

Strategic human capital analytics and new venture performance: role of dual nationality founding member

Journal of
Intellectual
Capital

151

Misbah Faiz and Naukhez Sarwar

*NUST Business School, National University of Sciences and Technology,
Islamabad, Pakistan*

Adeel Tariq

LUT Kouvola Unit, Lappeenranta-Lahti University of Technology, Kouvola, Finland

Ricardo Jordao

*Swiss Management Center, Accra, Switzerland and
Center for Advanced Studies in Management and Economics, CEFAGE-UE,
Evora, Portugal, and*

Mumtaz Ali Memon

*NUST Business School, National University of Sciences and Technology,
Islamabad, Pakistan and*

Faculty of Business, Sohar University, Sohar, Oman

Received 2 February 2024

Revised 11 April 2024

16 May 2024

Accepted 26 June 2024

Abstract

Purpose – Strategic human capital analytics (SHCA) has proven to be promising for improved organizational performance; however, research remains unclear about its influence on new venture performance. Building on the dynamic capabilities view (DCV), this study investigates the relationship between SHCA and new venture performance via generative capabilities with the moderating role of dual nationality founding members.

Design/methodology/approach – A quantitative research study has been carried out. Data was collected via a survey form from 313 founding members of new tech ventures and analyzed using Hayes process macro model.

Findings – Research results show that the generative capability mediates the linkages between SHCA and new venture performance. Whereas, the dual nationality of a founding member strengthens the linkages between SHCA and generative capability due to their diverse perspective, larger networks, cognitive flexibility, and resilience, which are important for generative capabilities and SHCA.

Originality/value – The originality of these results lies in the exploration of the linkages between dual nationality and generative capability, as well as the special elements, such as diverse perspectives, larger networks, cognitive flexibility, and resilience, which are highlighted as possible advantages of dual nationality in the context of SHCA and new venture performance.

Keywords Human capital analytics, New venture performance, Generative capability, Dual nationality founding member, Dynamic capability view

Paper type Research paper

© Misbah Faiz, Naukhez Sarwar, Adeel Tariq, Ricardo Jordao and Mumtaz Ali Memon. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

Authors acknowledge the financial support from: National Funds of the FCT - Portuguese Foundation for Science and Technology within the project “UID / ECO / 04007/2021”.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.



Journal of Intellectual Capital
Vol. 25 No. 7, 2024
pp. 151-175
Emerald Publishing Limited
1469-1930
DOI [10.1108/JIC-02-2024-0033](https://doi.org/10.1108/JIC-02-2024-0033)

1. Introduction

Strategic human capital analytics (SHCA) holds significance for the provision of strategic and predictive analytics thereby promising to resolve strategic issues and to assess progress (Samson and Bhanugopan, 2022). Since business performance is at stake, critical business decisions regarding human capital should be on time, accurate, and based on predictive analytics (Phillips *et al.*, 2012), instead of making decisions based on intuition. If a firm fails to incorporate SHCA within its process and systems then a critical component of a firm is disconnected from its business strategy (Samson and Bhanugopan, 2022). The promise that SHCA holds has enabled scholars to delve deeply into the field, as analytics based on big data hold immense importance for new ventures (Malyy *et al.*, 2021). However, a mismatch and lack of enthusiasm exist in the empirical literature focusing on SHCA and new venture performance. The literature reflects an absence of analytics and effective metrics for tackling key business issues, which hinders the venture's progress. With an abnormally high failure rate of new ventures of 90% (Dang, 2022), there is a dire need for new ventures to enhance their performance.

SHCA can be defined as a model that recognizes human capital as the main differentiator for a business leading toward competitive advantage that makes use of foretelling analytics to explain strategic-level challenges (Samson and Bhanugopan, 2022). Google successfully uses SHCA to boost performance and manage its staff, among other company operations. Google employs data-driven tactics to improve retention, engagement, and overall performance by examining turnover drivers and identifying top-performing employee qualities (Shrivastava *et al.*, 2018). SHCA can be an essential component of evaluating and managing the success of new businesses and utilizing its advantages for better results, it may even help to lower their failure rate (Dang, 2022). A new venture can build and manage a team based on required competencies. Moreover, finding personnel matching similar competencies increases with SHCA.

Researchers have explored different drivers of new ventures such as Venkatraman and Ramanujam (1986) highlighted three distinct categories of performance, which include financial performance, operational performance, and organizational effectiveness. The Uppsala model (Vahlne and Johanson, 2017) reflects that performance tends to be impacted by development processes, commitment processes, dynamic capabilities, and operational processes. Furthermore, the study of Stuart and Abetti (1987) empirically shows that chosen structure and strategy influence performance. Virany and Tushman (1986) found that entrepreneurial teams and founders have an impact on performance. Social media marketing is considered to be another important determinant of new venture performance (Venciute *et al.*, 2023). Other factors include business founder resources, environment and strategy, cross-culture effect (Yang and Yang, 2022), organizational improvisation and serendipity (Fultz and Hmieleski, 2021), green entrepreneurial orientation (Ameer and Khan, 2022), entrepreneurial orientation (Donbesuur *et al.*, 2020), technological innovativeness and market innovativeness (Ding and Ding, 2022), power hierarchy (Xie *et al.*, 2020), CEO duality (Gan and Erikson, 2022), firm capabilities (Gupta and Chauhan, 2021), reputation (Taeuscher, 2019), returnee board members (Lin *et al.*, 2018), entrepreneur's improvisational behavior (Adomako *et al.*, 2018), and dynamic capabilities (Jiao *et al.*, 2013).

Whereas these factors are significant for the new ventures to enhance their performance; however, we emphasize the need to comprehensively understand how new venture performance can be impacted due to SHCA and how it can complement the existing new venture strategies. Moreover, previous literature falls short in determining the potential benefits of SHCA alongside other identified pertinent factors. It is important to consider SHCA's impact as it is likely to influence the organization's decision-making, which is critical for improving performance. Furthermore, this study responds to the invitation by Samson and Bhanugopan (2022) to further investigate the critical and emerging realm of

SHCA, with a specific emphasis on its impact on new venture performance. We view SHCA as a fundamental element that significantly influences the outcomes of new ventures. Thus, the first objective of the study is to analyze the relationship between SHCA and new venture performance.

This research intends to explain the mechanism through which SHCA influence new venture performance and incorporate generative capabilities as a mediator in this relationship. [Guo et al. \(2022\)](#) define generative capability as the high-level routine of a firm that enables knowledge reconfiguration of the products that are embodied iteratively and re-bundles the knowledge (both internal and external) rapidly across the generations of products to develop the next-generation product. Knowledge in organizations is highlighted as an essential factor in creating value for the firms ([Sumbal et al., 2021](#)). Firms make use of generative capabilities to achieve iterative and fast innovation via experiential learning activities ([Guo et al., 2022](#)). With enhanced generative capabilities and the strategic selection of talented individuals through the use of human capital analytics, the likelihood of translating these abilities into new venture performance increases as generativity inherently fosters the rapid innovation necessary for a new venture's success. This suggests a strong relationship between generative capability and SHCA, as both are likely to play a key role in determining the success of new ventures given their close alignment with innovation. Therefore, the second objective of this research is to investigate the role of generative capability as a mediator in the relationship between SHCA and new venture performance.

Further adding, the literature suggests that top management team diversity can have performance benefits for firms ([Boone and Hendriks, 2009](#)). Top management team diversity compositions can enable firms to achieve the best strategic goals and highest firm outcomes ([Diaz-Fernández et al., 2020](#)). Adding to it, having nationality diversity in the top management influences the strategic level of decision-making within organizations ([Nielsen and Nielsen, 2011](#)) due to their expertise on multiple fronts such as an in-depth understanding of various markets, diverse perspectives with different backgrounds and cultures, and among others. They are also likely to foster innovations within an organization, as with different backgrounds, they can provide novel ideas and solutions ([Buker et al., 2013](#)), leading to better idea generation and contributing to the innovation performance of a firm ([Kristinsson et al., 2016](#)). Moreover, with their expertise, they can better utilize the existing knowledge source to enhance the performance of the new venture. Nationality diversity helps to bring in new creative ideas, and alternative solutions, and enables the team to indulge in deep discussions ([Hambrick et al., 1998](#)). Strategic decision-making is usually characterized by a high level of uncertainty, complexity, and lack of routine therefore nationality diversity improves strategic-level decisions ([Watson et al., 1993](#)). While existing literature supports the positive influence of nationality diversity on firm performance, the relationship between nationality diversity as an essential boundary condition between generative capability in the context of new venture performance remains unexplored. Therefore, this study's third objective is to examine dual nationality founding members as a boundary condition between generative capabilities and new venture performance.

The study's contribution to the literature on new venture performance is fourfold. First, this study highlights SHCA as an integral driver of new venture performance by integrating the dynamic capabilities view to clarify the said relationship. We propose that there is a significant strategic and financial value of employees in new ventures and that predictive analytics guide strategic decisions within new ventures ultimately boosting their performance. Second, the study disentangles the mediating role of generative capability in the relationship between SHCA and new venture performance. Generative capability remains a largely unexplored phenomenon, particularly in relation to SHCA. Our study aims to fill this gap by emphasizing the importance of knowledge acquisition, updating, and

inheritance for new venture performance. We propose that new ventures must continuously accumulate knowledge and evolve their behaviors to improve performance. SHCA can serve as a dynamic decision-making and knowledge support system, offering a competitive advantage when integrated effectively with generative capabilities within a new venture.

Thirdly, our study highlights the pivotal role of dual-national founding members as moderators between generative capabilities and new venture performance. We are among the early researchers to delve into this aspect. Our findings emphasize that nationality diversity within teams significantly contributes to new venture success. Dual-national founders bring a unique perspective and diverse thinking, facilitating the generation of innovative ideas and effective strategies. Additionally, their diverse cultural backgrounds enable better market understanding and navigation. Utilizing this resource, new ventures can develop culturally sensitive market entry and customer engagement strategies, ultimately enhancing performance. Thus, our study expands the literature on dual nationality founding members' roles in enhancing new venture performance.

2. Theoretical background

This study employs the dynamic capabilities view as a theoretical framework to link SHCA with new venture performance. Dynamic capabilities offer insights into how SHCA can enhance new venture performance. Organizations foster these dynamic capacities internally as a means for enabling consistent and beneficial performance by turning inputs into outputs (Grant, 1996; Minbaeva, 2017). SHCA, which includes factors like data quality and strategic capability, functions at the individual, process, and structural levels inside a business, giving it a competitive edge (Minbaeva, 2017). It's crucial to remember that putting too much emphasis on HR process improvement could unintentionally make it harder to make wise decisions (Levenson and Fink, 2017). Dynamic capabilities tend to impact venture performance given that there are mediators hidden in the literature between the two variables (Scheuer and Thaler, 2022). SHCA and generative capability both stand out as dynamic capabilities and are especially suited for new ventures within the broader context of dynamic capabilities. These capabilities are a subset of organizational processes that facilitate sustained advantage through adaptation to changing market conditions (Eisenhardt and Martin, 2000). The resource configurations that produce value for these endeavors are greatly influenced by these dynamic capacities (Samson and Bhanugopan, 2022). A competitive advantage is further enhanced by utilizing personnel and technological resources (Gupta *et al.*, 2020). Analytics are understood to be the enablers of dynamic capabilities in this setting, with human capital analytics operating as a dynamic capability in and of itself (Conboy *et al.*, 2020; Gupta *et al.*, 2020).

