

AI-Driven Decision-Making as a Pathway to Entrepreneurial Success: The Mediating role of Entrepreneurial Resilience

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Abstract

Artificial intelligence is increasingly transforming entrepreneurial decision making, yet limited research explains how AI-driven decision making lead toward entrepreneurial success, particularly in SMEs in emerging economies. This study addresses this gap by examining the effect of AI-driven decision making on entrepreneurial success and investigating the mediating role of entrepreneurial resilience among SMEs in Pakistan. Keeping in view the Resource based view an Dynamic capabilities theory, the study conceptualizes entrepreneurial resilience as a critical capability through which AI-generated intelligence can be converted into entrepreneurial outcomes. A quantitative, cross sectional research design was employed, and data were collected from 354 owners/managers of SMEs, using structured questionnaire and purposive sampling. Data was analyzed using Hayes' Process Macro Model 4. The findings demonstrate that AI-driven decision making has a significant positive effect on entrepreneurial success and entrepreneurial resilience (H1, H2). Entrepreneurial resilience also showed significant positive effect on entrepreneurial success (H3). Importantly, the indirect effect of AI-driven decision making on entrepreneurial success through entrepreneurial resilience was positive and significant, whereas the direct effect became statistically insignificant (H4). These findings indicate that entrepreneurial resilience represents a key mechanism through which AI-driven decision making contributes to entrepreneurial success. The study extends AI-enabled entrepreneurship research by integrating technological and entrepreneurial capabilities and provides evidence from an emerging economic context. The

findings suggests that SMEs should complement investments in AI-driven decision making with initiatives that strengthen entrepreneurial resilience , adaptability and capacity to respond effectively to uncertainty.

Keywords: AI-Driven Decision making, Entrepreneurial Resilience, Entrepreneurial Success.

I. Introduction

Artificial intelligence is revolutionizing the competitive landscape by changing the way organizations produce knowledge, make strategic decisions and generate value. This integration of machine learning, predictive analytics, natural language processing, and intelligent automation has revolutionized managerial decision making, allowing companies to analyze massive amounts of data, uncover hidden patterns, and make informed decisions quickly and effectively (Davenport & Ronanki, 2018; Dwivedi et al., 2021). AI is not just technological innovation; it is increasingly viewed as a strategic organizational asset that boosts companies' capacity to adapt to environmental uncertainty, increase operational efficiency, stimulate innovation, and maintain competitive advantage (Sánchez-Rodríguez, et al., 2025; Raisch & Krakowski, 2021; Wang et al., 2025). In times of highly volatile markets, information dense environments, organizations are being increasingly pressured to move beyond intuition for decision making to data driven decision making which allows for increased strategic responsiveness and long term performance. Therefore, the role of artificial intelligence in decision making for organizational success has become a topical subject of research interest in management and entrepreneurship studies. The strategic significance of AI in entrepreneurship is especially evident in contexts, where uncertainties, limited resources, and dynamic market conditions dictate decision-making (Cheng et al., 2022). Entrepreneurs and small and medium enterprises (SMEs) often have limited financial resources, market information, and managerial capability, resulting in the need to make high-quality decisions in order to maintain and develop their business. The artificial intelligence-based decision-making process helps entrepreneurs convert complex and fragmented information into actionable knowledge which can improve their ability in opportunity recognition, risk assessment, resources allocation and strategic planning (Shrestha et al., 2019; Jöhnk et al., 2021).

These capabilities are particularly relevant in the context of SMEs, which are already under strong competitive pressure to respond quickly and effectively to technological innovation to adjust to the changing market demands (Cristofaro et al., 2025). This has made AI an emerging tool that is not only transforming the way business is conducted digitally but also revolutionizing how entrepreneurs can achieve competitiveness and sustainable business growth. However, despite the ongoing rapid adoption of AI in SMEs, there are key questions of how AI-powered decision-making can be translated into continued entrepreneurial success. While AI is increasingly

acknowledged as a strategic organizational capability, the theoretical connection between AI decision making and entrepreneurial outcomes is still underdeveloped. AI has been proven to enhance organization efficiency, innovation and decision quality in many studies (Babina et al., 2024; Cui et al., 2024). However, there are also empirical evidences that the investments in the technologies of AI do not necessarily produce better entrepreneurial outcomes (Ahmed, et al., 2025; Sánchez-Rodríguez, et al., 2025; Wang et al., 2025). While many SMEs are still not performing up to their expectations despite the use of advanced digital technologies, the message is that the use of tech is not enough to give them a sustainable competitive advantage. This inconsistency poses a significant theoretical question: How could AI-based decision making lead to entrepreneurial success and how are technological capabilities translated into better entrepreneurial performance? To answer this question, it is essential to shift from a technology focused view to a capability based one, acknowledging that the entrepreneurs are the key drivers who will transform AI-generated intelligence into successful strategic action.

