

Impact of Entrepreneurial Orientation and Artificial Intelligence on Digital Entrepreneurial Resilience: the Mediating Role of Commitment to Learning

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Abstract: In today's rapidly changing digital landscape, many firms suffer unprecedented volatility, making digital entrepreneurial resilience a key capability for survival. While previous studies have extensively investigated traditional resilience, there is no research dealing with how artificial intelligence strengthens digital entrepreneurial resilience in emerging economies such as Tunisia. More precisely, it remains unclear how a firm's commitment to learning converts technological adoption into resilient outcomes. Therefore, this article investigates the impact of entrepreneurial orientation and artificial intelligence on digital entrepreneurial resilience, specifically examining the mediating role of commitment to learning. Data were gathered through a survey of 90 Tunisian business founders and analyzed using Partial Least Squares Structural Equation Modeling with bootstrapping. We found that entrepreneurial orientation strongly drives the adoption and integration of artificial intelligence. Furthermore, artificial intelligence has a positive direct impact on digital entrepreneurial resilience and commitment to learning. Crucially, the findings confirm that commitment to learning acts as a complementary mediator. This suggests that, while artificial intelligence gives technical tools for resilience, a continuous commitment to learning enhances these benefits by helping businesses to better integrate these technologies. These findings provide crucial insights for Tunisian entrepreneurs and policymakers. Managers should consider artificial intelligence not as a static technology, but as a catalyst for organizational learning. To maximize digital entrepreneurial resilience, organizations must adopt a twin strategy. On the one hand, managers should incorporate advanced digital tools to significantly enhance their managerial work. On the other hand, they have to create a learning environment that can adjust to the complex technological outputs. As a result, Tunisian startups can maintain a sustainable competitive advantage. Nevertheless, this study is restricted by its small sample size and cross-sectional design. Future research should use longitudinal designs to observe how the relationship between artificial intelligence and resilience changes over time in various geographic contexts.

Keywords: Entrepreneurial Orientation, Artificial Intelligence, Digital Entrepreneurial Resilience, Commitment to Learning.

1. Introduction

The convergence of AI and entrepreneurial orientation has become increasingly crucial for establishing harmony and balance between institutions, the environment, and society (İçöz, 2024). In this context, İçöz (2024) investigated how new significant entrepreneurial trends, applications, and outcomes can be influenced by AI. In fact, AI automation allows entrepreneurs to concentrate on innovative and creative endeavors (Al-Mamary, 2025). Indeed, Baldegger et al. (2020) found that the tendency of a company to implement or incorporate already-implemented AI projects into HRM procedures increases with its entrepreneurial orientation. Therefore, it is important to assess the entrepreneurial orientation of companies based on three criteria before implementing AI (i.e., risk-taking, innovation, and proactivity).

Building on this intersection of technology and strategy, recent researchers suggest that AI significantly contributes to resilience across various areas (i.e., supply chain management, healthcare, business, hospitality, tourism) (Rane et al., 2024). Specifically, Rane et al. (2024) affirmed that AI may help with disaster response by providing quick data analysis and decision-making assistance (i.e., using real-time monitoring capabilities and sophisticated predictive maintenance) to improve emergency management results. Duong (2025) added that artificial intelligence makes entrepreneurs more resilient, particularly in unpredictable situations.

The empirical evidence for these relationships is rising; for example, based on information gathered from 203 Chinese companies, Xia et al. (2024) demonstrated that entrepreneurial orientation positively influenced firm resilience in the digital era. This finding was confirmed by the contribution of Sudirman et al. (2025), in which they found a strong and statistically significant correlation between entrepreneurial orientation and sustainable resilience strategies.

Beyond resilience alone, prior studies suggest that artificial intelligence tools enhance the commitment to learning (Awad and Martín-Rojas, 2024; Dong and McIntyre, 2014; Hu et al., 2025; Jarrahi, 2018; Jatobá et al., 2023; Rožman et al., 2023). In turn, both artificial intelligence and commitment to learning have been shown to

have a positive impact on resilience (Abdelwahed and Basly, 2023; Duong, 2025; Martínez-Costa and Jiménez-Jiménez; Rane et al., 2024).