Previous studies have concentrated more on the resource-based view (RBV) as it focuses on internal tangible and intangible resources to achieve sustained competitive advantage and superior performance. Some of the studies include Rehman *et al.* (2023), Ren *et al.* (2023), and Amoah *et al.* (2023). The literature is less focused on dynamic capabilities as the focus of dynamic capabilities is on changing market patterns, which is core to new ventures (Bucciari *et al.*, 2023).

2.1 Strategic human capital analytics and new venture performance

The new venture performance has attracted integral attention in the literature of management and entrepreneurship. The earlier studies of new venture performance have focused more on the founder's characteristics (Palmer, 1971). There are plenty of determinants of new venture performance (Cai *et al.*, 2017; Jin *et al.*, 2017); however, there are major constraints faced by new ventures as well. As new ventures tend to have limited

resources, therefore, there is only a narrow range of strategies from which they have to choose. These constraints include, but are not limited to, issues of newness, financial constraints, limited resources, limited recognition, etc. These factors tend to undermine the survival chances of the new ventures (Fisher *et al.*, 2016). Strategic performance measurement and management systems in an organization are vast (Dost *et al.*, 2016) and SHCA tends to be a part of them which guides decision-making contributing toward a competitive advantage for a company (Ali *et al.*, 2021). Samson and Bhanugopan (2022) laid the foundation for defining SHCA and concluded in their study that there is a positive effect between SHCA and organizational performance. Research has been carried out focusing on HR analytics and organizational performance concluding that HR analytics has a significant positive impact on the performance of an organization (McCartney and Fu, 2022). We infer logically and from past evidence that SHCA has a crucial role to play in the management system of new ventures. Informed decisions can be made by utilizing knowledge through analytics enabling new ventures to make better decisions. New ventures can be at risk if SHCA is not integrated into the management system of new ventures in today's technological world. If it is omitted from the strategy of the new venture, then new ventures might be leaving out an integral factor that can contribute toward its exponential growth. A new venture's performance system should likely incorporate data, analytics, and interpretation to support the implementation of SHCA. Optimal results in a new venture can only be achieved if there is constant monitoring via analytics. It is integral that new ventures incorporate dynamic capabilities within their system for better performance and if new ventures miss out on such integrations, then it is harder for them to achieve good performance (Guo *et al.*, 2023). As the literature indicates a high rate of failure of new ventures, it is mainly because they fail to integrate the integral dynamic capabilities within their management system impacting their overall performance. Integrating essential capabilities such as SHCA might enable new ventures to follow a path of success and growth.

From the literature, it is evident that much literature does not exist on SHCA and literature does not take into account the new venture performance. This is mainly due to the separation of SHCA from the strategic management and knowledge literature. As a result, there is a need for more research that integrates SHCA with works of literature to gain a better understanding of how it can be effectively utilized for improved new venture outcomes. Therefore, it is essential to integrate SHCA into the new venture's overarching performance management system for better decision-making and effective utilization of human capital resources. Thus, we develop the following hypothesis:

H1. SHCA positively impacts new venture performance.

2.2 Role of generative capability

The notion of generative capability is based on the generativity concept. Three dimensions of generativity have been identified by Guo *et al.* (2022) as knowledge acquisition, knowledge inheritance, and knowledge updating. The work of Sun and Zou (2018) focused on ongoing innovation and generative capability to determine how innovation can work in the organization and lead to effective performance. The study indicates that there is a connection between firm innovation, organizational structure, and generative capability. The connection allows the firms or organization to use the generative capability as a way forward to tackle issues and bring innovation.

Literature reveals that data analytics influence knowledge acquisition and discovery (Sedkaoui, 2019). Knowledge management tends to be an integral component of analytics and therefore impacts the decision-making in an organization. It is evident in past research work that analytical systems support the process of knowledge acquisition in organizations (Xu and Walton, 2005). Analytics visualize and analyze the existing data within

organizations, which in turn contributes to enhancing knowledge management within the organizations (Ferraris *et al.*, 2019; Khan and Vorley, 2017). Data analytics impact the knowledge-sharing process within the organization ultimately leading to better decision-making (Ghasemaghaei, 2019).

Researchers have explored knowledge and analytics, however, generativity in terms of analytics remains largely an unexplored area even when evidence of a relationship between knowledge and analytics is apparent. The literature has only recently developed a well-defined and measurable construct that relates to the fundamental ability of enabling continuous innovation, i.e. generative capability (Guo *et al.*, 2022). Literature supports the claim that generativity has a positive impact on the innovative performance of a firm (Ouellet *et al.*, 2014), career outcomes (Doerwald *et al.*, 2021), employee motivational outcomes, cognitive outcomes, personal outcomes, and extra-role behaviors (Wiktorowicz *et al.*, 2022). Whereas evidence suggests positive organizational outcomes are associated with generativity, it also has a significant contribution toward disruptive innovation (Menon, 2011). However, it is unclear how this construct can be applied to new ventures, which creates obstacles in connecting and integrating different research areas aimed at addressing the challenges of continuous innovation. To fill this knowledge gap, we integrate the concept of generative capability with SHCA to improve the performance of new ventures. This integration creates a unique capability that enables new ventures to organize experiential learning activities for achieving continuous innovation needed to enhance performance. Our empirical analysis focuses on three dimensions: “knowledge acquisition,” “knowledge inheritance,” and “knowledge updating” from a knowledge-based perspective.

Generative capability focuses on the reconfiguration and iteration of knowledge and processes. This enables the firms to upgrade continuously, and they tend to renew their knowledge. Furthermore, generative capability enables firms to make use of experiential learning activities and leads toward innovation that is fast and iterative (Guo *et al.*, 2022), which enables them to build their competencies and gain sustained competitive advantage (Guo *et al.*, 2022). The exploration of new venture performance within the context of generative capability remains an underexplored area. Despite the inherent connection between generative capability and new ventures, which frequently infuse innovation into their products and services, this intersection has received limited attention in research. The supporting evidence discussed above leads us to the following hypothesis:

- H2.* Generative capability mediates the relationship between SHCA and new venture performance.

2.3 Moderating role of dual national founding members

Literature offers robust support for the positive link between nationality diversity and firm performance (Nielsen and Nielsen, 2012). Pham and Lo (2023) highlight that different nationalities in the top management team help achieve better firm performance. Although prior research has extensively investigated the influence of dual nationality founders on firm performance (Sierra-Morán *et al.*, 2024), there is a notable absence of sufficient evidence regarding founding member diversity, specifically in terms of dual nationality, in the context of new ventures. Moreover, diversity is a broad topic, and types of diversity need to be funneled to know more about its impact.

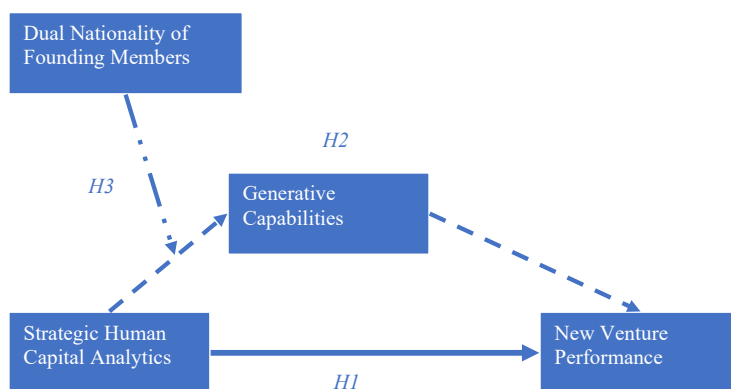
The presence of dual nationality among founding members can significantly influence the dynamics of strategic decision-making within new ventures. When a founding member possesses dual nationality, it often translates to a broader network, exposure to diverse perspectives, and an enhanced understanding of international markets. Dual nationals offer more operational flexibility as they bring along unique perspectives that tend to be valuable. Their understanding of multiple markets, diverse skills (Schmid *et al.*, 2015), and cross-

cultural competence can be utilized for international expansion strategies (Nielsen and Nielsen, 2011). The cultural gaps can also be bridged by facilitating cross-border transactions for new ventures. Moreover, their ability to interlink different cultural perspectives can facilitate national and international opportunities, ultimately leading to more successful ventures in the local and global markets.

This unique blend of experiences can empower the founding member to leverage SHCA more effectively. It enables a greater understanding of the diverse abilities present on the team, resulting in more accurate resource allocation and strategic alignment. As a result, the involvement of a founding member with dual nationality increases generative capability, which strongly depends on SHCA. The generative capability's mediation role in the interaction between SHCA and new venture performance is thereby amplified as a result. Moreover, dual nationality founders contribute a higher level of adaptability, global perspective, and innovative potential. This fosters an environment where generative capability contributes more significantly to improved venture performance. Consequently, the interaction between dual nationality founding members and generative capability can significantly bolster the success of new ventures. The discussion leads us to the following hypothesis:

- H3.* Dual nationality founding member moderates the mediating effect of generative capability on the relationship between SHCA and new venture performance such that the mediating effect is stronger when the founding member is dual nationality.

Based on the logic discussed, Figure 1 shows the model proposed for the study.



Source(s): Created by authors

Figure 1.
Research framework
highlights the
relationship between
study variables

3. Methods

The current study examines the effect of SHCA on new venture performance with the mediating role of generative capability in Pakistan. The new venture ecosystem in Pakistan is on a boom with a 63% increase in deals from 2020 to 2021 (I2I, 2021). Despite the global pandemic (COVID-19), the investments raised in the country hit an all-time high in 2021. An estimated 64% of the population of Pakistan is under 30 which has a huge potential to catalyze digital adoption in the country subsequently contributing to economic growth (Ahmad, 2018). In Pakistan, the new ventures raised a total of \$350 Million through a total of 83 deals in 2021 (I2I, 2021). Moreover, this study has focused on technology-related ventures acknowledging their significant importance in today's landscape of billion-dollar startups. This emphasis is appropriate, given that most of these high-value startups belong to the tech sector and tend to

have a major growth potential (Startup genome, 2022). Tech ventures are characterized by disruptive potential and innovative solutions, which often results in rapid market expansion. Technology-based ventures have corporate function-related outputs as they encourage the development of direct sales concepts and utilization of new technologies (Anwar *et al.*, 2023). Technology-based ventures are related to business model innovation and enable the ventures to be more flexible thereby enhancing their competitiveness in the market (Yigit and Kanbach, 2023). With the rise in new ventures in the country and increase in investments, it has thus become necessary to study the factors and dynamic capabilities that contribute toward the better performance of the new ventures for their long-term sustainable competitive advantage (Faiz *et al.*, 2024). Entrepreneurship practiced in developing countries tends to be distinctive from that of developed countries (Lingelbach *et al.*, 2005). Developing countries face unique social, intellectual databases, professionals, and propriety right protection challenges and start-ups play a crucial role in addressing these. The global entrepreneurship monitor (2021) highlights that there is a high-rate of necessity-driven entrepreneurship in developing countries. Therefore, the current study focuses on Pakistan as the research context.