The Resource Based View (RBV) and Dynamic Capabilities Theory (DCT) offer a strong theoretical base for discussing this question. RBV posits that organizations can get sustainable competitive advantage from the effective deployment of valuable, rare, inimitable and non-substitutable resources (Barney, 1991). In this context, AI-powered decision making is seen as a strategic asset that can boost information processing, knowledge generation, and decision quality. However, this RBV approach alone is not enough to explain why other firms with similar technological resources can often lead to different entrepreneurial results. Dynamic Capabilities Theory extends this perspective by arguing that competitive advantage depends not only on possessing strategic resources but also on the ability to integrate, reconfigure, and exploit those resources in response to rapidly changing environments (Teece, 2007). In the context of uncertainty for entrepreneurs, the strategic value of AI thus relies on complementary capabilities that help them understand the insights derived from AI, navigate changes in their environment, and execute valuable strategic actions. Therefore, a key to comprehending entrepreneurial success is considering not just tech skills, but entrepreneurial skills to translate AI-powered decision-making into sustainable business outcomes.

Entrepreneurial resilience is a particular entrepreneurial capability that has started to be investigated in the literature, and is one of the capabilities which could explain the superior business outcomes achieved through AI-driven decision making. Entrepreneurship is a process of uncertainty and limited resources, market volatility and repeated setbacks, and is an ongoing process of adaptation and recovery from adverse contingencies (Bullough et al., 2013; Santoro et al., 2020). Entrepreneurial resilience is the capacity of the entrepreneur to face challenges, learn from failure, and persist in

entrepreneurial goals in spite of changing environmental conditions (Fatoki, 2018). Resilient entrepreneurs are more likely to see uncertainty as a learning opportunity than as a growth obstacle, which helps them to stay focused on strategy and seize new business opportunities. Within the realm of AI-driven decision-making, resilience plays a crucial role as insights generated by AI can only be valuable if entrepreneurs have the ability to interpret information, adapt their responses, and make strategic decisions at the right time. AI also mitigates the issue of information asymmetry, makes forecasting more precise, and boosts decision confidence, enabling entrepreneurs to tackle uncertainty more effectively and anticipate changes in the environment (Duan et al., 2019; Jöhnk et al., 2021). Thus, entrepreneurial resilience could be a key competency that transforms the AI-informed decision-making process into a long-term entrepreneurial success.

While the field of AI and entrepreneurship has grown significantly, there are still some key gaps in theory and empirical research. First, past research has focused primarily on the direct connection between AI adoption and business or entrepreneurship performance, offering limited insight into the processes by which AI driven decision-making leads to entrepreneurial effectiveness (Sánchez-Rodríguez, et al., 2025; Wang et al., 2025). Second, while entrepreneurial resilience has been consistently recognized as one of the key factors influencing the performance of ventures, innovation, and business sustainability (Santoro et al., 2020; Nautiyal & Pathak, 2024), its role as a mediating capability between AI-based decision making and entrepreneurial success remains largely underexplored. Third, the current evidence is mainly from developed economies, while little empirical knowledge exists on AI-enabled entrepreneurship in the emerging markets where SMEs face more institutional constraints, resource scarcity and environmental uncertainty. These gaps suggest that existing studies only partly explain the role of AI in entrepreneurial success, and there is a need to further develop a comprehensive model that integrates technological competencies with entrepreneurial competencies. The solution to these gaps has the potential to further advance entrepreneurship theory by clarifying how AI-based decision-making contributes to the creation of value for SMEs in difficult environments with limited resources. The Pakistani SME sector gives a good context to these relationships. SMEs are the backbone of Pakistan's economy as they are contributing significantly to the employment creation, industrial development and economic growth of the country. However, major of these enterprises still facing shortage of resources, lack of technology, institutional insecurity and high level of competition in the market. The accelerating pace of digital transformation has increased the strategic importance of AI-driven decision-making for improving business competitiveness, yet the adoption and effective utilization of AI technologies among Pakistani SMEs remain at an early stage. This means that entrepreneurs will need to invest not just in AI technologies but also in the skills to effectively utilize AI technologies in a context of

uncertainty and limited resource environment. Thus, in the context of Pakistan, this study provides empirical insights into the relationship between technological capabilities and entrepreneurial capabilities and the resulting entrepreneurial success in emerging economies.

