing on its performance heterogeneity (Storbacka and Nenonen, 2009; Yaqub et al., 2020). Consequently, a couple of research

questions that has gained significant attention in contemporary research, especially in entrepreneurship, strategy, and the organisation, in recent times have been:

1 Can dynamic managerial capabilities of the entrepreneurs be a source of sustained competitive advantage for a firm?

2 How entrepreneurs' managerial capabilities, being a source of sustained competitive advantage, cause performance heterogeneity?

Through this study, the researchers seek to solidify and extend the body of existing knowledge by testing and (empirically) substantiating these propositions extended in the RBV (Barney, 1991b) or its offspring like dynamic capabilities perspective (Teece and Pisano, 1994). As it is the entrepreneurs whose managerial decision making plays a critical role in identifying and seizing new opportunities, innovating business models and adapting imperative complementarities and alternative organisational assets (Augier and Teece, 2009), our focus in this study has been the (dynamic) managerial capabilities of these entrepreneurs. This research addresses some important gaps in previous research in strategy and entrepreneurship where little attention has been paid to empirically substantiate the effects of various facets (espoused in the VRIN framework) of dynamic (managerial) capabilities of the entrepreneurs on firm performance.

This paper is organised as follows: The following section, by shedding light on the dynamics of managerial capabilities and their effects on firms' competitiveness as envisaged in the contemporary literature, lays the theoretical foundation for the hypotheses of this study while making an appeal to the RBV, the dynamic capabilities perspective and the VRIHN framework. The third section outlines methodology of this research. Results are presented in the fourth section. The fifth and the final section, besides organising a discussion stemming from the empirical results, presents some suggestions for future research over and above summarising and concluding the entire discussion.

2 Literature review and hypothesis development

2.1 Managerial capabilities

Managerial capabilities are defined as 'the capabilities with which managers build, integrate, and reconfigure organisational resources and competences' (Adner and Helfat, 2003). The definition is derived from the concept of general dynamic capabilities described by Teece et al. (1997) as "firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments." As such, managerial capabilities reflect the capacity of managers to innovate, create, expand, or adapt the ways to maximise organisational performance in for-profit firms, or to achieve the non-profit organisation's mission by utilising available organisational-resources, capabilities and/or competencies. The heterogeneity of such dynamic capabilities creating heterogeneity in firms' performance across the industry, has remained the cornerstone of RBV of the firm (Peteraf, 1993). According to Helfat and Martin (2014), such managerial capabilities generally stem from social capital, human capital and managerial cognition.

Firm's resources and capabilities can be classified into three domains, e.g., physical resources, *human capital resources* and organisational capital resources. As managerial capabilities pertain to the one in the middle, our focus in this research has primarily been on the human capital resources that include intelligence, judgment, experience, relationships, and insight of managers in a firm (Barney, 1991b). Managerial capabilities are invisible or intangible assets that could be a source of sustained competitive advantage especially when they are rare and costly to imitate. Managers in different firms differ in their capabilities, knowledge, data as well as information and consequently their efficacy to make efficient, effective and innovative decisions may profoundly differ from each other (Bokhari and Myeong, 2022). Moreover, entrepreneurs, in dispelling managerial roles, quite often have to make choices under severe resource constraints, consequently their abilities to bricolage and/or re(configure) scarce resources to their maximum advantage becomes very crucial in sustaining their firms' competitiveness (Adner and Helfat, 2003; Augier and Teece, 2009). Finally, it has been widely debated that unique organisational and entrepreneurial capabilities are helpful in doing business in unique ways and that unique managerial capabilities guide and facilitate the development of such unique organisational and entrepreneurial capabilities (Ahenkora and Adjei, 2012). In this paper, we seek to investigate if valuable, rare, inimitable, heterogeneous, and non-substitutable managerial capabilities of the entrepreneurs have a significant effect on the heterogeneity of their firms' performance.

2.1.1 Managerial capabilities as a source of sustained competitive advantage

Sensing and exploring sources of sustained competitive advantage for firms have taken the attention of many scholars in the field of strategy (Barney, 1986, 1991b; Barney and Hansen, 1994; Hart, 1995; Lado and Wilson, 1994; Mata et al., 1995; Peteraf, 1993; Tsang, 1998). According to Barney (1991b), "a firm is said to have sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy." This definition does not only include the competitive position of a firm vis-à-vis existing firms, but also enumerates the potential competitors preparing to enter the industry.

RBV of the firm emphasises that inelastic supply of resources and capabilities can be a source of sustained competitive advantage (Peteraf, 1993). It also argues that since some capabilities and resources cannot be imitated but could only be organically developed over time – since it is always challenging to develop such capabilities in short period of time, and since these resources and capabilities are perfectly immobile and cannot be bought and sold in the factor market – not all but some resources and capabilities may feature inelastic supply (Barney, 1991b, 2001). Firms with resources and capabilities that are inelastic in supply could earn above normal profits and can sustain performance-heterogeneity over a longer period in the industry (Storbacka and Nennonen, 2009).