The data for the current study was collected at the end of 2022 using an online survey. Online methods are actively being used for data collection and they enhance data collection efficiency (Wright and Schwager, 2008). Online data collection has been carried out in various research works (Davidsson *et al.*, 2017; Nguyen and Nguyen, 2023). Online surveys help to access geographically distributed populations and enable to achieve quick returns (Lefever *et al.*, 2007). Online surveys help to control multiple submissions and are well suited for cross-sectional studies providing real-time data storage (Nayak and Narayan, 2019).

The survey was filled out by the founders/co-founders of the new ventures in Pakistan. The survey was floated among the sample via emails to the project managers of the incubation centers. The project managers further the survey among the alumni and current startups incubated with them. Emails of founding members were also sought from entities that already had a database available and emails were floated among them. Moreover, LinkedIn was actively used to approach the founders/co-founders to fill out the online survey. Reminders were sent to the sample to increase the response rate. Those new ventures were selected for samples that were in operation for less than 8 years as per the definition of new ventures (Chrisman *et al.*, 2005; McGee *et al.*, 1995). A track was maintained for the surveys being floated. A total of 2,100 surveys were floated, and the response rate obtained was 16.5%. A total of 346 responses were obtained out of which the usable responses were 313 after removing ineligible responses (i.e. responses which had missing data and did not fall under definition of new ventures). The nonresponse bias was avoided by persuasion and sending reminders to fill up the survey. The common method bias was prevented by making the survey questions precise, succinct, and transparent and by protecting the respondents' anonymity (Mehmood *et al.*, 2021; Tariq *et al.*, 2023).

PROCESS Macro has been used to test our hypothesis as it has been used extensively by researchers to test for moderated mediation (Andric *et al.*, 2024; Shahid, 2023). PROCESS Macro has been used as it provides greater flexibility with 76 preprogrammed models (Hayes *et al.*, 2017). Since our model has already been established in the 76 preprogrammed model and has been extensively used by the researcher so we relied on it rather than structural equation modeling (SEM). Moreover, with bootstrapping approaches, macro offers a methodical way to enable robust statistical examination to derive robust estimates of indirect effects and their associated uncertainties (Sarstedt *et al.*, 2020).

3.1 Measures

3.1.1 Strategic human capital analytics. We measured SHCA analytics using 06 items measured on a 5-point Likert scale. The range of the scale is from 1 ("strongly disagree") to 5 ("strongly agree"). The questionnaire has been adapted from Samson and Bhanugopan

(2022) as it has been applied previously for gathering data related to SHCA in relation to organizational performance. The internal consistency of the items was high in the current study, i.e. Cronbach Alpha value $\alpha = 0.835$.

3.1.2 New venture performance. Donbesuur *et al.* (2020) study used 5-item scale for new venture performance. A high value of Cronbach alpha was recorded in the current study, i.e. 0.911. The scale selected was a 5-point Likert scale with range of 1 (“Much Worse”) to 5 (“Much Better”).

3.1.3 Generative capability. Guo *et al.*'s (2022) 14-item scale was selected to measure generative capability. A Likert-type scale of 1 (Strongly disagree) to 5 (Strongly agree) was applied. The current study reported a high internal consistency for this variable, i.e. 0.925. Three factors of generative capability have been considered, i.e. knowledge acquisition, updating, and inheritance.

3.1.4 Dual nationality founding member. We adapted the scale for dual nationality founding member measure from the study of (Nazar and Raheman, 2022) who adopted it from (Leblang, 2017). Whereas 0, 1, and 2 is the scale used to gather data on dual nationality founding members where 0 represents having Pakistani Nationality, 1 represents a foreign national, and 2 represents dual nationality (Pakistani + any other nationality).

3.1.5 Control variables. The control of the study findings (Carlson and Wu, 2011). The experience of founder is taken to be the control variable in the study as Roh *et al.* (2022) concluded that the founder's experience tends to have an impact on the innovation performance of a venture. The second control is new venture funding, which has been shown to influence the profit and dramatic expansion of the new ventures (Dushnitsky and Yu, 2022). The third control is gender diversity in founding members of new ventures as Jain (2022) concludes that better women representation at the owner level leads to better firm performance. The fourth control is age as it tends to impact the new venture creation (Fakhreldin, 2017).

3.2 Pretesting and pilot study

Pretesting ensures that the questions inquired precisely reflect the required information and that the respondent can answer the questions of the survey (Grimm, 2010). The same has been followed in previous research works (Alakaleek *et al.*, 2023; Tsaknis *et al.*, 2024). Five experts were engaged in the pretesting of the questionnaire and their feedback was used to refine the questionnaire. After pretesting, a pilot test was distributed using multiple modes, i.e. in person in incubation/acceleration centers, online via LinkedIn, and via contacts of the researcher through WhatsApp. The analysis is based on 31 responses. Delice (2010) also recommends that the sample size should not be less than 30. Total number of responses received was 37 and 06 were removed due to ineligible data. Pilot test showed sufficient reliability and validity of the data essential to complete the full sample size data collection. Pilot test has been carried out similarly in previous research works (Martín-Navarro *et al.*, 2023; Malodia *et al.*, 2023).

3.3 Sample characteristics

The sample characteristics of the entire sample are shown in Table 1. 83.1% were males, whereas 16.9% were females. Majority of the founders were aged between 26 and 35 years followed by 18–25 years. 55% of the respondents were bachelor qualified followed by 37.7% master's qualified. 67.4% did not have any female founder/cofounder, and 27.2% had been running their venture since 1–2 years. Majority of the respondents had team size of less than 10. 76.7% of the new ventures did not receive any funding, whereas 23.3% of the new ventures had received some funding. In our sample, majority of the founders/cofounders had some experience; 18.5% had 1–3 years of experience, 29.4% had 4–6 years of experience, 14.4% had 7–9 years of experience, 29.4% had 10 years and above experience, 6.1% had less than 1 year of experience and only 2.2% had no experience.

Characteristic	Frequency	Percent
<i>Gender</i>		
Male	260	83.1
Female	53	16.9
<i>Age of founder/co-founder</i>		
18–25 years	80	25.6
26–35 years	163	52.1
36–45 years	57	18.2
46–55 years	12	3.8
More than 55 years	1	0.3
<i>Female founder</i>		
0	211	67.4
1	71	22.7
2	23	7.3
3	5	1.6
4	1	0.3
5	2	0.6
<i>Founder's Experience</i>		
No experience	7	2.2
Less than 1 year	19	6.1
1–3 years	58	18.5
4–6 years	92	29.4
7–9 years	45	14.4
10 years and above	92	29.4
<i>New venture Funding</i>		
Yes	73	23.3
No	240	76.7

Table 1.
Sample characteristics **Source(s):** Created by authors

4. Analysis and results

The results of the confirmatory factor analysis reflect that our results are a good fit, i.e. CFI = 0.956, TLI = 0.853, NFI = 0.954, RFI = 0.846, IFI = 0.956, RMSEA = 0.047, $p < 0.001$. The results reflect that the commonly accepted threshold of the indexes is exceeded. The RMSEA value also falls below the recommended threshold, which supports the adequacy of model fit (Nazir *et al.*, 2024; Yu *et al.*, 2022). Model 7 of PROCESS Macro has been used to interpret the results of the study. The conceptual model for Model 7 has been provided in the Annex. Discriminant validity was evaluated based on low-correlated measures of interest and other constructs. To ensure discriminant validity is not an issue, each construct's square root of AVE needs to be larger than the correlation between the constructs (Fornell and Larcker, 1981). Our results confirm that we have low discriminant validity as reflected in Table 2. Descriptive statistics and correlations for the variables are provided in Table 2. The mean values of variables were between 0.179 and 3.792 and their standard deviations were between 0.424 and 1.351. The correlation values reflect significant positive correlation between SHCA and generative capability with new venture performance.

To investigate the moderated mediation relationship, this study performed PROCESS macro bootstrapping procedure (whereas N was 5,000, model 7). Table 3 and Table 4 show the direct effect of X on Y and the impact of the variable on the outcome variable. Results indicate that SHCA (0.4866, $p < 0.001$) and generative capability (0.2024, $p < 0.01$) both have a positive and significant relation with new venture performance (dependent variable). H1

Table 2.
Descriptive statistics
and correlations

	M	SD	1	2	3	4	5	6	7
Strategic Human Capital Analytics	3.503	0.839	0.9						
New venture performance	3.518	0.891	0.559**	0.849					
Generative capability	3.792	0.732	0.605**	0.443**	0.787				
Dual nationality	0.179	0.537	0.085	0.068	0.031				
Professional experience	3.356	1.351	0.079	0.056	0.062	0.088			
Gender diversity	0.466	0.812	−0.04	−0.075	−0.006	−0.001	0.058		
Funding	0.233	0.424	0.211**	0.224**	0.134	0.098	0.083	0.055	
Age	2.012	0.789	0.019	−0.037	−0.003	0.085	0.666**	0.051	0.058
Average Variance extracted			0.81	0.72	0.62				
Constructs Reliability			0.835	0.911	0.925				

Note(s): ** $p < 0.01$, * $p < 0.05$
Source(s): Created by authors

Table 3.
Direct effect outcome
variable: GC

Model	Coeff	SE	<i>T</i>	95% CI
SHCA	0.4953***	0.0411	12.0588	[0.4145; 0.5762]
DNFM	−1.530*	0.593	−2.58	[−2.697; −0.363]

Outcome variable: NVP

Model	Coeff	SE	<i>T</i>	95% CI
SCHA	0.4866***	0.062	7.8441	[0.3645; 0.6087]
GC	0.2024*	0.0711	2.8472	[0.0625; 0.3422]

Direct effect of X on Y

Effect	SE	<i>T</i>	95% CI
0.4866***	0.062	7.8441	[0.3645; 0.6087]

Indirect effect of X on Y

Effect	Se	95%CI
GC	0.1068	[0.0190; 0.2076]

Note(s): Direct effects were tested with confidence interval of 95%, $N = 313$, 5,000 bootstrap samples. SHCA = Strategic human capital analytics, GC= Generative capability, NVP= New venture performance, DNFM = Dual nationality founding member
*** $p < 0.001$, ** $p < 0.01$, and * $p < 0.05$
Source(s): Created by authors

posits that SHCA positively impacts the new venture's performance. We accept our [hypothesis 1](#) as the hypothesis is supported by the results (Coeff = 0.4866; $T = 7.8441$, $p < 0.001$). The findings provide empirical evidence supporting our findings of SHCA impacting the performance of new ventures. We see a significant positive relation between

Table 4.
Index of moderated
mediation

Index of moderated mediation						
Mod	Med	Mod. Med. Index	SE	Boot LLCI	Boot ULCI	
Dual Nationality Founding Member	Generative Capability	W 0.0818	0.0436	0.0070	0.1755	

Conditional indirect effect on values of the moderator						
Mod	Med	Values Mod	Cond index effect	SE	Boot LLCI	Boot ULCI
Dual Nationality Founding Member	Generative Capability	0.0000	0.1002	0.0453	0.0176	0.1970
		1.0000	0.1372	0.1412	−0.0008	0.5070
		2.0000	0.1820	0.0818	0.0318	0.3559