Based on this background, the present study aims to explore the impact of AI-based decision making on entrepreneurial success and the mediating role of entrepreneurial resilience among SMEs in Pakistan. The study has several contributions to the body of entrepreneurship literature. First, it fills an important empirical void, as most research on entrepreneurship has been conducted in developed countries. Secondly, it contributes to the RBV by proving that AI decision making is a valuable strategic capability whose value is dependent on how entrepreneurs can use it effectively. Third, the study further contributes to Dynamic Capabilities Theory by identifying entrepreneurial resilience as the adaptation capability that translates AI-generated intelligence into better entrepreneurial results. This study combines both technological and psychological aspects into a unified theoretical framework, providing a more holistic understanding of the role of AI in entrepreneurial success. The results not only contribute to the emerging literature on the study of the role of artificial intelligence in entrepreneurship but also offer relevant lessons for entrepreneurs, managers and policy makers to enhance the competitiveness and sustainability of SMEs in emerging economies.

II. Literature Review

2.1 AI-Driven Decision-Making and Entrepreneurial Success

The impact of AI-driven decision making on entrepreneurial success has been a growing area of scholarly interest given the transformative role of digital technologies in shaping entrepreneurial processes and business operations (Dwivedi et al., 2021; Sánchez-Rodríguez, et al., 2025). AI-driven decision making can easily handle vast amounts of data, uncover hidden patterns, predict future development, and provide data-driven strategic recommendations (Shrestha et al., 2019; Jöhnk et al., 2021). These features enhance the speed, quality and accuracy of entrepreneurs decisions, which raises the chances of getting better results in their business (Duan et al., 2019). In the context of Dynamic Capabilities Theory, AI based decision making allow entrepreneurs to find better opportunities, capitalize on new market trends and effectively utilize their organizational resources to the changing market conditions (Teece, 2007; Mahabub et al., 2025). Entrepreneurs typically work in uncertain environment, have limited resources, and evolving customer needs. In such contexts, timely and accurate information is essential for making effective and correct decisions (Ganuthula, 2025). AI systems provide support to entrepreneurs in their business decisions by constantly analyzing market conditions and providing predictive insights that foster strategic agility and opportunity identification (Jeremiah, 2025). AI decision-making also plays a pivotal role in entrepreneurial success by optimizing

resource utilization. Almost in all markets, SMEs often face financial and operational limitations that restrict their performance to compete with the large organizations (Khakwani & Yaseen, 2026). AI technologies can aid entrepreneurs in optimizing resource utilization by identifying high potential opportunities, forecast market demands and minimizing operational inefficiencies (Pan, 2024; Feng & Zhang, 2024). The advancement and accuracy in forecasting and intelligent resource planning enable entrepreneurs to lower production costs, increase productivity level, and ultimately it boost their business performance (Raisch & Krakowski, 2021). Moreover, AI technologies have the ability to improve the innovation outcomes through knowledge acquisition and opportunity identification (Nambisan, 2017). AI can also analyze market trends, customer preferences, and competitors' actions more effectively than human analysis, enabling entrepreneurs to easily identify gaps in the market and develop profitable innovative products and services (Cui et al., 2024). These innovative AI generated products directly contributes to entrepreneurial growth, competitiveness and overall sustainability into the future (Sánchez-Rodríguez, et al., 2025). Moreover, according to Resource-Based View, AI-based decision-making is a strategic capability of the organization, which can bring sustainable competitive advantage, if properly implemented into organizational processes (Barney, 1991). The theory further pointed out that organizations with stronger AI competencies are able to gain and utilize information better than other organizations, which improves their business performance and entrepreneurial outcomes (Bhatt et al., 2010). The AI features to process information better and provide strategic insights support entrepreneurs in making quick and correct decisions which positively effect the creativity, profitability, growth and sustainability of their businesses (Kim et al., 2011). Empirical studies provide growing support for the positive impact of AI on entrepreneurial and organizational performance. Studies suggest that adoption of AI enhances the quality of decision making, operational efficiency, innovative capacity and customer engagement, which in turn leads to better entrepreneurial results (Babina et al., 2024; Dwivedi et al., 2021). Similarly, Mahabub et al. (2025) found that AI-driven decision-making has a substantial positive effect on entrepreneurial adaptability and business performance. Additionally, Sánchez-Rodríguez, et al. (2025) identified that those firms using AI-based strategic decision systems perform better than firms using traditional decision-making approaches. Overall, these findings concludes that the use of AI in decision making is a crucial factor in entrepreneurial success, enabling entrepreneurs to make more informed, timely, and effective decisions.

