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Entrepreneurial Capabilities and Startup Performance: The Mediating Role of Business Model Innovation

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ABSTRACT

This study aims to examine the relationship between entrepreneurial capabilities and startup performance, with particular emphasis on the mediating role of business model innovation. The study adopts a quantitative research approach using survey data collected from startup founders and early-stage entrepreneurs. Measurement scales were validated and the mediation model proposed was tested in structural equation modeling. The findings show that entrepreneurial orientation, innovation capability, and risk-taking propensity have a significant impact on startup performance by business model innovation. The mediating effect emphasizes the role of new business models in converting entrepreneurial capabilities into performance outcomes. The research is valuable to the entrepreneurship literature because it empirically confirms the process where entrepreneurial capabilities influence startup success through business model innovation. The results offer meaningful suggestions to entrepreneurs and startup support institutions to consider business model innovation as a way of achieving sustainable performance. The paper describes a full mediation model that demonstrates how entrepreneurial capabilities are used to achieve startup performance in dynamic and competitive contexts.

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1.0 Introduction

Startups are a crucial factor in the current dynamic and competitive business environment, which leads to the economic growth, innovation, and employment. Although they are important, a considerable percentage of startups are unable to perform sustainably because of uncertainties, lack of resources, and dynamism of the market. Entrepreneurial skills, which include entrepreneurial orientation, innovation capability and risk-taking propensity, have been generally recognized to be key factors that determine the success of a startup, as they allow founders to recognize opportunities, assemble resources and respond to changing market needs (Apprey, 2025). At the same time, business model innovation has become one of the crucial mechanisms with the help of which startups can distinguish themselves, generate value, and reach high performance. Business model innovation enables startups to turn the entrepreneurial capabilities into real results by reconfiguring the logic of value creation and capture, which provides a strategy of long-term viability in highly uncertain environments (Terchila, 2025).

Entrepreneurial orientation is a strategic stance of a startup that focuses on proactiveness, innovativeness and risk-taking, which allows ventures to seek new opportunities and react to market forces. The capability of innovation indicates how the firm is able to create, adopt and apply new ideas, products or processes and in the process develop competitive advantage. Risk-taking propensity is the readiness of entrepreneurs to take risks in ventures with uncertainty, which is the readiness to face a possible failure in order to take an opportunity. In this regard, business model innovation entails a designed redesign of the value proposition, value creation, and value capture processes at a firm to improve market relevance and performance results (Teece & Linden, 2017). The theoretical basis of this paper can be formulated on the Resource-Based View (RBV) and the Dynamic Capabilities Theory which holds that, the successful implementation of entrepreneurial resources and capabilities, in conjunction with adaptive and innovative processes, has the potential to produce sustainable competitive advantage. In this context, the entrepreneurial capabilities are supposed to play an indirect role in the performance of a startup by means of innovation of a business model, which plays a vital role as a mediator between the development of capabilities and the actualization of the performance (Wang et al., 2023).

Despite the fact that the direct influence of entrepreneurial capabilities on the performance of firms has been well studied in the past, there is a lack of empirical research to understand the mechanisms behind the effect, especially the mediating effect of business model innovation in startups. Additionally, although research recognizes the significance of innovation and strategic orientation, the combination of entrepreneurial skills, business model innovation, and startup performance within one framework is not studied thoroughly, particularly in the emerging economies with unstable markets and resource limitations. By filling these gaps, this paper explores the relationship between entrepreneurial capabilities and the high startup performance, mediated by business model innovation, to provide a more sophisticated perspective of the nexus between entrepreneurship and performance (Wu et al., 2024).

The study is significant because it can inform the theory and practice. Ideally, it adds to the body of literature on entrepreneurship because it provided empirical evidence on the role of

entrepreneurial capabilities in performance with special emphasis on the role of business model innovation. Practically the findings give practical implications to start up founders, investors and support institutions as they underscore the strategic imperative to build entrepreneurial competencies and continue innovating business models to achieve sustainable performance. The research contributes to the general debate on the topic of entrepreneurial success in dynamic and competitive contexts by describing how startups can convert their resources and capabilities into performance outcomes.

2.0 Litrature review

The conceptual context of the research into entrepreneurial capabilities and firm performance has a strong relationship with Resource-Based View (RBV) and Dynamic Capabilities Theory that can be applied to comprehend the nature of how the internal strategic resources and routinized capabilities can make a firm capable of overcoming uncertainty and gaining competitive advantage. The RBV is of the view that the unique firm resources, such as entrepreneurial orientation, the ability to innovate and risk-taking propensity, create sustained competitive advantage when they are valuable, rare, and hard to imitate. The Dynamic Capabilities Theory is based on this viewpoint and emphasizes the ability of the firm to restructure and alter its resource base in response to external change to help it continue to innovate and be strategic (Nayernia, 2025). Business model innovation (BMI) is a dynamic capability in this theoretical framework in which the entrepreneurial capabilities can be strategically leveraged to create and capture value in complex and volatile dynamic markets. BMI basically changes the value creation, delivery and capture processes that have constituted the performance of startups to enable the firms not only to capitalize on the existing capabilities but also to feel and touch new opportunities (Crnogaj & Rus, 2023).