Note(s): Indirect effects were tested with a confidence interval of 95%, $N = 313$, 5,000 bootstrap samples. Whereas Moderator values “0 = Only Pakistani citizen”, “1 = Foreign founding member”, and “2 = Dual nationality founding member (Pakistani + any other nationality)”

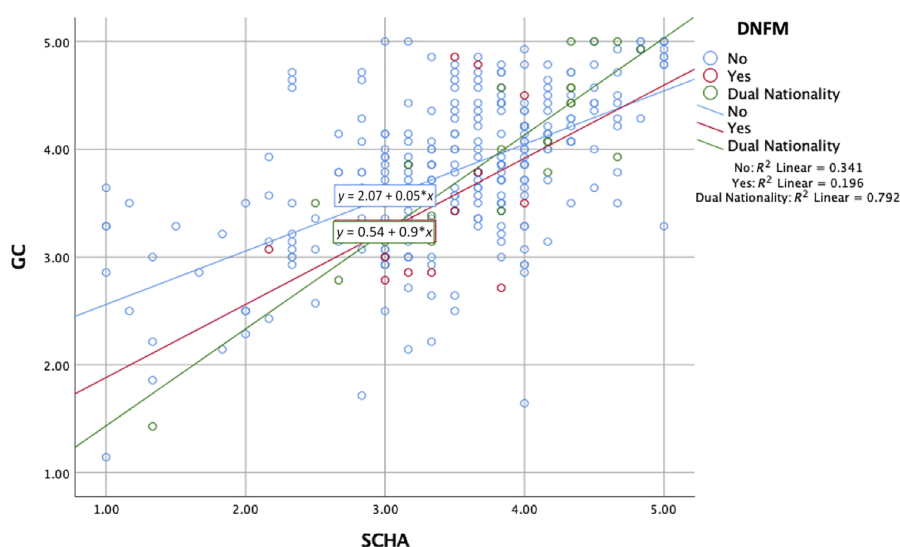
Source(s): Created by authors

SHCA and generative capability (Coeff = 0.4953, $T = 12.058$, $p < 0.001$) based on which we accept [hypothesis 2](#). Results indicate that SHCA is positively related to generative capability and the relation between the two is significant ($p = 0.00$) ([Table 3](#)).

[Table 3](#) reflects the indirect effect of SHCA on new venture performance via generative capability {0.0190, 0.2076} indicating that the mediating impact of generative capability between SHCA and new venture performance is significant and positive (Effect = 0.1068). [Table 4](#) results reflect the index of moderated mediation. The results indicate that there is moderated mediation in our model as the results are significant. The results support our [H3](#) that Dual Nationality founding member moderates the mediating effect of generative capability on the relationship between SHCA and new venture performance such that the mediating effect is stronger when the founding member is dual nationality. We can see from [Table 4](#) that when the founder has dual nationality (W 0.0818) then the value of Boot LLCI and ULCI is {0.0070; 0.1755} indicating a moderated mediation. The conditional indirect effect at values of the moderator also reflects acceptance of our hypothesis when the founding member has dual nationality {0.0318; 0.3559}. The results of the 95% confidence interval did not contain zero enabling us to accept our hypothesis. A graphic depiction of the outcomes in [Figure 2](#) similarly reflects the same connection. We created interaction plots to better understand the effects of moderation. The figure reflects that generative capability increases when SHCA increases and that too under the moderating impact of dual nationality founding members. Results reflect that a significant relation is found in the model when the founding member is of dual nationality (Pakistani + any other nationality). This enables us to accept our third hypothesis ([H3](#)). Overall, our findings support our hypotheses [H1](#), [H2](#), and [H3](#).

5. Discussions

This paper examines the impact of SHCA on the new venture performance with generative capability as the mediator. Our current research is a result of a few fundamental gaps that have been identified in literature. Firstly, we wanted to better understand how human capital analytics contribute to better new venture performance. Secondly, we wanted to find the role of SHCA in the performance of new ventures and how knowledge acquisition, updating, and inheritance can enable innovation within the new venture. Our findings posit that SHCA and generative capability are a source of competitive advantage and dynamic capabilities for



Source(s): Created by authors

Figure 2.
Generative capabilities
as a function of
strategic human
capital analytics and
dual nationality
founding
member (DNFM)

new ventures and generative capability mediates the relation between SHCA and new venture performance. Our study adds to the literature by advancing the dynamic capabilities view via theoretically situating that SHCA (Samson and Bhanugopan, 2022) and generative capability both are a source of competitive advantage for a new venture acting as a bridge between theory and practice of human resource management and strategy management literature.

This study has supported evidence that it is integral for new ventures to concentrate on SHCA and that it should be a part of their venture for better and improved performance. These findings also support the scholars' arguments that dynamic capabilities can be utilized to strategically enhance the value of new ventures through understanding significance of critical factors (Eisenhardt and Martin, 2000). Through SHCA, the founders can identify key performance indicators that are relevant to their venture and then align the analytics to the KPIs to enhance performance. The founders can analyze what motivates the employees to engage at work, projecting future workforce demands (Arora et al., 2021), and HR investment decisions to focus on (Levenson and Fink, 2017). New ventures can gather and analyze employee-related data including but not limited to skill gaps, productivity metrics, workforce metrics, talent management strategies, and turnover rates, and then align these to their strategic-level goals. This can help the founders to take relevant training initiatives and optimize their hiring process contributing toward short- and long-term goals. Moreover, they can make use of predictive analytics to anticipate the needs of the future workforce and identify potential opportunities and risks. The human capital data can be monitored continuously to make informed decisions regarding leadership development, allocation of resources, and organizational structure.

Our findings about generative capabilities are also in parallel with the study of Ghasemaghahi (2019) who suggests that analytics can significantly improve the knowledge sharing between the firms. The ability of the new venture to transform information (SHCA) and combine assets of knowledge (generative capability) can turn out to be a competitive advantage for the new ventures as new ventures can come up with value-creating strategies

providing them an edge over others in the market. This study demonstrated that knowledge acquisition, knowledge inheritance, and knowledge updating play an integral role in the new venture performance. This gives the literature on generating capability and new ventures important empirical support. Our study addresses the call to explore generative capability via quantitative surveys and collecting data in an innovation context (Guo *et al.*, 2022). Our result is further in line with Guo *et al.* (2022) who emphasize that generative capability helps to innovate continuously which is the core objective of every entrepreneurial new venture to ensure they remain competitive in the market. Moreover, human capital analytics, if implemented in new ventures, has the potential to fine-tune the decisions enhancing efficiency within the organization (Deloitte, 2013).

This study argues that having dual nationality founders is likely to play a significant role in new ventures to strengthen the mediating role of generative capabilities on the relationship between SHCA and new venture performance. This is because dual nationality provides global reach to new ventures by providing access to diverse markets, resources, and talent pools. Dual nationality founders further act as a cultural and linguistic bridge between different countries thereby facilitating communication and collaboration. They further tend to be more open-minded and creative thereby stimulating innovation within the company (Sierra-Morán *et al.*, 2024). The risk exposure is also diversified in this manner as dual nationality founders leverage their networks to mitigate risks in different markets (Setiyono and Tarazi, 2018). Nationality diversity promotes learning and enables new knowledge to be created (Capaldo and Petruzzelli, 2014).

This study offers assistance to managers in comprehending and implementing effective human capital analytics, as it plays a crucial role in determining the degree to which generative capabilities can enhance organizational performance. In this innovative study, we establish a causal relationship between generative capability and new venture performance, whereby generative capability positively impacts new venture performance. The study findings also provide evidence that generative capability plays a crucial role in determining new venture performance. Notably, this study is the first to suggest that incorporating strategic human analytics capabilities within new venture's management system via knowledge acquisition, inheritance, and updating can contribute to its performance. This encourages managers to utilize the generative capability required to consider more distinctive metrics within SHCA, ultimately improving new venture performance.

This study is pioneer in providing supporting evidence for the linkage of SHCA, generative capability, and new venture performance as in the past literature, the new venture performance has not been explored vastly in this context. The study is in line with previous research works that emphasize the fact that team nationality diversity enhances organizational performance (Kilduff *et al.*, 2000; Nielsen and Nielsen, 2012).

5.1 Implications

5.1.1 Theoretical implication. We contribute to the management literature in multiple ways. Firstly, we contribute to the literature of new venture performance as multiple factors have been explored in the previous research studies; however, human capital analytics have not remained the focus of scholars in terms of new venture performance. SHCA term has been recently introduced by Samson and Bhanugopan (2022) and the phenomenon needs to be explored for supporting evidence. Therefore, this research makes a noteworthy contribution to the field by being the first to test and present empirical evidence of the strategic value of human capital analytics in enhancing the performance of new ventures, thereby establishing it as a competitive advantage. This study acts as a bridge between strategic management literature and human resource management by emphasizing the formal integration of SHCA for new ventures in their processes. Previous literature finds that too much time is spent by

organizations on basic tardy work of human capital analytics (Levenson and Fink, 2017) and the findings add to the literature that founders should spend time on SHCA rather than only “human capital analytics” to make the best use of time and contribute toward positive outcomes. Moreover, we also contribute by adding to the literature that new ventures can continuously focus on knowledge inheritance, updating, and acquisition through human capital analytics, which have not been previously considered in new literature (Hamilton and Sodeman, 2020).

Secondly, the concept of generative capability has not been explored in the context of new ventures when the concept is closely related to new ventures due to the concept of innovation. The study’s results confirm that generative capability plays an integral role in new ventures and founders should concentrate on the factors that make generative capability enhance the performance of their ventures. This study’s findings contribute to the dynamic capabilities view by demonstrating that SHCA and generative capability are strongly associated with enhanced new venture performance and the potential to maintain a competitive advantage over time. It’s important to highlight that SHCA, coupled with generative capability, serves as dynamic capabilities that enable the integration and enhancement of knowledge sources to reshape human capital resources, ultimately fostering a sustainable competitive advantage. This highlights the dynamic nature of SHCA and generative capability and its potential to promptly adapt to evolving market scenarios, making it a valuable knowledge contributor.

Lastly, we contribute by adding that national diversity (dual nationality) among the founding members enables the new ventures to perform better. The presence of founders who hold two nationalities may signify that the entrepreneurial team has more cultural capital. This finding is consistent with ideas that emphasize the importance of cultural competence in international business, and it implies that businesses with founders who have dual nationality may be better able to negotiate a variety of foreign marketplaces. Moreover, the founding team’s ability to draw from a wider range of viewpoints and ideas may be facilitated by dual nationality founders to tackle different challenges and provide creative solutions.