H1: AI-Driven Decision-Making significantly effect Entrepreneurial Success

2.2 AI-Driven Decision-Making and Entrepreneurial Resilience

The relationship between AI decision-making and entrepreneurial resilience can be understood in terms of information quality, uncertainty reduction, and adaptive capability development (Jöhnk et al., 2021; Duan et al., 2019). Entrepreneurs often face uncertain market environments with limited resources characterized by rapid technology changes, market fluctuations, and competitive pressures (Santoro et al., 2020). These conditions always tend to create resistance, hurdles and higher risk of business setbacks and failure (Fatoki, 2018). AI-powered decision-making tools can help entrepreneurs overcome these obstacles by delivering accurate information, predictive insights, and strategic recommendations that enhance situational awareness and decision confidence (Khakwani & Yaseen, 2026). Entrepreneurial resilience is an entrepreneur's ability to respond positively to challenge, recover from setbacks, and remain dedicated to the entrepreneurial purpose under difficult circumstances (Bullough et al., 2013). The use of AI-powered intelligence further enhances this ability by minimizing uncertainty and helping entrepreneurs predict changes in their environments (Jeremiah, 2025). This collection of timely and accurate information empowers entrepreneurs to formulate contingency plans, spot alternative opportunities and proactively act on threats (Ganuthula, 2025). Conservation of Resources Theory posits that people are more resilient when they have enough resources for dealing with stress and adversity (Hobfoll et al., 2018). AI decision making can be seen as a useful informational tool that will help improve the cognitive and strategic skills of entrepreneurs (Shatila et al., 2025). AI helps entrepreneurs manage information-related stress and build confidence in strategic decisions by offering analytical tools and decision intelligence. (Salminen et al., 2024). As a result, entrepreneurs are better able to manage their psychological stability and adaptability in times of uncertainty. Moreover, AI facilitates organizational learning and continuous adaptation. Machine learning algorithms continuously generate insights from new information and changing market conditions, allowing entrepreneurs to refine their strategies and improve decision quality over time (Ng et al., 2021). This ongoing learning improves entrepreneurs' capacity to respond to environmental turbulence and increases their resilience capacity (Duong, 2025). Thus, entrepreneurs who can make effective use of the AI technologies are more likely to create adaptive mindsets and resilient behaviour that allow them to sustain their ventures in the long-term.

H2: AI-Driven Decision-Making significantly effect Entrepreneurial Resilience

2.3. Entrepreneurial Resilience and Entrepreneurial Success

Entrepreneurial resilience has been identified as a key factor in entrepreneurial success, enabling entrepreneurs to deal effectively with adversity and uncertainty (Korber & McNaughton, 2018). Generally, entrepreneurs face various constraints and challenges such as resource limitation, market volatility, financial pressures, and competition that can

negatively impact on the performance of entrepreneurship ventures. (Fatoki, 2018). However, entrepreneurs with high level of resilience are more likely to face these challenges and persist in their entrepreneurial endeavour despite failures (Bullough et al., 2013). Resilient entrepreneurs demonstrate optimism, adaptability, resourcefulness and persistence which allow them to maintain strategic focus during challenging period of time (Adeniran & Johnston, 2012). These traits help in solving problems and identifying opportunities, which are essential for business performance and growth of entrepreneurship (Santoro et al., 2020). Furthermore, resilience enables entrepreneurs to recover quickly from failures and transform adverse experiences into valuable learning opportunities (Markman & Baron, 2003). Several empirical studies have reported positive relationships between entrepreneurial resilience and entrepreneurial outcomes. Resilient entrepreneurs are more likely to sustain business operations during crises, pursue innovation initiatives, and achieve long-term business success (Badzaban et al., 2021). Ofunoye (2017) discovered that resilience has a significant impact on entrepreneurial success and Hayward, (2010) reported that resilient entrepreneurs are more likely to have high levels of achievement and venture performance. Therefore, entrepreneurial resilience is a crucial psychological competence that has an immediate impact on entrepreneurial outcomes.