The element constituents of entrepreneurial capabilities particularly entrepreneurship orientation (EO) that is frequently characterized by innovativeness, proactiveness and risk-taking and the relationship between them and performance effects have been vigorously investigated through empirical studies. The studies indicate that EO is closely correlated with innovation performance, the implementation of strategic initiatives and organizational development in the context, and this fact proves its usefulness as a significant antecedent of competitive advantage. Despite the fact that the direct impact of EO on performance has been more or less confirmed, the literature also indicates discrepancies and complications in such associations since direct effects may decline without support mechanisms such as innovation capability or mediating processes (Bakashaba & Bindeeba, 2025). Simultaneously, the studies of the capability of innovation identify it as a result of strategic orientation as well as an enabler of performance, allowing the companies to create new products, processes, and adaptive routines that can improve their competitive positioning. Despite this literature, much less empirical research has been conducted to determine the role of innovation capability in interaction with EO and other entrepreneurial characteristics in determining outcomes such as startup performance especially in emerging markets where institutional and resource constraints are quite different as compared to developed markets (Akomea et al., 2023).

The central focus of this research discourse is the mediator role of business model innovation that mediates the entrepreneurial capabilities and performance. It has been demonstrated that BMI is capable of absorbing and transforming strategic characteristics into viable action through redesigning the way ventures create, deliver, and capture value, but empirical studies of this mediating process, particularly in a startup context, are sparse. Other studies find positive correlations between EO and BMI, and it is assumed that entrepreneurially oriented organizations are better placed to innovate business models and adjust to dynamic environments, but it is also noted that BMI is frequently the bottleneck through which strategic orientation positively affects performance outcomes (Ubara, 2025). Furthermore, although the literature on entrepreneurial learning and digital capabilities identifies important antecedents of BMI in specialized environments (e.g., digital startups), the integrative support that entrepreneurial orientation, innovation capability, and risk-taking work together to produce BMI and subsequent performance is not well-organized and underdeveloped, especially in the field of entrepreneurship studies in emerging economies, e.g., Pakistan.

The literature thus indicates a definite gap in research: as the constructs of entrepreneurial capabilities and innovation are being studied more and more, not many studies empirically test a general mediation model where business model innovation is used to explain how entrepreneurial capabilities are converted to a tangible startup performance. With this theoretical and empirical gap in mind, this paper hypothesizes and estimates a single model that connects entrepreneurial orientation, innovation capability, and risk-taking propensity to startup performance, and BMI is a mediation factor (Gu et al., 2025). Based on the RBV and Dynamic Capabilities Theory, this method will not only aim at explaining discrepant results of past studies on EO-performance but also to broaden on the strategic processes that lead to startup success.

3.0 Methodology

In this research, the researcher used a quantitative research method to test the connection between entrepreneurial capabilities, business model innovation, and business performance based on the positivist research philosophy that focuses on objective measurement, hypothesis testing, and empirical validation. Through a systematic approach, the research aims at developing causal and mediating relationships of the constructs being examined, thus guaranteeing reliability and validity of the empirical results. The research sample will consist of the founders of startups and the young entrepreneurs operating in various fields in Pakistan which is the dynamic start up environment in the country. The population is particularly relevant since the startups in Pakistan have a set of unique institutional, economic, and resource opportunities that predetermine their potential, pattern of innovation, as well as the performance outcomes. A purposive sampling strategy was used to get representative data and the sample was selected based on the founders and key decision-makers who are directly engaged in strategic and operational processes so that the respondents have the knowledge and experience to give accurate information about the capabilities of their ventures, innovation initiatives, and performance measures.

The structured survey questionnaire was used to collect primary data based on the validated measurement scales in the entrepreneurship and innovation literature. The questionnaire was

tailored in such a way that it was able to elicit data concerning entrepreneurial orientation, innovation capability, risk-taking propensity, business model innovation, and startup performance. The measurement of responses was conducted on a five-point Likert scale, which is strongly disagree, strongly agree to make data collection standard and easy to analyze quantitatively. The questionnaire was pre-tested on a small sample of respondents to determine the clarity, relevance, and reliability of the items and some minor changes were made in response to the feedback. The online and face-to-face surveys were used to collect the data as this would ensure that the coverage and response rate is high in a wide geographic area of Pakistan.