5.1.2 Managerial implication. The study provides useful implications for new venture managers by highlighting the importance of generative capability and SHCA. These capabilities have been demonstrated to be crucial elements that should not be neglected by the founders of the new ventures. In other words, as part of their startup strategy, founders and cofounders should give priority to the development and use of these competencies. Managers can use these capabilities to make well-informed decisions about hiring, developing, and deploying employees. The study emphasizes that ignoring this consideration can result in lost possibilities for the startup’s human capital to be optimized, especially if, the start-up has limited resources to have a large team, if utilized effectively, it can give competitive advantage to new ventures. Moreover, founders and managers of new ventures shall try to be aware that generative capability is crucial for converting SHCA into enhanced new venture performance. They should therefore give top priority to improving and developing generating capability within their businesses. This may entail building an innovative culture, encouraging creativity, and giving staff members the tools and resources they need to come up with fresh concepts and solutions. Understanding the mediating function of generating capability highlights the significance of cross-functional cooperation. To encourage idea production, information exchange, and the cross-pollination of various viewpoints, managers should encourage communication and collaboration between various departments and teams. This can be accomplished via collaborating on cross-disciplinary projects, brainstorming meetings, and problem-solving initiatives.

The study provides direction to founding members to focus on knowledge inheritance, knowledge acquisition, and knowledge updating within their new ventures. New ventures can acquire knowledge regarding customers, competition, and collaboration to ensure they have enough required information to maintain competitiveness in the market. This research guides new ventures to inherit knowledge via knowledge sharing, organizational memory, and knowledge integration to ensure they have access to the right information required for their ventures. The study findings route new ventures to update their knowledge continuously using experimentation, reflection, adaption, and product iteration leading toward sustainable competitive advantage (Guo *et al.*, 2022).

Moreover, policymakers need to integrate entrepreneurship education to support new ventures in the school curriculum at all different levels by focusing not only on business management but also on human capital analytics, venture performance, and generative capabilities. Policymakers can conduct research and consultations to develop frameworks for this purpose that align with the educational standards at different educational levels. Besides, policymakers can support the initiative of short online courses related to human capital analytics, digital leadership, generative capabilities, and business model innovation for new ventures. These short courses can be made available for free for the founders to support the new ventures. Policymakers can also introduce policies to attract entrepreneurs with vast experience from other countries who are willing to join a new venture as a co-founders and can facilitate scaling up the new ventures. Entrepreneur/investor vis programs can be started or extended to support individuals who are willing to make significant investments in new ventures.

Lastly, economic policies need to be introduced that have a more conducive regulatory environment for new ventures. Such policies need to be in place that increase access to funding for the new ventures. For this purpose, feasibility studies can be conducted to identify the regulatory barriers to new ventures and innovative solutions can be explored. The taxes for those new ventures can be rationalized who utilize robust analytics and have robust digital leadership in place. Policymakers can explore public–private partnerships to incentivize financial institutions to provide various financing options for the new ventures depending on the robust practices in place within the new venture. The better the practices a new venture follows, the more attractive the financing options can be introduced. Initiatives can be developed that foster the performance and growth of the new ventures.

To maximize the potential of dual-founding national founders' potential, new venture managers should adopt a strategic approach. They can adjust their human capital strategies by being aware that the effect of SHCA on performance is not constant but rather depends on the composition of their founding team. For instance, when founders with dual citizenship are present, the business can benefit from their cross-cultural knowledge and relationships to increase the efficiency of SHCA. Utilizing networks and backgrounds from a variety of backgrounds may entail tailoring activities for talent acquisition, training, and development. Furthermore, the importance of generative capability may be enhanced by the presence of such founders. Managers should understand that generative capability, which mediates the relationship between human capital analytics and performance, becomes even more crucial in businesses with dual-nationality founders. As a result, it becomes crucial to promote an innovative, creative, and adaptable culture within the company.

5.2 Limitations and future research

This research has a few limitations. First, a cross-sectional approach has been adopted in the study and there is an argument that this approach might present endogeneity issues (Gerhart *et al.*, 2000) as it assesses both exposure and outcome simultaneously. This can lead to errors in understanding variable relationships (Solem, 2015). The results of this study

should be regarded as support for the model but not as proof as the new venture performance tends to be impacted due to a number of factors as already supported in previous studies and discussed in the literature. It is recommended that future studies may carry out longitudinal studies to better capture the dynamic nature of new venture development and performance over time. This could also facilitate addressing the endogeneity and other concerns related to cross-sectional nature of the dataset.

Second, another limitation is that since surveys were distributed online among the respondents, there is an inability of the author to control the environment in which the respondents fill the survey questionnaires (Coughlan *et al.*, 2009). Future studies can also be conducted in a controlled setting to understand the influence of dual founding national on the generative capabilities' mediating role between strategic human capita analytics and new venture performance. Third, adding to that, the current study has a limitation as data was collected from a single country. This gives rise to caution when generalizing the evaluation results across countries, as the results may vary systematically due to other country-level specific characteristics not being considered in a single country-level analysis (Hanushek, 2021). Future studies can conduct empirical research in other geographical contexts to improve the generalizability of this research findings. It is crucial to consider the distinct cultural, economic, and institutional contexts of various locations to validate the results and further the field's understanding of entrepreneurial behavior and outcomes. However, for better generalizability of results, future studies can expand the research framework to encompass a diverse array of industries. By broadening the range of sectors under examination, researchers can gain deeper insights into the multifaceted dynamics of SHCA and new venture performance. Fourth, the current study focused on tech-based new ventures and further studies can focus on other categories of new ventures which might give more generalizable results. Examples may include the e-commerce industry, logistics industry, food, and beverage industry-based new ventures.

Fifth, future research works can deep dive into the type of analytics that is integral for new venture performance in the HR domain and guide what kind of analytics are more significant to be implemented for the new ventures as the field of HR analytics is a vast field. Broader spectrum of variables can be explored in upcoming studies that impact new venture performance, which may include factors such as digital leadership styles, organization culture, market dynamics, business analytics, and technological advancements. Moreover, this study relied on perception-based constructs to measure the performance of the new venture, which is highlighted as an important approach however, it has certain limitations. Thus, to provide a more comprehensive understanding, future studies can make use of objective measures such as revenue growth, market performance, customer acquisition cost, and profitability.

We see that cultural differences do exist in the interpretation and response to strategic-level issues by managers with different cultural backgrounds (Schneider and De Meyer, 1991). This can benefit new ventures but can also have an adverse impact if the strategy does not suit a specific culture. On the other hand, it is argued that it is integral to understand cultural differences by the managers if organizations want to deploy information technology effectively (Yeganeh, 2000), which reinforces the significance of having dual nationality founding members. Culture tends to influence efficiency, robustness, and flexibility within new ventures (Vanhee *et al.*, 2014), which reflects that in future studies it can be explored which dual national the new ventures should bring in as a founding member. Dual nationality founding members bring along economic benefits with access to trade, commerce, skills, expertise investment, and research. In this context, keeping in mind various factors, new ventures further need to explore which dual national can be economically most beneficial for them.

Last, we can see from the literature that perception-based measures have merit in measuring the new venture performance (Du and Kim, 2021). PROCESS Macro has been used

in the study for analysis and it is limited due to ignoring the diluting effect of measurement error (Sarstedt *et al.*, 2020). Future studies can make use of SEM, which is a more complex method to compare the results. To provide a more comprehensive understanding, future studies can make use of objective measures such as revenue growth, market share, customer acquisition cost, and profitability. In conclusion, an integral dimension for future research remains on how SHCA needs to be implemented for new ventures for successful outcomes. This can be explored in further studies to guide new ventures.

6. Conclusion

Addressing the first objective of the study, we found that SHCA has a positive impact on new venture performance. The results of this study are in parallel with the literature and theory that SHCA impacts organizational performance positively (Samson and Bhanugopan, 2022) and we extend the notion by adding that SHCA tends to have a positive impact on new venture performance. The relationship between the two has a significant impact via the mediation of generative capability and this addresses the second objective of this study. Addressing the third and final objective of the study, we further conclude that dual nationality founding members moderate the mediating relationship between SHCA and new venture performance via generative capability. This study concludes that having a founding member with dual nationality proves to be beneficial for the new ventures and enhances their performance as dual nationality founding member tends to have a moderating impact on the relationship between SHCA and new venture performance with the mediating effect of generative capability.

References

- Adomako, S., Opoku, R.A. and Frimpong, K. (2018), "Entrepreneurs' improvisational behavior and new venture performance: firm-level and institutional contingencies", *Journal of Business Research*, Vol. 83, pp. 10-18, doi: [10.1016/j.jbusres.2017.10.006](https://doi.org/10.1016/j.jbusres.2017.10.006).
- Ahmad, S. (2018), "Unleashing the potential of a young Pakistan", Human Development Reports, available at: <https://hdr.undp.org/content/unleashing-potential-young-pakistan> (accessed 4 January 2023).
- Alakaleek, W., Harb, Y., Harb, A.A. and Al shishany, A. (2023), "The impact of entrepreneurship education: a study of entrepreneurial outcomes", *The International Journal of Management Education*, Vol. 21 No. 2, 100800, doi: [10.1016/j.ijme.2023.100800](https://doi.org/10.1016/j.ijme.2023.100800).
- Ali, M., Mubarik, M.S. and Nazir, S. (2021), "Intellectual capital and supply chain mapping: a proposed framework", in *The Dynamics of Intellectual Capital in Current Era*, Springer, pp. 275-290, doi: [10.1007/978-981-16-1692-1_14](https://doi.org/10.1007/978-981-16-1692-1_14).
- Ameer, F. and Khan, N.R. (2022), "Green entrepreneurial orientation and corporate environmental performance: a systematic literature review", *European Management Journal*, Vol. 41 No. 5, pp. 755-778, doi: [10.1016/j.emj.2022.04.003](https://doi.org/10.1016/j.emj.2022.04.003).
- Amoah, J., Jibril, A.B., Odei, M.A., Bankuoru Egala, S., Dziwornu, R. and Kwarteng, K. (2023), "Deficit of digital orientation among service-based firms in an emerging economy: a resource-based view", *Cogent Business and Management*, Vol. 10 No. 1, 2152891, doi: [10.1080/23311975.2022.2152891](https://doi.org/10.1080/23311975.2022.2152891).
- Andric, M., Hsueh, J.W.J., Zellweger, T. and Hatak, I. (2024), "Parental divorce in early life and entrepreneurial performance in adulthood", *Journal of Business Venturing*, Vol. 39 No. 3, 106390, doi: [10.1016/j.jbusvent.2024.106390](https://doi.org/10.1016/j.jbusvent.2024.106390).
- Anwar, A., Coviello, N. and Rouziou, M. (2023), "Weathering a crisis: a multi-level analysis of resilience in young ventures", *Entrepreneurship Theory and Practice*, Vol. 47 No. 3, pp. 864-892, doi: [10.1177/10422587211046545](https://doi.org/10.1177/10422587211046545).