H3: Entrepreneurial Resilience significantly effect Entrepreneurial Success

2.4: The Mediating Role of Entrepreneurial Resilience

The mediating role of entrepreneurial resilience can be explained by integrating Dynamic Capabilities Theory and Conservation of Resources Theory. AI-based decision making can offer entrepreneurs great informational and analytical tools but these tools do not necessarily lead to entrepreneurial success (Teece, 2007; Hobfoll et al., 2018). An entrepreneur needs to have the psychological and behavioral ability to effectively use the insights generated by AI and translate them into strategic actions. Resilience is one such capacity, and it is very apparent in entrepreneurial people. AI-based decision-making helps entrepreneurs gain access to strategic information, predictive Intelligence, and decision support systems, which in turn boosts their capacity to proactively respond to environmental shifts and deal with uncertainty (Duan et al., 2019; Jöhnk et al., 2021). These informational resources enhance entrepreneurs' confidence, adaptability, and resilience against challenges (Khakwani & Yaseen, 2026). The more informed and capable entrepreneurs are to face challenges, the more their capacity to be resilient grows (Shatila et al., 2025). A virtuous entrepreneurial resilience, in turn, fosters entrepreneurial success by allowing the entrepreneur to overcome difficulties, adjust to situations, and capitalize on opportunities (Santoro et al., 2020). Resilient entrepreneurs are better equipped to execute the recommendations generated by AI due to their persistence and flexibility in addressing implementation hurdles and market uncertainties (Shore et al.,

2024). Thus, resilience acts as a bridge connecting technological capability with entrepreneurial outcomes. Moreover, AI-based insights often involve strategic shifts that require entrepreneurs to take risks, experiment, and undergo organizational transformation (Sánchez-Rodríguez, et al., 2025). These changes can lead to resistance, confusion and short-term performance issues. Individuals who are resilient are more likely to be able to handle these obstacles and demonstrate persistence with strategic efforts (Bullough et al., 2013). As a result, resilience allows entrepreneurs to tap into the potential of AI technologies and to harness their technological investments into long-term gains for entrepreneurship. Theoretically, entrepreneurial resilience acts as an internal resource that transforms external technological resources into entrepreneurial results. While AI-driven decision making supplies informational underpinning for adaptive action, entrepreneurial resilience is what allows entrepreneurs to put that information into practice during moments of uncertainty and change (Hobfoll et al., 2018). Thus, entrepreneurial resilience is considered to be one of the important mediating variables that link AI-based decision-making and entrepreneurial success in SMEs.

H4: Entrepreneurial Resilience significantly mediate the relationship between AI-Driven Decision-Making and Entrepreneurial Success

III. Methodology

The target population in the study is the owners/founders, chief executive officers and senior managers of small and medium-scale (SMEs) enterprises in Peshawar (Pakistan). This research was cross sectional and quantitative in nature. Purposive sampling technique was used to select three hundred and fifty four (354) owners/managers as Unit of analysis. Data was gathered from only those respondents who have sufficient knowledge about the use of AI technologies and strategic decision making in their organizations. A structured questionnaire was used to collect primary data. Entrepreneurial success questions were adapted from Fisher et al (2014) with 4 items, Entrepreneurial resilience from Connor & Davidson, (2003) with 10 items and AI decision making scale were adopted from Sanz de Acedo Lizarraga et al. (2009) with 6 items. All the variables were measured using five-point Likert scale from strongly disagree (1) to strongly agree (5). Simple regression model and Hayes Process Macro were used to analyze the data. Direct hypotheses were tested using the simple regression model, and mediation analysis was performed using the Hayes process method.

IV. Data Analysis

4.1 Demographic Analysis

The population demographic information were categorized on the basis of age, education and experience. It was found that there were 120 (33.9%) respondents between 20 to 35 Years, 184(52%) between 36-50 years, and 50 (14.1%) respondents were of 51 or above years old. The table shows that 80 (22.6%) respondents have SSC/FA/FSc or below level education, 180 (50.8%)

respondents have Bachelor level and 94 (26.6%) respondents have master or above level education. Similarly, 74(20.9%) respondents have 10 years or below experience, 180(50.8%) have 11-20 Years and 100(28.3%) respondents have 21 or above years of experience.