The RBV of the firm propounds that a resource (or putting it at a higher level of abstraction – a capability or a competency) must hold four attributes to be able to contribute significantly to generating a sustained competitive advantage. These attributes include:

1 valuable, in a sense that it exploits available opportunities and constraint threats

2 rare, in a sense that other current and potential competitors cannot acquire it

3 inimitable and immobile, that other firms are unable to imitate it and this resource cannot be made available in the factor market

4 non-substitutable, in a sense that other competitors cannot obtain strategically comparable resource as a substitute (Barney, 1986, 1991b; Barney and Hansen, 1994; Tsang, 1998).

Apparently, managerial capabilities must have all these attributes to be able to achieve and sustain competitive advantage for the firm. If managerial capabilities are valuable, rare, and inimitable but competitors can acquire some strategic equivalent substitutes against specific managerial capabilities then these capabilities cannot be source of a sustained competitive advantage. In this study, we seek to theoretically and empirically appraise the potential of these four facets of dynamic managerial capabilities of the entrepreneurs to validate and gauge their contributions in achieving a sustained competitive advantage. Each of these four facets/attributes of dynamic managerial capabilities is discussed in more detail in the following sections.

2.2 Various facets/attributes of dynamic managerial capabilities

2.2.1 Valuable managerial capabilities

Not all managerial capabilities are equally valuable, contributing, or instrumental in galvanising firm performance. Managerial capabilities are deemed valuable when decisions made by the managers could enable and complement best strategies and/or practices that boost their firms' efficiency and performance (Augier and Teece, 2009; Barney, 1991b). Entrepreneurs can accomplish sustained performance when they are able to consistently exploit strategic opportunities and adapt to the threats stemming from their external environments – and their value-maximising dynamic managerial capabilities could prove to be a crucial factor in this pursuit.

Effective coordination and adaptation by a manager to rapidly changing environment is one of several components of firm's dynamic capabilities (Augier and Teece, 2009). Managers develop capabilities to achieve coordination and assistance from complementarities especially when external environment is featuring high dynamism and complexity (Eisenhardt and Martin, 2000). High performing entrepreneurs are generally very proficient at leveraging their dynamic managerial capabilities to exploit strategic opportunities through a continuous and effective (re)configuration of the organisational resources (Yaqub et al., 2020). Value creation through managerial capabilities also consists of proactive search, selection, and implementation of specific course of actions vital to the successful realisation of firms' strategies. Such capabilities are also important in opportunity identification, asset arrangement, and availability of both tangible and intangible complementary assets. In consonance with these arguments, we hypothesise.

H1 The more valuable the managerial capabilities, the higher their contributions in achieving a sustained competitive advantage for the firm.

2.2.2 Rarity of the managerial capabilities

Managerial capabilities need to be rare to create performance heterogeneity among firms. A firm can enjoy a sustained competitive advantage only if it is implementing a significant strategy that is simultaneously not being duplicated by a significant number of competing firms (Barney, 1991b). If a firm's competitors possess similar managerial capabilities, and they utilise them in similar ways for the value maximisation, the firm may only be able to achieve a competitive-parity at best, not an sustained advantage over its rival firms (Barney and Hansen, 1994; Cardeal and Antonio, 2012).

Managerial capabilities are developed by integrating a particular set of critical resources within the firm. As such, these critical resources become inputs to the capability. As a number of competing firms may have (individualised or collaborative) access to the similar critical resources, they can also breed similar capabilities (Busenitz and Barney, 1997; Cardeal and Antonio, 2012) that would countervail such a rarity of these dynamic managerial capabilities. Whereas larger firms, while possessing abundant resources, can breed more and diverse managerial capabilities by configuring resources – with notable freedom emanating from this resource abundance, the small and medium size firms lack such freedom, and consequently it becomes more crucial for them to shield the rarity of their organisational, entrepreneurial, and managerial capabilities. Quite consistent with these arguments, we hypothesise.

H2 Higher the rarity of dynamic managerial capabilities, higher their contributions to draw a sustained competitive advantage for the firm.

2.2.3 Inimitability of managerial capabilities

Managerial capabilities, being human capital specific, could generally not be duplicated easily. Managerial capabilities are intangible assets of an individual that are developed over time through establishing, orchestrating and/or modifying a set of routines, and could not be easily separated from the person. As such, managerial capabilities developed by a manager become his/her cognitive resources and other managers cannot easily imitate such (cognitive) resources, regardless of possessing their own unique set of capabilities. Managers in different firms think and act differently because they have different personal characteristics, values, attributes, knowledge, skills, and abilities. They differ in their working style (Helfat and Peteraf, 2003), decision making, identifying, capturing and implementing new strategic opportunities, neutralising/constraining potential threats, and/or inventing new business models (Augier and Teece, 2009). Vouching managerial capabilities to be perfectly inimitable, Augier and Teece (2009) assert that "among the mass automobile producers, Toyota manufacturers' are better cars. In retailing, Wal-Mart has superior logistics. Even though other companies have copied aspects of Toyota's and Wal-Mart's capabilities, we know that Toyota and Wal-Mart remain superior." In congruence with these arguments, we hypothesise.