- Arora, M., Prakash, A., Mittal, A. and Singh, S. (2021), "HR analytics and artificial intelligence-transforming human resource management", *2021 International Conference on Decision Aid Sciences and Application (DASA)*, IEEE, pp. 288-293.
- Boone, C. and Hendriks, W. (2009), "Top management team diversity and firm performance: moderators of functional-background and locus-of-control diversity", *Management Science*, Vol. 55 No. 2, pp. 165-180, doi: [10.1287/mnsc.1080.0899](https://doi.org/10.1287/mnsc.1080.0899).
- Buccieri, D., Javalgi, R.R.G. and Gross, A. (2023), "Innovation and differentiation of emerging market international new ventures the role of entrepreneurial marketing", *Journal of Strategic Marketing*, Vol. 31 No. 3, pp. 549-577, doi: [10.1080/0965254x.2021.1952293](https://doi.org/10.1080/0965254x.2021.1952293).
- Buker, M., Franci, C. and Minerva, A. (2013), "Foreign ownership, firm performance, and the geography of civic capital", *Regional Science and Urban Economics*, Vol. 27 No. 1, pp. 964-984.
- Cai, L., Guo, R., Fei, Y. and Liu, Z. (2017), "Effectuation, exploratory learning and new venture performance: evidence from China", *Journal of Small Business Management*, Vol. 55 No. 3, pp. 388-403, doi: [10.1111/jsbm.12247](https://doi.org/10.1111/jsbm.12247).
- Capaldo, A. and Petruzzelli, A.M. (2014), "Partner geographic and organizational proximity and the innovative performance of knowledge-creating alliances", *European Management Review*, Vol. 11 No. 1, pp. 63-84, doi: [10.1111/emre.12024](https://doi.org/10.1111/emre.12024).
- Carlson, K.D. and Wu, J. (2011), "The illusion of statistical control: control variable practice in management research", *Organizational Research Methods*, Vol. 15 No. 3, pp. 413-435, doi: [10.1177/1094428111428817](https://doi.org/10.1177/1094428111428817).
- Chrisman, J.J., McMullan, E. and Hall, J. (2005), "The influence of guided preparation on the long-term performance of New Ventures", *Journal of Business Venturing*, Vol. 20 No. 6, pp. 769-791, doi: [10.1016/j.jbusvent.2004.10.001](https://doi.org/10.1016/j.jbusvent.2004.10.001).
- Conboy, K., Mikalef, P., Dennehy, D. and Krogstie, J. (2020), "Using business analytics to enhance dynamic capabilities in operations research: a case analysis and research agenda", *European Journal of Operational Research*, Vol. 281 No. 3, pp. 656-672, doi: [10.1016/j.ejor.2019.06.051](https://doi.org/10.1016/j.ejor.2019.06.051).
- Coughlan, M., Cronin, P. and Ryan, F. (2009), "Survey research: process and limitations", *International Journal of Therapy and Rehabilitation*, Vol. 16 No. 1, pp. 9-15, doi: [10.12968/ijtr.2009.16.1.37935](https://doi.org/10.12968/ijtr.2009.16.1.37935).
- Dang, T.K. (2022), "Why do startups fail and can we create an AI formula to prevent failure? An interview with Harvard Business School professor Tom Eisenmann", *Forbes*, available at: <https://www.forbes.com/sites/taarinikaurdang/2022/02/09/why-do-startups-fail-and-can-we-create-an-ai-formula-to-prevent-failure-an-interview-with-harvard-business-school-professor-tom-eisenmann/?sh=7ac968f6e8a9> (accessed 17 December 2023).
- Davidsson, P., Baker, T. and Senyard, J.M. (2017), "A measure of entrepreneurial bricolage behavior", *International Journal of Entrepreneurial Behavior and Research*, Vol. 23 No. 1, pp. 114-135, doi: [10.1108/ijeb-11-2015-0256](https://doi.org/10.1108/ijeb-11-2015-0256).
- Delice, A. (2010), "The sampling issues in quantitative research", *Educational Sciences: Theory and Practice*, Vol. 10 No. 4, pp. 2001-2018.
- Deloitte (2013), "(rep.). Human capital analytics: thinking like an economist", available at: <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/dttl-humancapital-trends13-hc-analytics-no-exp.pdf> (accessed 14 January 2023).
- Díaz-Fernández, M.C., González-Rodríguez, M.R. and Simonetti, B. (2020), "Top management team diversity and high performance: an integrative approach based on upper echelons and complexity theory", *European Management Journal*, Vol. 38 No. 1, pp. 157-168, doi: [10.1016/j.emj.2019.06.006](https://doi.org/10.1016/j.emj.2019.06.006).
- Ding, W. and Ding, J. (2022), "New Venture's product innovativeness strategy, Institutional Environment and new product performance", *Technological Forecasting and Social Change*, Vol. 174, 121211, doi: [10.1016/j.techfore.2021.121211](https://doi.org/10.1016/j.techfore.2021.121211).
- Doerwald, F., Zacher, H., Van Yperen, N.W. and Scheibe, S. (2021), "Generativity at work: a meta-analysis", *Journal of Vocational Behavior*, Vol. 125, 103521, doi: [10.1016/j.jvb.2020.103521](https://doi.org/10.1016/j.jvb.2020.103521).

- Donbesuur, F., Boso, N. and Hultman, M. (2020), "The effect of entrepreneurial orientation on new venture performance: contingency roles of entrepreneurial actions", *Journal of Business Research*, Vol. 118, pp. 150-161, doi: [10.1016/j.jbusres.2020.06.042](https://doi.org/10.1016/j.jbusres.2020.06.042).
- Dost, M., Badir, Y.F., Ali, Z. and Tariq, A. (2016), "The impact of intellectual capital on innovation generation and adoption", *Journal of Intellectual Capital*, Vol. 17 No. 4, pp. 675-695, doi: [10.1108/jic-04-2016-0047](https://doi.org/10.1108/jic-04-2016-0047).
- Du, Y. and Kim, P.H. (2021), "One size does not fit all: strategy configurations, complex environments, and new venture performance in emerging economies", *Journal of Business Research*, Vol. 124, pp. 272-285, doi: [10.1016/j.jbusres.2020.11.059](https://doi.org/10.1016/j.jbusres.2020.11.059).
- Dushnitsky, G. and Yu, L. (2022), "Why do incumbents fund startups? A study of the antecedents of corporate venture capital in China", *Research Policy*, Vol. 51 No. 3, 104463, doi: [10.1016/j.respol.2021.104463](https://doi.org/10.1016/j.respol.2021.104463).
- Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10-11, pp. 1105-1121, doi: [10.1002/1097-0266\(200010/11\)21:10/11<1105::aid-smj133>3.0.co;2-e](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::aid-smj133>3.0.co;2-e).
- Faiz, M., Sarwar, N., Tariq, A. and Memon, M.A. (2024), "Mastering digital leadership capabilities for business model innovation: the role of managerial decision-making and grants", *Journal of Small Business and Enterprise Development*, Vol. 31 No. 3, pp. 574-597, doi: [10.1108/jsbed-07-2023-0341](https://doi.org/10.1108/jsbed-07-2023-0341).
- Fakhreldin, H. (2017), "The relationship between the emotional intelligence of entrepreneurs and the new venture creation: the role of age, Gender and Motive", *Arab Economic and Business Journal*, Vol. 12 No. 2, pp. 99-108, doi: [10.1016/j.aebj.2017.10.002](https://doi.org/10.1016/j.aebj.2017.10.002).
- Ferraris, A., Mazzoleni, A., Devalle, A. and Couturier, J. (2019), "Big Data Analytics capabilities and knowledge management: impact on firm performance", *Management Decision*, Vol. 57 No. 8, pp. 1923-1936, doi: [10.1108/md-07-2018-0825](https://doi.org/10.1108/md-07-2018-0825).
- Fisher, G., Kotha, S. and Lahiri, A. (2016), "Changing with the times: an integrated view of identity, legitimacy, and new venture life cycles", *Academy of Management Review*, Vol. 41 No. 3, pp. 383-409, doi: [10.5465/amr.2013.0496](https://doi.org/10.5465/amr.2013.0496).
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50, doi: [10.2307/3151312](https://doi.org/10.2307/3151312).
- Fultz, A.E.F. and Hmieleski, K.M. (2021), "The art of discovering and exploiting unexpected opportunities: the roles of organizational improvisation and Serendipity in new venture performance", *Journal of Business Venturing*, Vol. 36 No. 4, 106121, doi: [10.1016/j.jbusvent.2021.106121](https://doi.org/10.1016/j.jbusvent.2021.106121).
- Gan, D. and Erikson, T. (2022), "Venture governance: CEO duality and new venture performance", *Journal of Business Venturing Insights*, Vol. 17 No. e00304.
- Gerhart, B., Wright, P.M., McMahan, G.C. and Snell, S.A. (2000), "Measurement error in research on human resources and firm performance: how much error is there and how does it influence effect size estimates?", *Personnel Psychology*, Vol. 53 No. 4, pp. 803-834, doi: [10.1111/j.1744-6570.2000.tb02418.x](https://doi.org/10.1111/j.1744-6570.2000.tb02418.x).
- Ghasemaghaei, M. (2019), "Does data analytics use improve firm decision making quality? The role of knowledge sharing and data analytics competency", *Decision Support Systems*, Vol. 120, pp. 14-24, doi: [10.1016/j.dss.2019.03.004](https://doi.org/10.1016/j.dss.2019.03.004).
- Grant, R.M. (1996), "Prospering in dynamically-competitive environments: organizational capability as knowledge integration", *Organization Science*, Vol. 7 No. 4, pp. 375-387, doi: [10.1287/orsc.7.4.375](https://doi.org/10.1287/orsc.7.4.375).
- Grimm, P. (2010), "Pretesting a questionnaire", *Wiley International Encyclopedia of Marketing*, John Wiley & Sons, Hoboken, NJ.
- Guo, J., Cui, L., Sun, S.L. and Zou, B. (2022), "How to innovate continuously? Conceptualizing generative capability", *Journal of Innovation and Knowledge*, Vol. 7 No. 2, 100177, doi: [10.1016/j.jik.2022.100177](https://doi.org/10.1016/j.jik.2022.100177).