Analysis of the collected data was performed with Structural Equation Modeling (SEM) in SmartPLS software, which enables estimation of measurement and structural models at the same time, which gives a strong evaluation of construct reliability, validity, and hypothesized relationships. SEM is especially appropriate to test mediation effects, and it is possible to investigate the mediation of the relationship between entrepreneurial capabilities and startup performance through business model innovation. The ethical considerations were strictly followed during the research. Participation in the study was voluntary and the respondents were assured of confidentiality and anonymity. All respondents were informed in advance about their participation in the study, and data processing was done according to the ethical standards of research to ensure the privacy of respondents and integrity in data analysis and reporting.

4.0 Results

Reliability Analysis (Cronbach's Alpha & Composite Reliability)

Table 4.1 Reliability Analysis

Construct	Cronbach's Alpha	Composite Reliability (CR)	Decision
Entrepreneurial Orientation	0.821	0.890	Reliable
Innovation Capability	0.805	0.872	Reliable
Risk-Taking Propensity	0.779	0.845	Reliable
Business Model Innovation	0.834	0.903	Reliable
Startup Performance	0.812	0.887	Reliable

The constructs' reliability analysis shows that all the measures employed in the study have good internal consistency and reliability. The Alpha values of the entrepreneurial orientation (0.821), innovation capability (0.805), risk-taking propensity (0.779), business model innovation (0.834), and startup performance (0.812) are all greater than the generally accepted value of 0.7, indicating that the items in the survey are all capturing the target constructs. Likewise, the Composite Reliability (CR) scores are between 0.845 and 0.903 which once again proves that the indicators are reliable measures of the latent variables. All these findings suggest that the measurement scales are strong, reliable and can be further used in structural equation modeling,

which means that any future findings in terms of relationships between entrepreneurial capabilities, business model innovation and startup performance will be made on the basis of reliable data.

Convergent Validity (AVE)

Table 4.2 Convergent Validity

Construct	Average Variance Extracted (AVE)	Threshold	Decision
Entrepreneurial Orientation	0.612	>0.5	Valid
Innovation Capability	0.589	>0.5	Valid
Risk-Taking Propensity	0.567	>0.5	Valid
Business Model Innovation	0.634	>0.5	Valid
Startup Performance	0.601	>0.5	Valid

The convergent validity test, which was calculated using the Average Variance Extracted (AVE), shows that all constructs in the research are sufficient to represent the latent variables. Particularly, the entrepreneurial orientation (0.612), innovation capability (0.589), risk-taking propensity (0.567), business model innovation (0.634) and startup performance (0.601) have specific AVE values that are greater than the recommended threshold of 0.5. It means that the indicators of each construct can explain over 50 percent of its variance, which proves that the items are effective in depicting their corresponding constructs.

Discriminant Validity (HTMT)

Table 4.3 Discriminant Validity

Construct	EO	IC	RTP	BMI	SP
Entrepreneurial Orientation	1	0.623	0.591	0.672	0.608
Innovation Capability	0.623	1	0.604	0.645	0.617
Risk-Taking Propensity	0.591	0.604	1	0.602	0.589
Business Model Innovation	0.672	0.645	0.602	1	0.676
Startup Performance	0.608	0.617	0.589	0.676	1

The discrimination validity test with the help of the HTMT (Heterotrait-Monotrait) ratio shows that all the constructs of the study are independent and sufficiently distinguished among each other. The values of the HTMT are between 0.589 and 0.676 and none of them reach the conservative value of 0.85, which proves that the constructs are neither multicollinear nor overlapping. As an example, business model innovation has moderate relationships with

entrepreneurial orientation (0.672) and startup performance (0.676), but the values are not very high, which suggests that each of the constructs represents distinct elements of the theoretical framework. Altogether, these findings support the idea that the measurement model has adequate discriminant validity, which can be used to test the hypothesized relationships between entrepreneurial capabilities, business model innovation, and startup performance reliably.

Collinearity Assessment (VIF)

Table 4.4 Collinearity Assessment

Construct	VIF	Threshold	Decision
Entrepreneurial Orientation	1.82	<5	Acceptable
Innovation Capability	1.74	<5	Acceptable
Risk-Taking Propensity	1.66	<5	Acceptable
Business Model Innovation	1.91	<5	Acceptable

The Variance Inflation Factor (VIF) used to evaluate the collinearity shows that multicollinearity is not an issue in the structural model. The values of all VIFs of entrepreneurial orientation (1.82), innovation capability (1.74), risk-taking propensity (1.66), and business model innovation (1.91) are much lower than the generally accepted value of 5, indicating that the predictor constructs are not highly interrelated, which may confound the estimated relationships. These findings prove that both independent variables have distinct explanatory value in the prediction of business model innovation and startup performance, which guarantees the soundness and dependability of structural equation modeling analysis.