Criteria	Category	Frequency	Percentage	Cumulative Percent
Age	20 to 35 Years	120	33.9	33.9
	36-50 Years	184	52.0	85.9
	51 Years and Above	50	14.1	100
	Total	354	100	
Education	SSC/FA/FSc or below	80	22.6	22.6
	Bachelor	180	50.8	73.4
	Master and Above	94	26.6	100
	Total	354	100	
Experience	10 Years or below	74	20.9	20.9
	11 to 20 years	180	50.8	71.7
	21 Years and above	100	28.3	100
	Total	354	100	

4.2 Reliability and Validity of Variables:

Cronbach's alpha value for each variable was calculated to confirm internal reliability. Alpha values of 0.70 or above are generally considered acceptable and indicate satisfactory internal reliability (Malhotra & Birks, 2007). As reported in below table, the Cronbach's alpha value for all variables (AI decision making = 0.95, Entrepreneurial success= 0.96, and Entrepreneurial resilience= 0.89) are greater than 0.70, hence fulfilling the standards of internal consistency. Similarly, Convergent validity was assessed by examining the factors loading, average variance extracted (AVE), and composite reliability (CR) of the constructs. The data in below table shows that all the values of factor loading are greater than the standard value of 0.4 (Hair et al., 2012). Moreover, the values of AVE for all variables (AI decision making = 0.73, Entrepreneurial success= 0.51, and Entrepreneurial resilience= 0.56) are greater than the standard value of 0.5 (Hair et al., 2014). Furthermore, the value of CR for all variables (AI decision making = 0.94, Entrepreneurial success= 0.80, and Entrepreneurial resilience= 0.92) are greater than the threshold value i.e. 0.7, hence confirmed the convergence validity (Hair et al., 2014).

	Factor Loading	α	AVE	CR		Factor Loading	α	AVE	CR
Entrepreneurial resilience					AI decision making				
ER1	0.768	0.89	0.56	0.92	AID1	0.861	0.95	0.73	0.94
ER2	0.675				AID2	0.891			
ER3	0.725				AID3	0.853			

ER4	0.752	AID4	0.852				
ER5	0.827	AID5	0.821				
ER6	0.733	AID6	0.863				
ER7	0.733	Entrepreneurial Success					
ER8	0.684	ES1	0.717				
ER9	0.876	ES2	0.705				
ER10	0.708	ES3	0.726	0.96	0.51	0.80	
		ES4	0.705				

4.3. Hypotheses Testing

4.3.1 Direct Effects

Hypothesis 1 predicted that AI-driven decision making has a significant positive effect on entrepreneurial success. The coefficient path shows that AI-driven decision making has a significant positive effect on entrepreneurial success ($\beta = 0.135$, $P = 0.021$) which indicates that an increasing use of AI-driven decision making can lead the organization toward an entrepreneurial success. This result is consistent with previous findings (Ahmed, et al., 2025; Giuggioli & Pellegrini, 2023; Al-Mamary, 2025) which states that adoption of AI-driven decision will assist manager sand owners in developing business growth in a market.

Hypothesis 2 predicted that AI-driven decision making has a significant positive effect on entrepreneurial resilience. The coefficient path shows that AI-driven decision making has a significant positive effect on entrepreneurial resilience ($\beta = 0.062$, $P = 0.022$) which indicates that an increasing use of AI-driven decision making can leverage resilience in a dynamic environment. This result is consistent with previous findings (Duong, 2025; Shatila et al., 2025; Kumar et al., 2026) which states that adoption of AI in any organization will increase the resilience level of its staff, managers and owners.

Hypothesis 3 predicted that entrepreneurial resilience has a significant positive effect on entrepreneurial success. The coefficient path shows that entrepreneurial resilience has a significant positive effect on entrepreneurial success ($\beta = 1.0629$, $P = 0.000$) which indicate that increasing resilience level of entrepreneurs or owners will help to make better decision despite harsh or dynamic market conditions. The finding are consistent with prior studies who reported that entrepreneurial resilience is a predictor of organizational success (Adeniran et al., 2012; Ofunoye, 2017).

Coefficients

Model	Coefficients		T	Sig	Hyp
	B	Std. Error			
AID--ES	.135	.058	2.310	.021	H1 Supported
AID--ER	.0621	.0269	2.304	.0218	H2 Supported
ER----ES	1.0629	.1011	10.515	.000	H3 Supported