H3 The higher the inimitability of managerial capabilities, the higher their contributions in achieving sustained competitive advantage for the firm.

2.2.4 Heterogeneity of managerial capabilities

As already mentioned, factor markets are unable to supply homogeneous managerial capabilities because these can only be built, integrated and/or reconfigured by the individual managers. It is quite consistent with Dierickx and Cool (1989) and Eisenhardt and Martin (2000) who argued that strategic resources (including human resources) are firm specific components that cannot be traded in the factor market but can primarily be accumulated internally. Firms nurturing the strategic (human) resources internally imply that individual managers build heterogeneous (dynamic) capabilities through structuring and orchestrating routines (sometimes referred to as the social capital) uniquely over a period of time (Augier and Teece, 2009; Helfat and Peteraf, 2003; Peteraf, 1993; Yaqub et al., 2020).

Heterogeneity of managerial capabilities is another factor that may contribute significantly to superior firm performance. Heterogeneity of resources and capabilities has been mentioned as one of the cornerstones of RBV (Barney, 1991b; Peteraf, 1993). Managers with homogenous capabilities will act similarly and a performance heterogeneity is least likely to occur in this case. Entrepreneurs as managers need to gather information about the available opportunities in the market, analyse them, and try to seize those opportunities through a unique bricolage of valuable and rare resources for superior and differentiated performance of their firms (Augier and Teece, 2009; Yaqub et al., 2020), all of which would be quite strenuous if they do not exhibit sufficient heterogeneity in their dynamic managerial capabilities. Mangers with heterogeneous capabilities prove to be more efficient as they deal with the situations in unique ways, sometimes diligently following the given protocols, and at times bypassing them, if situations require so. The ways that managers use to deal with situations explain the path dependency of the firm (Teece et al., 1997). Hence, managers with heterogeneous managerial capabilities can compete well. Pursuing these arguments, undermentioned hypothesis is developed.

H4 Higher the heterogeneity of the managerial capabilities, higher their contributions in achieving sustained competitive advantage for the firm.

2.2.5 Non-substitutability of managerial capabilities

Another desirable requirement for managerial capabilities to be a source of sustained competitive advantage is unavailability of substitute managerial capabilities. In other words, concurrent managerial capabilities must not have any strategically equivalent managerial capabilities (Barney, 1991b). Two valuable managerial capabilities are strategically equivalent when each of them can similarly be exploited to implement the same strategy to achieve the same goals.

According to Barney (1991b), firms' resource-substitutability can be of two types:

1 firm cannot imitate another firm's resources exactly but it may utilise similar resources

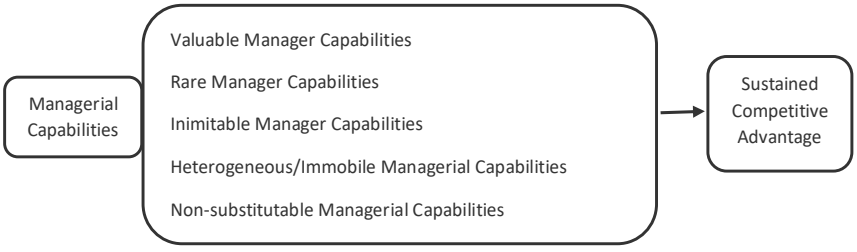
2 firm can use very different resource as strategic substitutes.

Similarly, it may not be feasible for rival firms to exactly duplicate the managerial capabilities, but it may be possible to deploy a substitute managerial capability that could profoundly actualise the same strategies. Additionally, firms can use very different managerial capabilities as strategic substitutes to implement their strategies. Latter type of substitutability is slightly complicated to understand as mostly managers have similar qualifications, attitudes to work, capabilities, and vision. For example, every firm has a distinct and clear vision and mission that steers objectives and strategies of the firm, and every manager seeks to align his/her vision with that of the firm's vision that profoundly affects (company-wide) strategic planning process. From managers' point of view, at times firms' clear vision and resources utilised to implement the strategy might be equivalent strategically, hence substitutable. If every manager has his/her own capabilities and he/she conceives and implements strategies according to his personal capabilities which are valuable, rare, and perfectly inimitable, then it can prove out to be quite a significant source of competitive advantage. In consonance with this discourse, we hypothesise.

H5 Higher non-substitutability of managerial capabilities, higher their contributions towards achieving a sustained competitive advantage for the firm.

Figure 1 encapsulates all these hypothesised relationships among the dependent and the independent variables.