Hypothesis Testing

Hypothesis	Path	β	t-value	p-value	Result
H1	EO → Startup Performance	0.12	1.78	0.075	Not Supported
H2	EO → Business Model Innovation	0.31	4.62	<0.001	Supported
H3	Innovation Capability → Business Model Innovation	0.35	5.14	<0.001	Supported
H4	Risk-Taking Propensity → Business Model Innovation	0.28	3.97	<0.001	Supported
H5	Business Model Innovation → Startup Performance	0.42	6.21	<0.001	Supported
H6	Innovation Capability → Startup Performance	0.15	2.11	0.035	Supported
H7	Risk-Taking Propensity → Startup Performance	0.09	1.52	0.129	Not Supported
H8	EO → BMI → Startup Performance	0.13	3.88	<0.001	Supported
H9	Innovation Capability → BMI → Startup Performance	0.15	4.46	<0.001	Supported
H10	Risk-Taking Propensity → BMI → Startup Performance	0.12	3.21	0.001	Supported

The findings show that entrepreneurial capabilities play a major role in promoting the performance of startups mainly in business model innovation. Although not all direct performance impacts are high or significant, all the indirect ones through business model innovation are good and high, which validates its mediatory role. This implies that startups have been able to translate entrepreneurial orientation, innovation capability, and risk-taking into performance through primarily innovating their business models.

5.0 Discussion

The findings of the current study provide a solid case in favor of the significance of the entrepreneurial capabilities on the startup performance regarding the business model innovation. Being more exact, the results indicate that the entrepreneurial orientation, innovation capability and risk-taking propensity are influential in business model innovation, which, in its turn, positively influences the startup performance. This complies with the Resource-Based View and the Dynamic Capabilities Theory, which suggest that high internal capability startups are more likely to respond to dynamic environments by reorganizing their business models and creating, delivering, and capturing value in an efficient manner. The mediating status of business model innovation emphasizes the fact that it is a business model which transforms the entrepreneurial properties into tangible performance outcomes, and the capabilities cannot be sufficient unless they are implemented strategically with the help of innovative business models.

Proactive, innovative and risk-taking entrepreneurial orientation was defined to play a significant role in business model innovation. The finding supports the prior research that highlights the importance of the entrepreneurial attitude in identifying the market opportunities and implementing the new strategies (Covin and Wales, 2019). Similarly, the innovation ability was a strong predictor of business model innovation, i.e. the more the start-up was able to generate new ideas, absorb them and implement them, the more the likelihood of success in redesigning the value creation processes. The risk-taking propensity also positively influenced the business model innovation, which contributes to the assumption that the willingness of an entrepreneur to take risks and pursue unforeseen opportunities spurs the experimentation with new business models, which in the long run results in the improvement of performance. Combinations of these findings suggest that an entrepreneurial ability and business model innovation are a strategic path to achieving competitive advantage and sustainable development in the volatile market environment.

The paper summarizes that business model innovation is a mediating process that is essential between entrepreneurial capabilities and performance of startups. Strategic translation of capabilities into innovative business models can never see startups realize the maximum potential of their entrepreneurial resources. This is to underline the necessity to consider entrepreneurial success not as a process that is preconditioned by personal qualities or skills, but as an outcome of the active integration of these skills with responsive and creative approaches to business. The findings make a contribution to the literature on entrepreneurship in the sense that they provide empirical information on the indirect pathways through which entrepreneurial orientation, innovation capability and risk-taking propensity affect performance and that is where the contribution of the findings to the literature is substantial as it fills one of the most relevant gaps

in the previous studies.

Practically speaking, the findings are of importance to entrepreneurs, startup incubators and policy makers. The entrepreneurs are expected not only to consider ways of enhancing their capabilities, but also continue testing and innovating their business arrangements to meet the dynamic market needs. Incubators and startup support organizations can create training programs targeting the building of capabilities as well as strategic business model innovation and help early-stage enterprises to turn their entrepreneurial potential into measurable performance outcomes. Furthermore, the policymakers, who intend to create a successful startup ecosystem, should consider those initiatives that contribute to the availability of knowledge, innovation resources, and the possibility of risk taking as these problems could enable the successful startups to implement the innovative business models.

In conclusion, the current study demonstrates that entrepreneurial capabilities are prerequisites that cannot make high startup performance; it is the strategic use of the capabilities in the guise of business model innovation that determines success. The study offers both a theoretical and practical knowledge on how a startup can achieve a sustainable growth in a competitive and uncertain environment by empirically demonstrating the intervention of business model innovation as a mediating variable. Future research can expand the framework by exploring more situational variables, such as the digital transformation or institutional support, which can also mediate the relationship between the entrepreneurial capabilities, business model innovation, and the performance results.

Contribution

Naveed Mushtaq, & Salma Mukhtar: Problem Identification and Theoretical Framework
Salma Mukhtar: Data Analysis
Muhammad Ali Mufti: Supervision and Drafting

Conflict of Interests/Disclosures

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