However, to our knowledge, this is the first study to examine how entrepreneurial orientation and artificial intelligence improve digital entrepreneurial resilience among Tunisian startups, with a focus on the mediating role of the commitment to learning.

2. Research Methodology

The participants of this study are represented by 90 Tunisian business founders who were contacted through an online questionnaire. The sample included 55 men and 35 women and the majority of whom worked in the service sector (53.4%). Furthermore, most participants hold a master's degree (54.4%) and are aged between 31-40 years (47.8%). Items were evaluated using a seven-point Likert-type scale (1 = strongly disagree, 7 = strongly agree).

Entrepreneurial orientation (EO) dimensions were assessed using the Avlonitis and Salavou (2007) scale. The considered dimensions were proactiveness (i.e., measured by 5 items) and risk-taking (i.e., measured by 4 items). Artificial intelligence (AI) adoption dimension comprised 7 items (Hatlevik and Bjarnø, 2021; Zeng et al., 2022). Digital entrepreneurial resilience (DER) has two dimensions (i.e., entrepreneurial adaptation and entrepreneurial resistance) and was measured by the proposed scale of Mignenan (2022). Each dimension scale comprises 3 items. Commitment to learning (CL) was measured by 4 items (Sinkula et al., 1997).

3. Results

Before running the analysis, we compute the Kaiser–Meyer–Olkin (KMO) test and the Bartlett's test of sphericity to assess the data suitability (see table 1). We concluded that the sample size is sufficient (>0.5) and there are significant correlations among the variables (p -value <0.001). Furthermore, we discovered that seven factors from the Kaiser Criteria explained 79.303 % of the overall variance. Importantly, only 31.499 % of the variance was explained by the first factor, which is much less than the predetermined 50% threshold. As a result, we can conclude the absence of common method bias (Kock, 2020).

Table 1: KMO, Bartlett test, Cronbach's alpha, composite reliability and AVE

	KMO	Bartlett's Sphericity Test (Sig)	Cronbach's Alpha	Composite Reliability (rho-a)	Composite Reliability (rho-c)	AVE
AI	0.587	<0.001	0.751	0.832	0.812	0.400
CL	0.731	<0.001	0.880	0.894	0.917	0.736
EO	0.856	<0.001	0.847	0.857	0.889	0.576
DER	0.757	<0.001	0.931	0.990	0.932	0.611

Indeed, the communalities ranged between 0.58 and 0.84, indicating a strong relationship between the items. Since all values exceeded the minimum acceptable threshold of 0.30, no items were eliminated (Hair et al., 2010). Besides, the values of Cronbach's alpha coefficients were greater than the recommended threshold of 0.7 (Hair et al. 2011). This confirms the high internal reliability of our measurement scales. Indeed, we noticed that all average variance extracted values were higher than 0.7, except the artificial intelligence construct (i.e., 0.4). However, all the composite reliabilities values are above 0.6. As a result, we may conclude the existence of convergent validity (Fornell and Larcker, 1981). To evaluate the discriminant validity, we computed the Heterotrait-Monotrait ratio. We found that the values are under the threshold of 0.85 or 0.90 (Hu and Bentler, 1998). For the multicollinearity test, we found that the values of the variance inflation factors were below the threshold of 10 (Marquardt, 1970). To assess the overall model's fit, we computed the goodness of fit criterion (i.e., GoF) developed by Tennenhaus et al. (2005). We found the GoF is equal to 0.392, meaning a good fit for our model (Wetzels et al., 2009). The bootstrap approach was used with 5000 subsamples to evaluate the hypotheses in our structural model. The findings were displayed in table 2.