4.3.2 Path Model of entrepreneurial resilience as Mediator between AI-Driven Decision-Making and Entrepreneurial Success

Hypothesis 4 suggested that entrepreneurial resilience acts as a mediator between AI-Driven Decision-Making and Entrepreneurial Success. The study utilized Hayes' (2018) PROCESS Macro Model 4. The result revealed that the direct effect of AI-Driven Decision Making on Entrepreneurial Success was insignificant ($\beta = 0.0691$, $p = 0.1800$, 95% CI = -0.0321, 0.1703). The confidence interval contained the value of zero, suggesting that the relationship between AI-Driven Decision-Making and Entrepreneurial Success was no longer significant. The indirect effect of AI-Driven Decision-Making on Entrepreneurial Success through Entrepreneurial Resilience was positive and statistically significant ($\beta = 0.0660$, Boot SE = 0.0285, 95% Bootstrap CI = 0.0116, 0.1232). The bootstrap confidence interval contained no zero, which indicates that the mediation effect was statistically significant. Furthermore, the total effect of AI-Driven Decision-Making on Entrepreneurial Success showed significant result ($\beta = 0.135$, $p = 0.021$, 95% CI = 0.0201, 0.2501). The result confirms that Entrepreneurial Resilience is an important mediating variable in the relationship between Entrepreneurial Success and AI-Driven Decision-Making. Overall, the findings support Hypothesis H4, which suggested that Entrepreneurial Resilience significantly mediates the relationship between AI-Driven Decision-Making and Entrepreneurial Success. These findings suggest that relying solely on AI-driven decision-making does not necessarily ensure entrepreneurial success. Rather, the positive effect is realized through the enhancement of the entrepreneurs' resilience, making them more flexible when facing uncertainty, bounce back from failure and seize opportunities, and ultimately achieve entrepreneurial success. The result is in line with past studies (Dubey, 2022; Seraj, et al., 2022; Poolsawat & Rinthaisong, 2025) that mentioned that entrepreneurial resilience plays an important mediating role in improving organization performance.

Mediation Analysis Results Using Hayes PROCESS Model 4

	β	S.E	t-value	p-value	LLCI	ULCI
Total Effect	0.135	0.0585	2.309	0.0215	0.0201	0.2501
Direct Effect	0.0691	0.0515	1.3433	0.1800	-.0321	0.1703
	Effect	bootSE	BootLLCI	BootULCI		
Indirect Effect	0.0660	0.0285	0.0116	0.1232		

V. Conclusion and Recommendation

5.1 Conclusion

Artificial intelligence (AI) is transforming the way entrepreneurs make decisions, providing them with access to valuable data, enhancing their decision-making capabilities, and helping them adapt more effectively to fast-changing business landscapes. While AI is increasingly recognized as a

strategic competence of organizations, the entrepreneurship literature has largely focused on the direct impact of AI on organizational performance, with far less attention paid to the mechanisms by which AI-facilitated decision-making relates to entrepreneurial outcomes. Moreover, the empirical literature on SMEs in emerging economies is still very limited. To address these gaps, the current study explored the association between the use of AI-informed decision making and entrepreneurial success through the mediation of entrepreneurial resilience among SMEs in Pakistan. The findings demonstrate that AI-driven decision-making is a significant driver of entrepreneurial success. The use of AI-driven decision-support tools can empower entrepreneurs to better analyze complex data, identify new opportunities, allocate resources more effectively, and make timely decisions that improve the performance of their ventures. The results align with prior research that highlights the strategic role of AI in enhancing innovation, decision-making, and competitive advantage within organizations (Dwivedi et al., 2021; Sánchez-Rodríguez, et al., 2025). Most significantly, the results also contribute to the RBV, showing that AI-based decision-making can be analyzed not just as a technological resource, but as a strategic capability that can help SMEs create and maintain a competitive edge by making better entrepreneurial decisions (Barney, 1991). The study also shows that AI-based decision-making has a profound impact on entrepreneurs' resilience. AI minimizes information asymmetry and offers predictive intelligence to help entrepreneurs navigate uncertainty, making them better prepared to anticipate changes in their environment and evaluate strategic options. As a result, entrepreneurs are more resilient, more confident and more flexible in maintaining the performance of their business during disruption. The result corroborates earlier studies, which indicated that AI contributes to organizational adaptability and resilience by enabling better strategic decision-making (Duan et al., 2019; Jöhnk et al., 2021). It also supports the concept of Conservation of Resources Theory, which holds that having access to valuable informational resources increases individuals' ability to manage adversity and perform effectively in conditions of uncertainty (Hobfoll et al. 2018). In line with the entrepreneurship literature, entrepreneurial resilience was identified as an important predictor of entrepreneurial success. Entrepreneurs with higher levels of resilience are better able to recover from setbacks, adapt to changing market conditions, exploit emerging opportunities, and maintain strategic commitment despite uncertainty. The results are consistent with earlier studies, which suggested that resilience is a key entrepreneurial ability that facilitates venture growth and long-term business sustainability (Bullough et al., 2014; Santoro et al., 2020). Entrepreneurial resilience is not a mere individual psychological trait; it seems to be a strategic competence that helps entrepreneurs convert uncertainty into opportunity and maintain entrepreneurial excellence.