Figure 1 The conceptual model



3 Research methodology

3.1 Measurement scales

To collect relevant data from the entrepreneurs, a cross-sectional survey using a standardised questionnaire including scales adapted from previous studies (e.g., Bourne and Franco-Santos, 2010) has been conducted. Various facets of the entrepreneurs' managerial capabilities have been measured using 40 items using five-point Likert-scale response format, where 1 meant 'very low' and 5 meant 'very high'. The individual items sought to measure these individual facets included: *value* of managerial capabilities (eight items, namely inspiring to be creative, responsive, opinion taking, participative decision-maker, recognition, and accuracy in work efforts), *rarity* of managerial capabilities (eight items, namely work done quickly, work/life balance, needs and negotiate with customers, encourage for career development, anticipation about

customers, developing new skills, face-to-face interaction, and avoiding task-related conflicts), *heterogeneity* of managerial capabilities (eight items, namely inspiring to be creative, responsive, opinion taking, participative decision-maker, recognition), *imperfection* of managerial capabilities (eight items, namely improving performance by division of labour, using brainstorming for innovative thinking, identify goals, improve performance considering human and process issues, setting goals and objectives, evaluating a performance management system, stimulating conflicts using advocacy groups, and audience knowledge and understanding of purpose when communicate), and *non-substitutability* of managerial capabilities (eight items, namely focus on interests not positions, prioritising important things, creating systems, planning and implementing meetings that are productive, distinguishing between appropriate and inappropriate performance measures, recognising employee resistance, designing effective change strategies, and noticing non-verbal cues). The aggregate scores of these elements constituted the basis for gauging the cause-and-effect relationships among the subject constructs. Initially, a pilot study has been carried out to ascertain the quality/reliability of these measures. The insights gathered from the pilot study were used to finetune these scales, and craft the ultimate instrument. The questionnaires were translated into Urdu language using a double translation method (DeSarbo et al., 2005), as the native language of Pakistan is Urdu and the entrepreneurs of some small enterprise may not be adequately familiar with English.

3.2 Sampling and data collection

The sampling frame consisted of the SMEs listed in the Small and Medium Enterprises Directory, 2020 of Pakistan. A sample consisting of 141 SMEs has been randomly selected. Table 1 depicts profiles of the key elements constituting our sample.

The data were collected from secondary and primary sources subsequently by using firm's website and through a survey. Financial data (dependent variable) were collected using secondary sources, i.e., firms' websites for the period under observation, whereas data about the independent variables was collected from primary source through a survey. The unit of analysis has been the entrepreneurs of SMEs who were responsible for decision making and implementation. First, we sent questionnaires to 680 firms randomly selected from the sampling frame. Out of these 680 firms, only 130 responded. A reminder e-mail was sent to the non-responding firms after two weeks. We heard back from 11 more SMEs in response to this reminder. An overall response from 141 firms, with a response rate of 21%, seems quite acceptable for this type of research.

In second phase, we downloaded financial data of all the relevant firms constituting our sample. Dependent variable, i.e., sustained competitive advantage (sustained firm performance) was approximated from the accounting measure, net profit margin (NM). Net profit margin, net profit after deduction of taxes divided by net sales, was selected following similar previous studies (Mutai, 2020; Sujud and Hashem, 2017) that employed the same proxy to measure the firm performance. We also tested the firm's economic performance using accounting measure, return on assets (ROA). ROA was calculated by dividing net income after deduction of taxes by total assets and this measure is used again in consonance with the previous strategic management researchers who employed this proxy in their respective studies (Mutai, 2020; Sujud and Hashem, 2017).

Table 1 Entrepreneurs' characteristics in sample

Characteristics	*Number*	*%*
Age		
18~30 years	78	55%
31~45 years	51	36%
46 +	12	09%
Education		
Masters/PhD	82	58%
Bachelor's degree	48	34%
High school/college	11	08%
Gender		
Male	115	82%
Female	26	18%

3.3 Data analysis

Exploratory data analysis was first performed to ascertain that there were no breaches of the assumptions of normality, homogeneity of variance, linearity, multicollinearity, and homoscedasticity, which are required for the multivariate data analysis. A confirmatory analysis was later performed to ascertain quality (more specifically, reliability) of the measurement scales.

In empirical studies in social sciences and economics, numerous data analysis tactics and approaches including regression modelling are suggested (Von Eye and Schuster, 1998). Multiple linear regression is one of the most commonly acceptable approach to assessing causality among independent and dependent variables (Hair et al., 2010). In addition, empirical research questions commonly expect interactions among several independent and dependent variables. The scholarly community has profoundly adopted multiple linear regression analysis in social sciences and economics (Bokhari and Aftab, 2022; Dash and Paul, 2021; Gordon, 2015; Uyanık and Güler, 2013; Von Eye and Schuster, 1998). Multiple linear regression enables analysts to identify the causal relations between an endogenous (the dependent variable) and multiple independent variables, including the contribution of all predictors to the interaction, commonly with the impact of certain other variables analytically excluded (Sarstedt and Mooi, 2019). The specific approach for hypothesis testing employed is generally determined by objective of the research, as well as the data type utilised. The multilinear regression model enables researchers to determine results based on data from several explanatory variables. Considering the objectives of this study, multilinear regression model analysis was considered more suitable and consequently applied (Hair et al., 2010; Sarstedt and Mooi, 2019).