- Guo, R., Yin, H. and Liu, X. (2023), "Coopetition, organizational agility, and innovation performance in digital new ventures", *Industrial Marketing Management*, Vol. 111, pp. 143-157, doi: [10.1016/j.indmarman.2023.04.003](https://doi.org/10.1016/j.indmarman.2023.04.003).
- Gupta, P. and Chauhan, S. (2021), "Firm capabilities and export performance of small firms: a Meta-Analytical Review", *European Management Journal*, Vol. 39 No. 5, pp. 558-576, doi: [10.1016/j.emj.2020.12.003](https://doi.org/10.1016/j.emj.2020.12.003).
- Gupta, S., Drave, V.A., Dwivedi, Y.K., Baabdullah, A.M. and Ismagilova, E. (2020), "Achieving superior organizational performance via Big Data Predictive Analytics: a dynamic capability view", *Industrial Marketing Management*, Vol. 90, pp. 581-592, doi: [10.1016/j.indmarman.2019.11.009](https://doi.org/10.1016/j.indmarman.2019.11.009).
- Hambrick, D.C., Davison, S.C., Snell, S.A. and Snow, C.C. (1998), "When groups consist of multiple nationalities: towards a new understanding of the implications", *Organization Studies*, Vol. 19 No. 2, pp. 181-205, doi: [10.1177/017084069801900202](https://doi.org/10.1177/017084069801900202).
- Hamilton, R.H. and Sodeman, W.A. (2020), "The questions we ask: opportunities and challenges for using big data analytics to strategically manage human capital resources", *Business Horizons*, Vol. 63 No. 1, pp. 85-95, doi: [10.1016/j.bushor.2019.10.001](https://doi.org/10.1016/j.bushor.2019.10.001).
- Hanushek, E.A. (2021), "Addressing cross-national generalizability in educational impact evaluation", *International Journal of Educational Development*, Vol. 80, 102318, doi: [10.1016/j.ijedudev.2020.102318](https://doi.org/10.1016/j.ijedudev.2020.102318).
- Hayes, A.F., Montoya, A.K. and Rockwood, N.J. (2017), "The analysis of mechanisms and their contingencies: PROCESS versus structural equation modeling", *Australasian Marketing Journal*, Vol. 25 No. 1, pp. 76-81, doi: [10.1016/j.ausmj.2017.02.001](https://doi.org/10.1016/j.ausmj.2017.02.001).
- I2I (2021), "(rep.), Pakistan startup ecosystem report 2021", available at: <https://dl.orangedox.com/234mcy> (accessed 2 January 2023).
- Jain, R. (2022), "Gender diversity, gender norms and firm performance: evidence from India", *Economic Systems*, Vol. 46 No. 4, 101006, doi: [10.1016/j.ecosys.2022.101006](https://doi.org/10.1016/j.ecosys.2022.101006).
- Jiao, H., Alon, I., Koo, C.K. and Cui, Y. (2013), "When should organizational change be implemented? The moderating effect of environmental dynamism between dynamic capabilities and new venture performance", *Journal of Engineering and Technology Management*, Vol. 30 No. 2, pp. 188-205, doi: [10.1016/j.jengtecman.2013.01.005](https://doi.org/10.1016/j.jengtecman.2013.01.005).
- Jin, L., Madison, K., Krafczy, N.D., Kellermanns, F.W., Crook, T.R. and Xi, J. (2017), "Entrepreneurial team composition characteristics and new venture performance: a meta-analysis", *Entrepreneurship Theory and Practice*, Vol. 41 No. 5, pp. 743-771, doi: [10.1111/etap.12232](https://doi.org/10.1111/etap.12232).
- Khan, Z. and Vorley, T. (2017), "Big data text analytics: an enabler of knowledge management", *Journal of Knowledge Management*, Vol. 21 No. 1, pp. 18-34, doi: [10.1108/jkm-06-2015-0238](https://doi.org/10.1108/jkm-06-2015-0238).
- Kilduff, M., Angelmar, R. and Mehra, A. (2000), "Top management-team diversity and firm performance: examining the role of Cognitions", *Organization Science*, Vol. 11 No. 1, pp. 21-34, doi: [10.1287/orsc.11.1.21.12569](https://doi.org/10.1287/orsc.11.1.21.12569).
- Kristinsson, K., Candi, M. and Sæmundsson, R.J. (2016), "The relationship between founder team diversity and innovation performance: the moderating role of causation logic", *Long Range Planning*, Vol. 49 No. 4, pp. 464-476, doi: [10.1016/j.lrp.2015.12.013](https://doi.org/10.1016/j.lrp.2015.12.013).
- Leblang, D. (2017), "Harnessing the diaspora: dual citizenship, migrant return remittances", *Comparative Political Studies*, Vol. 50 No. 1, pp. 75-101, doi: [10.1177/0010414015606736](https://doi.org/10.1177/0010414015606736).
- Lefever, S., Dal, M. and Matthíasdóttir, Á. (2007), "Online data collection in academic research: advantages and limitations", *British Journal of Educational Technology*, Vol. 38 No. 4, pp. 574-582, doi: [10.1111/j.1467-8535.2006.00638.x](https://doi.org/10.1111/j.1467-8535.2006.00638.x).
- Levenson, A. and Fink, A. (2017), "Human capital analytics: too much data and analysis, not enough models and business insights", *Journal of Organizational Effectiveness: People and Performance*, Vol. 4 No. 2, pp. 145-156, doi: [10.1108/joepp-03-2017-0029](https://doi.org/10.1108/joepp-03-2017-0029).

- Lin, Y.-H., Chen, C.-J. and Lin, B.-W. (2018), "The dual-edged role of returnee board members in new venture performance", *Journal of Business Research*, Vol. 90, pp. 347-358, doi: [10.1016/j.jbusres.2018.05.021](https://doi.org/10.1016/j.jbusres.2018.05.021).
- Lingelbach, D.C., De La Vina, L. and Asel, P. (2005), "What's distinctive about growth-oriented entrepreneurship in developing countries?", *SSRN Electronic Journal*.
- Malodia, S., Mishra, M., Fait, M., Papa, A. and Dezi, L. (2023), "To digit or to head? Designing digital transformation journey of SMEs among digital self-efficacy and professional leadership", *Journal of Business Research*, Vol. 157, 113547, doi: [10.1016/j.jbusres.2022.113547](https://doi.org/10.1016/j.jbusres.2022.113547).
- Malyy, M., Tekic, Z. and Podladchikova, T. (2021), "The value of big data for analyzing growth dynamics of technology-based New Ventures", *Technological Forecasting and Social Change*, Vol. 169, 120794, doi: [10.1016/j.techfore.2021.120794](https://doi.org/10.1016/j.techfore.2021.120794).
- Marín-Navarro, A., Velicia-Martín, F., Medina-Garrido, J.A. and Palos-Sánchez, P.R. (2023), "Impact of effectual propensity on entrepreneurial intention", *Journal of Business Research*, Vol. 157, 113604, doi: [10.1016/j.jbusres.2022.113604](https://doi.org/10.1016/j.jbusres.2022.113604).
- McCartney, S. and Fu, N. (2022), "Bridging the gap: why, how and when HR analytics can impact organizational performance", *Management Decision*, Vol. 60 No. 13, pp. 25-47, doi: [10.1108/md-12-2020-1581](https://doi.org/10.1108/md-12-2020-1581).
- McGee, J.E., Dowling, M.J. and Megginson, W.L. (1995), "Cooperative strategy and new venture performance: the role of business strategy and management experience", *Strategic Management Journal*, Vol. 16 No. 7, pp. 565-580, doi: [10.1002/smj.4250160706](https://doi.org/10.1002/smj.4250160706).
- Mehmood, M.S., Jian, Z., Akram, U. and Tariq, A. (2021), "Entrepreneurial leadership: the key to develop creativity in organizations", *Leadership and Organization Development Journal*, Vol. 42 No. 3, pp. 434-452, doi: [10.1108/loj-01-2020-0008](https://doi.org/10.1108/loj-01-2020-0008).
- Menon, S. (2011), "Linking generativity and disruptive innovation to conceptualize ICTs", *Internet Research*, Vol. 21 No. 3, pp. 347-361, doi: [10.1108/10662241111139345](https://doi.org/10.1108/10662241111139345).
- Minbaeva, D.B. (2017), "Building credible human capital analytics for organizational competitive advantage", *Human Resource Management*, Vol. 57 No. 3, pp. 701-713, doi: [10.1002/hrm.21848](https://doi.org/10.1002/hrm.21848).
- Nayak, M.S.D.P. and Narayan, K.A. (2019), "Strengths and weaknesses of online surveys", *Technology*, Vol. 6 No. 7, pp. 31-38.
- Nazar, S. and Raheman, A. (2022), "The role of dual nationality, financial system sophistication and cryptocurrency in money laundering", *NUML International Journal of Business and Management*, Vol. 17 No. 2, pp. 1-19.
- Nazir, S., Ali, M., Saeed, M., Mubarak, M.S. and Jalil, Q. (2024), "Sustainable performance and disaster management in the oil and gas industry: an intellectual capital perspective", *Resources Policy*, Vol. 92, 105042, doi: [10.1016/j.resourpol.2024.105042](https://doi.org/10.1016/j.resourpol.2024.105042).
- Nguyen, Q. and Nguyen, H.T. (2023), "Entrepreneurship education and entrepreneurial intention: the mediating role of entrepreneurial capacity", *The International Journal of Management Education*, Vol. 21 No. 1, 100730, doi: [10.1016/j.ijme.2022.100730](https://doi.org/10.1016/j.ijme.2022.100730).
- Nielsen, B.B. and Nielsen, S. (2011), "The role of top management team international orientation in international strategic decision-making: the Choice of Foreign Entry mode", *Journal of World Business*, Vol. 46 No. 2, pp. 185-193, doi: [10.1016/j.jwb.2010.05.003](https://doi.org/10.1016/j.jwb.2010.05.003).
- Nielsen, B.B. and Nielsen, S. (2012), "Top management team nationality diversity and firm performance: a Multilevel Study", *Strategic Management Journal*, Vol. 34 No. 3, pp. 373-382, doi: [10.1002/smj.2021](https://doi.org/10.1002/smj.2021).
- Ouellet, J.F., Lacroix, C. and Lussier, B. (2014), "Salespeople contribution to innovation in the firm: can generativity Be a driving force?", Vol. 19.
- Palmer, M. (1971), "The application of psychological testing to entrepreneurial potential", *California Management Review*, Vol. 13 No. 3, pp. 32-38, doi: [10.2307/41164291](https://doi.org/10.2307/41164291).