The most important contribution of this study lies in explaining how AI-driven decision-making contributes to entrepreneurial success. The mediation analysis results indicate that entrepreneurial resilience serves as a mediating factor between AI-based decision-making and entrepreneurial success. The results indicate that AI investments in the form of technologies alone are not enough to produce better entrepreneurial outcomes. Rather, the strategic significance of AI relies on the entrepreneurs' capacity in understanding AI-generated knowledge, adapt to rapidly changing environments, , and converting analytical intelligence into successful strategic execution. This study contributes to Dynamic Capabilities Theory (Teece, 2007) by incorporating the concept of entrepreneurial resilience as a pathway between technological capability and entrepreneurial performance. Specifically, the findings imply that technological resources generate sustainable competitive advantage solely when entrepreneurs are endowed with adaptive capabilities (ability to constantly scan, reconfigure and exploit the resources) in an environment of uncertainty.

Overall, this study makes three important contributions to the entrepreneurship literature. First, it addresses an important empirical gap by providing evidence from SMEs operating in Pakistan, thereby extending AI-enabled entrepreneurship research beyond the predominantly developed-country contexts reported in previous studies. Second, it promotes theory by combining the Resource-Based View, Dynamic Capabilities Theory, and Conservation of Resources Theory in a coherent framework to explain how technological capabilities are transformed to entrepreneurial outcomes via entrepreneurial resilience. Third, it highlights the critical role of entrepreneurial resilience as a psychological and strategic competence connecting AI-based decision-making to entrepreneurial success, and thus provides a more holistic understanding of entrepreneurial performance in digitally transforming SMEs. While the revolution of artificial intelligence is changing entrepreneurial ecosystems across the globe, sustainable entrepreneurial success will increasingly rely not merely on adopting smart technologies, but the entrepreneurial capacity to build the resilience to translate technological intelligence into sustainable competitive advantage.

5.2 Practical Implications

The findings of this study have several implications for entrepreneurship practice and policy. First, the positive influence of AI-driven decision-making on entrepreneurial success illustrates that SME owners and managers should not just consider AI as a technology for running their business, but also as a strategic tool to identify opportunities, optimize resources, and make informed decisions. The use of AI in strategic decision-making can aid organizational agility and boost overall business performance over time. Second, the significant role of entrepreneurial resilience highlights that technological investments alone are unlikely to generate sustainable entrepreneurial success. Thus, SMEs need to supplement AI adoption by

supporting entrepreneurs' resilience via ongoing learning, leadership development, problem-solving, and organizational learning. These efforts will help entrepreneurs turn AI-driven insights into strategic actions, especially in uncertain and volatile market environments. Finally, the results have implications for policymakers and entrepreneurship support institutions. Governmental institutions, SME development institutions, and universities could lead in promoting the diffusion of AI technologies by offering technical assistance, digital skills training, and entrepreneurship development programs that would improve technological skills and entrepreneurial resilience at the same time. These integrated interventions can help SMEs to speed up their digital transformation and enhance their competitiveness and sustainability in emerging economies.

5.3 Limitations and Future Research Directions

This study was limited by a number of factors which also offer potential areas of further research. First, the cross-sectional research design restricts the ability to draw causal conclusions between the AI-driven decision making, entrepreneurial resilience, and entrepreneurial success. Using longitudinal or experimental designs in future research would give more robust evidence of the dynamic nature of these relationships. Second, the study focused on SMEs operating in Peshawar, Pakistan. While this context can provide rich information on how AI drives entrepreneurship in an emerging economy, care needs to be taken when extending this to broader institutional and cultural contexts. The proposed model should be validated in other regions, industries, and countries in future studies to support the external validity of the model. Lastly, although entrepreneurial resilience is identified as an important mediating mechanism, there are other organizational and individual capabilities that could be used to explain how AI-based decision-making affects entrepreneurial success. Future research could extend the proposed framework by examining mediating mechanisms such as innovation capability, entrepreneurial learning, absorptive capacity, or strategic agility, as well as contextual moderators including environmental uncertainty, digital orientation, organizational culture, and technological readiness. These studies would contribute to a deeper understanding of the context in which AI-based decision making leads to sustainable entrepreneurial success.

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