To gauge the cause-and-effect relationships among the variables of study, the following (regression) algorithm was created to see if various facets of entrepreneurs' managerial capabilities were significantly associated with the firm's sustained competitive advantage.

$$SCA = \beta_0 + \beta_1 VMC + \beta_2 RMC + \beta_3 IMC + \beta_4 HIMC + \beta_5 NSMC + \beta_6 Controls + \varepsilon i$$

where

SCA sustained competitive advantage (net profit after taxes/net sales)

VMC valuable managerial capabilities

RMC rare managerial capabilities

IMC inimitable managerial capabilities

HMC heterogeneous and immobile managerial capabilities

NMC non-substitutable managerial capabilities.

The control variables used in this model included gender, age, and education of the entrepreneur performing the managerial roles. The reason to include age as a control variable is that it has an independent effect as found by previous researchers (e.g., Granovetter, 1984; Helfat and Peteraf, 2003; Peteraf, 1993). More precisely, old age entrepreneurs may have superior dynamic capabilities. It is consistent with (Helfat and Peteraf, 2003; Peteraf, 1993) who argued that managerial capabilities are built, integrated and reconfigured as results of routines spanning over a longer period of time. Respondents' education is controlled because highly educated entrepreneurs are supposed to exhibit superior capabilities and consequently more (perceived) control over available resources (Ajzen, 2002).

4 Results

4.1 Assessment of the measurement model

Internal consistency was used to assess reliability of the scales measuring our five independent variables. The Cronbach's alpha coefficients for all these variables (0.916 for HMC, 0.861 for VMC, 0.871 for RMC, 0.876 for IMC, and 0.793 for NMC) were well above the threshold value of 0.7. Cronbach's alpha was used to measure internal consistency of the scale because the items were measured on the same spectrum and the correlation between the components was used. For the Guttman test, it varied between 0.933 and 0.952 with a lambda value 8 of 0.941 for HMC, 0.940 and 0.957 with a lambda value 8 of 0.949 for IMC, 0.846 and 0.912 with a lambda value 8 of 0.879 for NMC, 0.613 and 0.846 with a lambda value 8 of 0.759 for RMC, and 0.616 and 0.774 with a lambda value 8 of 0.697 for VMC. At the indicator level, the reliability of (significant) individual dimensions was judged based on strength of the outer loadings, meaning at least 0.6 and ideally 0.7 (Chin, 1998). All factor loadings were found to be well above these thresholds.

Table 2 contains the relevant statistics.

Table 2 Reliability and validity analysis

Variables		*Items*	*Factor loadings*	*Cronbach alpha*	*KMO @ Bartlett's test*
Heterogenous and immobile managerial capabilities	HMC1	Picking the right people to work on a cross-functional team	0.950	0.948	0.747
	HMC2	Using different influence tactics depending upon the situation	0.936		
	HMC3	Working effectively with diversified personalities from my own	0.938		
	HMC4	Ensuring that goals are challenging but attainable as well as relevant to the person trying to achieve those goals	0.934		
	HMC5	Expressing my disagreement in ways that encourage open discussion and problem solving	0.934		
	HMC6	Understanding how power can be used effectively	0.935		
	HMC7	Using insights from theories of motivation to influence others' behaviour	0.952		
	HMC8	Understanding how strength can be used efficiently	0.944		
Inimitable managerial capabilities	IMC1	Improving performance by appropriately applying the concepts of division of labour and specialisation	0.940	0.952	0.812
	IMC2	Using brainstorming and nominal group techniques to foster innovation	0.941		
	IMC3	Identifying goals that are not aligned vertically in the organisation	0.957		
	IMC4	Consider both human and process issues to evaluate improved performance	0.949		
	IMC5	Setting goals and objectives that clarify the priorities of the organisational unit	0.950		
	IMC6	Evaluating a performance management system to see if it relates appropriately to organisational performance goals	0.941		
	IMC7	Stimulating conflict using advocacy groups to encourage higher quality decisions	0.943		
	IMC8	Knowing my audience and having a clear understanding of my purpose when I communicate	0.940		
Non-substitutable managerial capabilities	NMC1	Focusing on interests, not positions, when I negotiate	0.857	0.878	0.778
	NMC2	Prioritising my action items so I spend the most time on what is important, rather than on things that seem urgent but that are not important	0.851		
	NMC3	Creating systems that make it easy for others to follow procedures	0.845		

Table 2 Reliability and validity analysis (continued)