Table 2: Results of the hypotheses testing

Path Coefficients					
	Original Sample	Sample Mean	Standard Deviation	T Statistic	P Values
AI → CL	0.284	0.293	0.102	2.779	0.005
AI → DER	0.403	0.419	0.086	4.689	0.000
CL → DER	0.303	0.308	0.071	4.255	0.000
EO → AI	0.421	0.451	0.113	3.728	0.000
Total Indirect Effects					
AI → DER	0.086	0.090	0.039	2.209	0.027
EO → CL	0.120	0.132	0.058	2.070	0.038
EO → DER	0.206	0.232	0.071	2.891	0.004
Specific Indirect Effects					
AI → CL → DER	0.086	0.090	0.039	2.209	0.027
EO → AI → CL → DER	0.036	0.041	0.020	1.788	0.074
EO → AI → CL	0.120	0.132	0.058	2.070	0.038
EO → AI → DER	0.170	0.191	0.065	2.628	0.009
Total Effects					
AI → CL	0.284	0.293	0.102	2.779	0.005
AI → DER	0.489	0.509	0.083	5.875	0.000
CL → DER	0.303	0.308	0.071	4.255	0.000
EO → AI	0.421	0.451	0.113	3.728	0.000
EO → CL	0.120	0.132	0.058	2.070	0.038
EO → DER	0.206	0.232	0.071	2.891	0.004

We found that artificial intelligence has a positive and significant effect on digital entrepreneurial resilience ($\beta = 0.403$, p -value = 0.000). Meanwhile, entrepreneurial orientation directly affects artificial intelligence ($\beta = 0.421$, p -value = 0.000) and indirectly impacts digital entrepreneurial resilience through the mediating role of artificial intelligence mediator ($\beta = 0.170$, p -value = 0.009). Furthermore, commitment to learning acts as a partial mediator in the relationship between artificial intelligence and digital entrepreneurial resilience. This partial mediation is evidenced by the fact that both the indirect path ($\beta = 0.086$, p -value = 0.027) and the direct path between AI and resilience ($\beta = 0.303$, p -value = 0.000) are significant.

4. Conclusion

Previous contributions (Duong, 2025; Rane et al., 2024; Sudirman et al., 2025) affirmed that the adoption of AI technologies and the entrepreneurial orientation enhance digital entrepreneurial resilience. However, the presence of technology alone is frequently insufficient without a strategic driver. To fill this gap, we examine the impact of entrepreneurial orientation and artificial intelligence on digital entrepreneurial resilience by looking at the mediating role of commitment to learning. We conclude that both entrepreneurial orientation and artificial intelligence improve the digital entrepreneurial resilience. Indeed, the commitment to learning acts as a strategic mediator in the relationship between artificial intelligence and digital entrepreneurial resilience. Our study has two main implications. On the one hand, companies, with the use of AI tools (i.e., machine learning algorithms, natural language processing, and predictive analytics), may tailor learning and development programs to meet the requirements of each employee (Dong and McIntyre, 2014; Hu et al., 2025; Jarrahi, 2018). For example, AI adoption enhanced learning tools; therefore, it may increase employee training efficiency (Jatobá et al., 2023). On the other hand, entrepreneurial orientation provides a strategic framework for implementing AI technologies (Baldegger et al., 2020; Polat et al., 2025). Therefore, firms with a strong entrepreneurial orientation are considered more resilient (Sudirman et al., 2025; Xia et al., 2024). Nevertheless, despite these implications, our

study presents some limitations that could be addressed in future research. First, our article focuses on a specific geographical context, which is Tunisia. Additionally, we use a questionnaire to address our research question. Future studies may perform a comparison between the Tunisian context and other regional or international ones. Indeed, they might use longitudinal study design to capture the evolution of the relationship between the four constructs.

Ethics Declaration

All participants were informed of the research objectives and provided their informed consent prior to data collection. Participation was voluntary, and the anonymity and confidentiality of the respondents' data were strictly maintained.

AI Statement

During the preparation of this work, the author used Quillbot to check grammar and improve the linguistic clarity of the text. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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