- Pham, T.-D.T. and Lo, F.-Y. (2023), "How does top management team diversity influence firm performance? A causal complexity analysis", *Technological Forecasting and Social Change*, Vol. 186, 122162, doi: [10.1016/j.techfore.2022.122162](https://doi.org/10.1016/j.techfore.2022.122162).
- Phillips, J.J., Stone, R. and Phillips, P. (2012), *The Human Resources Scorecard*, Routledge, London.
- Rehman, S.U., Ashfaq, K., Bresciani, S., Giacosa, E. and Mueller, J. (2023), "Nexus among intellectual capital, interorganizational learning, industrial Internet of things technology and innovation performance: a resource-based perspective", *Journal of Intellectual Capital*, Vol. 24 No. 2, pp. 509-534, doi: [10.1108/jic-03-2021-0095](https://doi.org/10.1108/jic-03-2021-0095).
- Ren, Y., Wu, K.J., Lim, M.K. and Tseng, M.L. (2023), "Technology transfer adoption to achieve a circular economy model under resource-based view: a high-tech firm", *International Journal of Production Economics*, Vol. 264, 108983, doi: [10.1016/j.ijpe.2023.108983](https://doi.org/10.1016/j.ijpe.2023.108983).
- Roh, T., Park, B.I. and Xiao, S.(S. (2022), "Multiple principal conflicts and technological innovation performances of International New Ventures: moderating role of Founder's experiences", *Journal of Innovation and Knowledge*, Vol. 7 No. 4, 100274, doi: [10.1016/j.jik.2022.100274](https://doi.org/10.1016/j.jik.2022.100274).
- Samson, K. and Bhanugopan, R. (2022), "Strategic Human Capital Analytics and organisation performance: the mediating effects of managerial decision-making", *Journal of Business Research*, Vol. 144, pp. 637-649, doi: [10.1016/j.jbusres.2022.01.044](https://doi.org/10.1016/j.jbusres.2022.01.044).
- Sarstedt, M., Hair, J., Nitzl, C., Ringle, C. and Howard, M. (2020), "Beyond a tandem analysis of SEM and PROCESS: use of PLS-SEM for mediation analysis", *International Journal of Market Research*, Vol. 62 No. 3, pp. 288-299.
- Scheuer, L.J. and Thaler, J. (2022), "How do dynamic capabilities affect performance? A systematic review of Mediators", *European Management Journal*, Vol. 41 No. 6, pp. 914-931, doi: [10.1016/j.emj.2022.12.006](https://doi.org/10.1016/j.emj.2022.12.006).
- Schmid, S., Wurster, D.J. and Dauth, T. (2015), "Internationalisation of upper echelons in different institutional contexts: top managers in Germany and the UK", *European Journal of International Management*, Vol. 9 No. 4, pp. 510-535, doi: [10.1504/ejim.2015.070232](https://doi.org/10.1504/ejim.2015.070232).
- Schneider, S.C. and De Meyer, A. (1991), "Interpreting and responding to strategic issues: the impact of national culture", *Strategic Management Journal*, Vol. 12 No. 4, pp. 307-320, doi: [10.1002/smj.4250120406](https://doi.org/10.1002/smj.4250120406).
- Sedkaoui, S. (2019), "Data Analytics supporting knowledge acquisition", in *Crowdsourcing and Knowledge Management in Contemporary Business Environments*, pp. 146-165, doi: [10.4018/978-1-5225-4200-1.ch008](https://doi.org/10.4018/978-1-5225-4200-1.ch008).
- Setiyono, B. and Tarazi, A. (2018), "Does diversity of bank board members affect performance and risk? Evidence from an emerging market", in *CSR, Sustainability, Ethics and Governance*, pp. 185-218, doi: [10.1007/978-3-319-70007-6_9](https://doi.org/10.1007/978-3-319-70007-6_9).
- Shahid, S. (2023), "Perceived barriers and entrepreneurial exit intentions: moderating role of regular versus sustainable entrepreneurship", *European Business Review*, Vol. 35 No. 1, pp. 39-56, doi: [10.1108/eb-03-2022-0053](https://doi.org/10.1108/eb-03-2022-0053).
- Shrivastava, S., Nagdev, K. and Rajesh, A. (2018), "Redefining HR using people analytics: the case of google", *Human Resource Management International Digest*, Vol. 26 No. 2, pp. 3-6, doi: [10.1108/hrmid-06-2017-0112](https://doi.org/10.1108/hrmid-06-2017-0112).
- Sierra-Morán, J., Cabeza-Garcia, L. and Gonzalez-Alvarez, N. (2024), "Independent directors and firm innovation: the moderating role of gender and nationality diversity", *European Journal of Innovation Management*, Vol. 27 No. 2, pp. 373-402, doi: [10.1108/ejim-12-2021-0621](https://doi.org/10.1108/ejim-12-2021-0621).
- Solem, R.C. (2015), "Limitation of a cross-sectional study", *American Journal of Orthodontics and Dentofacial Orthopedics*, Vol. 148 No. 2, p. 205, doi: [10.1016/j.ajodo.2015.05.006](https://doi.org/10.1016/j.ajodo.2015.05.006).
- Startup genome (2022), "The global startup ecosystem report 2022", available at: <https://startupgenome.com/articles/the-state-of-global-startup-ecosystems-in-2022>
- Stuart, R. and Abetti, P.A. (1987), "Start-up ventures: towards the prediction of initial success", *Journal of Business Venturing*, Vol. 5 No. 3, pp. 215-230.

- Sumbal, M.S., Ali, M., Sahibzada, U.F., Mir, F.N., Tariq, A. and Munir, H. (2021), "Big data based knowledge management vs. Traditional knowledge management: a people, process and technology perspective", *Journal of Information Science and Engineering*, Vol. 37 No. 5, pp. 1053-1065.
- Sun, S.L. and Zou, B. (2018), "Generative capability", *IEEE Transactions on Engineering Management*, Vol. 66 No. 4, pp. 636-649, doi: [10.1109/tem.2018.2841803](https://doi.org/10.1109/tem.2018.2841803).
- Taeuscher, K. (2019), "Reputation and new venture performance in online markets: the moderating role of market crowding", *Journal of Business Venturing*, Vol. 34 No. 6, 105944, doi: [10.1016/j.jbusvent.2019.06.005](https://doi.org/10.1016/j.jbusvent.2019.06.005).
- Tariq, A., Ehsan, S., Badir, Y.F., Memon, M.A. and Khan Sumbal, M.S.U. (2023), "Does green process innovation affect a firm's financial risk? The moderating role of slack resources and competitive intensity", *European Journal of Innovation Management*, Vol. 26 No. 4, pp. 1168-1185, doi: [10.1108/ejim-05-2021-0265](https://doi.org/10.1108/ejim-05-2021-0265).
- Tsaknis, P.A., Sahinidis, A.G. and Kavagia, C.A. (2024), "Entrepreneurship education reveals antecedents of intention: what really matters?", *Development and Learning in Organizations: An International Journal*, Vol. 38 No. 1, pp. 27-30, doi: [10.1108/dlo-02-2023-0035](https://doi.org/10.1108/dlo-02-2023-0035).
- Vahlne, J. and Johanson, J. (2017), "From internationalization to evolution: the Uppsala model at 40 years", *Journal of International Business Studies*, Vol. 48 No. 9, pp. 1087-1102, doi: [10.1057/s41267-017-0107-7](https://doi.org/10.1057/s41267-017-0107-7).
- Vanhée, L., Dignum, F. and Ferber, J. (2014), "Towards simulating the impact of national culture on organizations", in *Multi-Agent-Based Simulation XIV: International Workshop, MABS 2013, Saint Paul, MN, USA, May 6-7, 2013, Revised Selected Papers*, Springer Berlin Heidelberg, pp. 151-162.
- Venciute, D., Auruskeviciene, V. and Reardon, J. (2023), "The impact of social media marketing on new venture performance", *Corporate Communications: An International Journal*, Vol. 28 No. 5, pp. 788-810, doi: [10.1108/ccij-11-2022-0137](https://doi.org/10.1108/ccij-11-2022-0137).
- Venkatraman, N. and Ramanujam, V. (1986), "Measurement of business performance in strategy research: a comparison of approaches", *The Academy of Management Review*, Vol. 11 No. 4, p. 801, doi: [10.2307/258398](https://doi.org/10.2307/258398).
- Virany, B. and Tushman, M.L. (1986), "Top management teams and corporate success in an emerging industry", *Journal of Business Venturing*, Vol. 1 No. 3, pp. 261-274, doi: [10.1016/0883-9026\(86\)90004-2](https://doi.org/10.1016/0883-9026(86)90004-2).
- Watson, W.E., Kumar, K. and Michaelsen, L.K. (1993), "Cultural diversity's impact on interaction process and performance: comparing homogeneous and diverse task groups", *Academy of Management Journal*, Vol. 36 No. 3, pp. 590-602, doi: [10.5465/256593](https://doi.org/10.5465/256593).
- Wiktorowicz, J., Warwas, I., Turek, D. and Kuchciak, I. (2022), "Does generativity matter? A meta-analysis on individual work outcomes", *European Journal of Ageing*, Vol. 19 No. 4, pp. 977-995, doi: [10.1007/s10433-022-00727-w](https://doi.org/10.1007/s10433-022-00727-w).
- Wright, B. and Schwager, P.H. (2008), "Online survey research: can response factors be improved?", *Journal of Internet Commerce*, Vol. 7 No. 2, pp. 253-269, doi: [10.1080/15332860802067730](https://doi.org/10.1080/15332860802067730).
- Xie, X.-Y., Feng, W. and Hu, Q. (2020), "Does new venture team power hierarchy enhance or impair new venture performance? A contingency perspective", *Journal of Business Venturing*, Vol. 35 No. 6, 106059, doi: [10.1016/j.jbusvent.2020.106059](https://doi.org/10.1016/j.jbusvent.2020.106059).
- Xu, M. and Walton, J. (2005), "Gaining customer knowledge through analytical CRM", *Industrial Management and Data Systems*, Vol. 105 No. 7, pp. 955-971, doi: [10.1108/02635570510616139](https://doi.org/10.1108/02635570510616139).
- Yang, F. and Yang, M.M. (2022), "Does cross-cultural experience matter for new venture performance? The moderating role of socio-cognitive traits", *Journal of Business Research*, Vol. 138, pp. 38-51, doi: [10.1016/j.jbusres.2021.08.073](https://doi.org/10.1016/j.jbusres.2021.08.073).
- Yeganeh, M.E. (2000), "The impact of national and organizational culture on information technology (IT)", *The Quarterly Journal of the National Library and Archives of the Islamic Republic of Iran*, Vol. 69 No. 86, pp. 20-34.

Yigit, A. and Kanbach, D.K. (2023), "The significance of technology-driven entrepreneurship activities: lessons from SMEs operating in the manufacturing industry", *Cogent business and management*, Vol. 10 No. 1, 2185069, doi: [10.1080/23311975.2023.2185069](https://doi.org/10.1080/23311975.2023.2185069).

Yu, Z., Shah, A., Rehman, S.A., Nazir, S. and Tanveer, M. (2022), "Blockchain technology and sustainable supply chain practices: leading towards organizational performance", *Journal of Advanced Manufacturing Systems*, Vol. 22 No. 3, pp. 549-569.

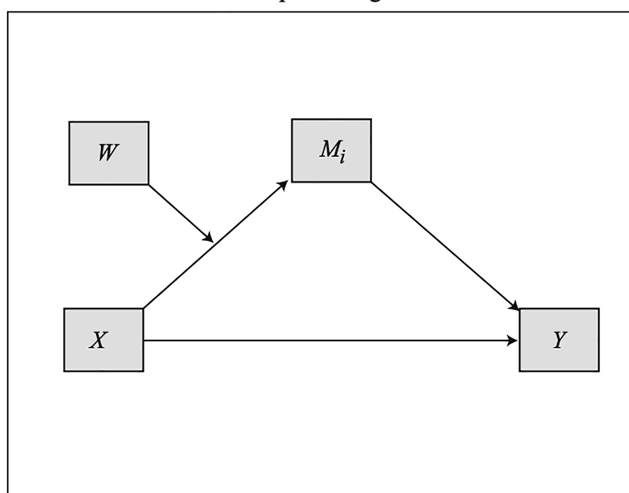
Further reading

Bantel, K.A. and Jackson, S.E. (1989), "Top management and innovations in banking: does the composition of the top team make a difference?", *Strategic Management Journal*, Vol. 10 No. S1, pp. 107-124, doi: [10.1002/smj.4250100709](https://doi.org/10.1002/smj.4250100709).

Deloitte, B. and Deloitte, B. (2014), "Global human capital trends 2014: engaging the 21st-century workforce", Deloitte University Press, available at: [deloitte.com/content/dam/Deloitte/ar/Documents/human-capital/arg_hc_global-human-capital-trends-2014_09062014%20\(1\).pdf](https://deloitte.com/content/dam/Deloitte/ar/Documents/human-capital/arg_hc_global-human-capital-trends-2014_09062014%20(1).pdf)

Annex

Model 7
Conceptual Diagram



Source(s): Hayes (2013) reproduced with permission from The Guilford Press

Figure A1.
Conceptual model for
Model 7

Corresponding author

Adeel Tariq can be contacted at: adeel.tariq@lut.fi

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com