Variables		*Items*	*Factor loadings*	*Cronbach alpha*	*KMO @ Bartlett's test*
Non-substitutable managerial capabilities	NMC4	Planning and implementing meetings that are productive, efficient, and well-attended	0.872	0.878	0.778
	NMC5	Distinguishing between appropriate and inappropriate performance measures with respect to the goals of an organisational unit	0.912		
	NMC6	Recognising when proposed organisational changes are likely to provoke employee resistance	0.837		
	NMC7	Designing effective change strategies	0.861		
	NMC8	Noticing non-verbal cues and using reflective listening to ensure that I understand what other people are saying to me	0.846		
Rare managerial capabilities	RMC1	Emphasising getting work done more quickly	0.782	0.787	0.727
	RMC2	Encouraging people to have work/life balance	0.729		
	RMC3	Identifying the changing needs of customers and others with whom I negotiate	0.613		
	RMC4	Encouraging others to think about their career development	0.789		
	RMC5	Anticipating what customers and others with whom I negotiate will want next	0.791		
	RMC6	Developing others by delegating tasks that require them to learn new skills	0.846		
	RMC7	Deciding when a face-to-face interaction is more appropriate than an e-mail, phone call, or paper memo	0.751		
	RMC8	Avoiding prematurely smoothing over constructive task-related conflicts	0.705		
Valuable managerial capabilities	VMC1	Inspiring people to be creative	0.639	0.703	0.644
	VMC2	Providing fast responses to emerging issues	0.619		
	VMC3	Making it legitimate for people to contribute their opinions	0.774		
	VMC4	Employing participative decision-making techniques	0.767		
	VMC5	Recognising people's feelings	0.616		
	VMC6	Maintaining an open climate for discussion	0.692		
	VMC7	Getting people to exceed traditional performance patterns	0.743		
	VMC8	Emphasising the need for accuracy in work efforts	0.728		

Table 3 Mean, standard deviations, and correlations

Variables	*Mean*	*SD*	*HMC*	*VMC*	*RMC*	*IMC*	*NMC*	*SCA*	*GEN*	*AGE*	*EDU*
HMC	3.9140	0.80928	1								
VMC	3.9885	0.44494	0.860**	1							
RMC	4.0328	0.37280	0.877**	0.975**	1						
IMC	3.9060	0.84319	0.998**	0.860**	0.877**	1					
NMC	3.9034	0.70146	0.929**	0.931**	0.902**	0.927**	1				
SCA	12.50	3.579	0.673**	0.624**	0.725**	0.697**	0.580**	1			
GEN	0.67	0.471	–0.138	–0.112	–0.081	–0.139	–0.191*	–0.279**	1		
AGE	1.44	0.498	0.048	–0.094	0.040	0.088	–0.056	0.304**	–0.024	1	
EDU	1.34	0.476	–0.241**	–0.260**	–0.305**	–0.211*	–0.144	–0.181	–0.202*	0.238**	1

Notes: **Correlation is significant at the 0.01 level (two-tailed).
*Correlation is significant at the 0.05 level (two-tailed).

Table 4 Model summary[b]

Model	*R*	*R square*	*Adjusted R square*	*Std. error of the estimate*	*Change statistics*					*Durbin-Watson*
					R square change	*F change*	*df1*	*df2*	*Sig. F change*	
1	.520[a]	.270	.255	3.090	.270	16.932	3	137	.000	2.000
2	.934[a]	.873	.865	1.313	.873	113.571	8	132	.000	1.536

Notes: [a]Predictors: (Constant), Edu, Gen, Age, HMC, VMC, RMC, IMC, NMC.
[b]Dependent variable: SCA.

We simultaneously performed the KMO's measure of sampling adequacy and the Bartlett's test of sphericity of the factor analysis on the average of the HMC, VMC, RMC, IMC, and NMC scale items. These two parameters assist in determining the data's viability for factor analysis. For the factor analysis to be judged suitable, the Bartlett test of sphericity must be significant (X2 = 776.146, df = 45, p 0.05), and the Kaiser-Meyer-measure Olkin's of sampling adequacy can determine in advance if the sample size is larger enough to effectively extract the components. Data substantiated the significance of the Bartlett's test. HMC had a KMO value of 0.747, VMC had a value of 0.644, RMC had a value of 0.727, IMC had a value of 0.812, and NMC had a value of 0.778 as can be observed in Table 2; values between 0.8 and 0.9 are excellent while values less than 0.5 are unsatisfactory.

4.2 The regression analysis

The correlation analysis (see Table 3) has been carried out based on the data from 141 entrepreneurs of SMEs, and it demonstrates that HMC, VMC, RMC, IMC, NMC, and SCA are associated significantly. Table 3 contains means, standard deviations, and ranges. The correlation findings indicate that HMC is significantly positively linked (r = 0.673) with SCA, VMC is positively connected with SCA (r = 0.624), RMC is substantially correlated with SCA (r = 0.725), IMC is correlated positively with SCA (r = 0.697), and NMC is also positively correlated with SCA (r = 0.580). Furthermore, HMC, VMC, RMC, IMC, and NMC are strongly and positively associated with each other as contained in Table 3.

To examine the potential impact of independent variables (HMC, VMC, RMC, IMC, NMC) to explain variance in sustained competitive advantage, a standard multiple linear regression with the entry technique has been carried out. As per the guidelines recommended by Tabachnick et al. (2007), all independent variables in the conventional multiple linear regression model enter the equation simultaneously, and each one is evaluated as though it entered the regression after all other independent variables. Furthermore, according to Tabachnick et al. (2007), each independent variable is assessed in terms of what it adds to the difference in dependability between the dependent variable and independent variables. The stepwise multiple regression technique was not adopted due to the possible issues connected with this methodology (Pallant, 2020), as well as certain disagreements linked with this technique, in which the order of variable input is exclusively dependent on statistical criteria (Tabachnick et al., 2007).

Preparatory analyses were performed to validate that the assumptions of linearity, normality, multicollinearity, and homoscedasticity were not violated. The model explains 86.5% of the variation in sustained competitive advantage (Table 4), with F (8, 132) = 113.57, p 0.000 (Table 5). All independent variables (HMC, VMC RMC, IMC, and NMC) were found to be statistically significant, as shown in Table 6. The comprehensive findings of the multiple linear regression analysis are contained in Tables 4–6.

Table 6 shows that there is no multicollinearity among the predictor variables based on collinearity statistics since the tolerance values are all greater than the minimal threshold of 0.10 and the variance inflation factor (VIF) statistics are all below the 10.0 critical level (Pallant, 2020). According to the collinearity diagnostic analysis, none of the model dimensions had a condition index equal to or greater than 30.0. In terms of outliers among predictor variables, the Mahalanobis distance maximum value of 13.29 is

less than the critical value of 16.27 at an alpha level of 0.001, according to (Tabachnick et al., 2007) criteria for determining critical values for outliers. Therefore, the results suggest that there are no conflicts with or contradictions of the assumptions of multicollinearity, normalcy, linearity, and variance equality. Consequently, it is acceptable to conclude that the typical multiple regression model presented above is reliable and effective in explaining variations in sustained competitive advantage. According to the model, there is a substantial positive relationship between HMC, VMC, RMC, IMC, NMC, and SCA. The overall variance in sustained competitive advantage described by the model is 87.3% (Table 4), with F (8, 132) = 113.571, p = 0.000 (Table 5) which is more than acceptable.

Table 5 ANOVA[a]

Model		*Sum of squares*	*df*	*Mean square*	*F*	*Sig.*
1	Regression	485.048	3	161.683	16.932	.000[b]
	Residual	1,308.200	137	9.549		
	Total	1,793.248	140			
2	Regression	1,565.768	8	195.721	113.571	.000[b]
	Residual	227.481	132	1.723		
	Total	1,793.248	140			

Notes: [a]Dependent variable: SCA.
[b]Predictors: (Constant), Edu, Gen, Age, HMC, VMC, RMC, IMC, NMC.

Table 6 Effect of entrepreneurs' managerial capabilities on sustained competitive advantage

Labels	*Dependent variable: sustainable competitive advantage*		*Standardised coefficients*	*Collinearity statistics*	
Independent variables	*Model 1*	*Model 2*	*Beta*	*Tolerance*	*VIF*
(Constant)	17.772*** (1.111)	13.450*** (2.434)			
Gender	–2.579*** (0.567)	–2.293*** (0.250)	–0.301	0.889	1.125
Age	2.705*** (0.540)	0.166 (0.300)	0.023	0.550	1.819
Education	2.554*** (0.577)	0.903*** (0.315)	0.120	0.550	1.819
HMC		21.697*** (2.781)	0.706	0.412	8.550
VMC		11.797*** (1.569)	0.467	0.325	6.614
RMC		19.555*** (1.596)	0.537	0.135	3.744
IMC		22.311*** (2.646)	0.256	0.292	4.383
NMC		1.426** (0.746)	0.280	0.245	3.225

Note: *p < 0.1, **p < 0.05, ***p < 0.01.

According to Table 6, independent variables are statistically significant, with HMC featuring the highest regression coefficient value ($\beta = 0.706$, $p = 0.001$), RMC ($\beta = 0.537$, $p = 0.001$), VMC ($\beta = 0.467$, $p = 0.001$), NMC ($\beta = 0.280$, $p = 0.001$), and IMC with lowest beta value ($\beta = 0.256$, $p = 0.001$). This implies that all hypotheses are strongly supported.

5 Discussion, conclusions, and implications

5.1 Discussion

Entrepreneurs, especially at the earlier stages of organisational lifecycle of the small and medium-sized enterprises, are strongly involved in the management of their ventures while starting them up until they take-off. In the later stages of the organisational lifecycle though, the entrepreneurs may, however, assume less active managerial roles (if not dormant at all) which is considered highly desirable in the face of the challenges stemming from the rising organisational complexity attributable to its growth and size. Hence, in the earlier stages, entrepreneur's managerial capabilities could prove to be very crucial even for the survival, let alone for the progress, of these ventures. As they are considered desirable employment options in the labour market only when they take-off, the overall quality of the available managerial resource is generally very low in the earlier stages, and the success at large upon managerial capabilities of the entrepreneurs and their close comrades. But the instrumentality of such managerial capabilities is not unique only to the earlier stages, these are also pivotal to the growth and sustainability as successful realisation of plenty of the opportunities may require entrepreneurs to play decisive managerial and/or decisional roles even during the later stages of the organisational lifecycle.

A great deal of entrepreneurial ventures and initiatives are undertaken by plenty of entrepreneurs round the globe, but not all of them embrace the same fate in terms of performance and success, even if we ignore failures for the moment despite, they outnumber the success stories. One of the crucial factors that creates this heterogeneity in the performance of these firms is the heterogeneity in the managerial capabilities of the entrepreneurs and/or the early management team. In this study, we sought to explore the roles of these dynamic managerial capabilities of entrepreneurs in affecting heterogeneity in firms' performance, while profoundly enumerating heterogeneity within these dynamics managerial capabilities of the entrepreneurs in first place. We found that managerial capabilities, being an integral part of dynamic organisational and/or entrepreneurial capabilities, can contribute strongly towards the creation of a sustained competitive advantage if they are valuable, rare, inimitable, heterogeneous, and non-substitutable. However, not all these facets of dynamic managerial capabilities contribute equally to the entrepreneurial success. Some attributes (such as heterogeneity) have been found to be more instrumental in entrepreneurial performance than the others.

Summing it up, the impact of all five facets of entrepreneurs' dynamic managerial capabilities on the sustained competitive advantage has been found to be significant, which is consistent with the findings of Morgan et al. (2004) who demonstrated a substantial significant association between capabilities and competitive advantage. Our findings are also consistent with Santhapparaj et al. (2006) who arrived at similar conclusion while studying similar competitive factors in semiconductor industries, and

also with Phusavat and Kanchana (2007) who concluded the same while studying problems of competitive priorities in production industries in ASEAN countries. However, findings of the study demonstrate that heterogeneity in managerial capabilities exhibited a highest impact whereas the inimitability and non-substitutability of the managerial capabilities proved to be the weakest determinant which is quite understandable in that performance heterogeneity may require the resource heterogeneity the most. Overall, the study findings not only complement existing body of knowledge accumulated through previous studies (e.g., Barney, 1991a, 1991b, 2000, 2001; Breznik and Lahovnik, 2016) but also extend it further to an entrepreneurial context through conceptualising and empirically substantiating the instrumentality of dynamic managerial capabilities of the entrepreneurs in achieving a sustained competitive advantage.

5.2 Conclusions and implications

The overall results suggest that entrepreneurs' dynamic managerial capabilities have a substantial positive impact on sustained competitive advantage, cementing support to the central tenets of the RBV of the firm. The key contribution of this study lies in extending the concurrent debate in dynamic capabilities perspective to the entrepreneurial context by studying the impact of dynamic managerial capabilities of the entrepreneurs dispelling the managerial/decisional roles in SMEs in Southeast Asia. It has empirically substantiated impact of the various facets of these dynamic managerial capabilities in achieving a long-term competitive advantage. As such, the study facilitates an interdisciplinary and spatial cross-fertilisation of knowledge by corroborating, in yet another unique organisational and geographical context, the relevance and instrumentality of VRIHN (value, rarity, imitability, heterogeneity, and non-substitutability) attributes of dynamic capabilities in affecting firms' competitive advantage that has remained the focal point of debate in RBV of the firm.

From a practical standpoint, the study findings offer essential information to the management and practitioners on the relative importance of each of these aspects/facets of dynamic managerial capabilities so that they may emphasise development/enhancement of the crucial determinants of firms' performance while programming their training and development initiatives. The study also demonstrates, through empirical evidence, that it is quite essential for the (present as well potential) entrepreneurs of small and medium enterprises to develop/nurture adequate managerial competencies if they seek even initial success/survival of their start-ups, let alone their growth or competitiveness in the long run. Moreover, since managerial capabilities are unique individual assets, therefore SMEs should find a good substitution to the entrepreneurs' dynamic managerial capabilities, should the entrepreneurs switch to the passive managerial roles in the later stage of organisation lifecycle. They should also strive to engage managers with substitute capabilities not only to work longer with them but should also find out ways on how to utilise their capabilities to gain a sustained competitive advantage. Additionally, human resource with specific managerial capabilities (whether entrepreneurs or managers) has valuable tacit knowledge which could not be easy to transfer to others, so the retention and effective succession planning for such a critical human capital becomes crucial for the sustainability of firm performance. However, they must bear in mind that time remains a critical factor in building such dynamic capabilities as they usually stem from routines spanning over an extended period of time (Adner and Helfat, 2003).

A few limitations of this study are worth mentioning here. First, this cross-sectional investigation only included small and medium size enterprises that were listed in the directory of Security and Exchange Commission Pakistan (SECP), SMEs that were not registered SECP members remained excluded from the sampling frame. Also, the larger enterprises have been excluded from the scope of the study. Therefore, findings of the study may have to be generalised cautiously. Second, this study is classified as a cross-sectional study employing a statistical approach. It can only represent the viewpoint of a single respondent (entrepreneur) per SME at a certain point in time. Finally, a multivariate statistical methodology has been utilised to achieve hypothetico-deductive findings and discoveries. This cross-sectional investigation with a quantitative methodology was adopted because it is the most acceptable way for dealing with time and cost restrictions. Future research may investigate different possibilities. Given the available time and financial resources, a longitudinal study, and an augmentation with a use of the qualitative research methodology might be contemplated. The model could also be extended across other organisational and geographical contexts in future research.

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