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Managerial Innovation and Organizational Performance in Moroccan Startups: Examining the Mediating Role of Organizational Learning Velocity

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ABSTRACT

Startups operate in environments characterized by uncertainty, rapid change, and continuous feedback, where success depends not only on learning but also on the speed with which learning is translated into action. Although prior research has identified managerial innovation and organizational learning as important drivers of performance, limited attention has been given to how rapidly organizations transform information and experience into decisions and actions. To address this gap, this study introduces organizational learning velocity (OLV). Drawing on organizational learning theory and the dynamic capabilities perspective, this study examines the effect of managerial innovation on learning velocity, its effect on organizational performance, and its mediating role between managerial innovation and organizational performance. Data were collected from 600 employees, managers, and founders of Moroccan startups and analyzed using partial least squares structural equation modeling (PLS-SEM). The results indicate that managerial innovation positively influences learning velocity, which in turn enhances organizational performance. Furthermore, learning velocity fully mediates the relationship between managerial innovation and organizational performance. The study contributes to the management and entrepreneurship literature by introducing OLV as a distinct organizational mechanism explaining how managerial innovation improves organizational performance in startup environments.

Keywords: Managerial Innovation, Organizational Learning Velocity, Organizational Performance, Startups, Organizational Learning, Partial Least Squares Structural Equation Modeling
JEL Classifications: M10, M12, O31

1. INTRODUCTION

Startups operate in environments characterized by uncertainty, limited resources, rapid technological change, and continuous feedback from customers and markets. Under such conditions, organizational performance depends not only on innovative products and services but also on how effectively startups organize managerial work, process information, and respond to change. Recent studies emphasize that managerial capabilities, dynamic capabilities, organizational agility, and learning processes play important roles in firm adaptation and performance, particularly in startup and small business contexts (Fabrizio et al., 2022; Heubeck, 2024; Hernández-Linares et al., 2024; Troise et al., 2022).

Managerial innovation has become increasingly relevant in this context. It refers to the adoption of new managerial practices, processes, structures, and systems that reshape how organizations are coordinated, controlled, and directed. For startups, managerial innovation may include decentralized decision-making, agile routines, digital monitoring systems, cross-functional coordination, experimentation-based management, and flexible communication practices. Such practices can reduce internal

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delays, improve responsiveness, and enhance the ability of startups to react to market and operational feedback. Recent evidence suggests that managerial innovation and dynamic managerial capabilities contribute to digital transformation, strategic renewal, and innovation outcomes in entrepreneurial firms and SMEs (Abdellah et al., 2025; Ge et al., 2026; Heubeck, 2024; Merín-Rodrigáñez et al., 2025).

However, the relationship between managerial innovation and organizational performance is unlikely to be purely direct. Innovative managerial practices may improve performance because they help organizations learn more effectively and transform learning into action more rapidly. Existing research has examined constructs such as organizational learning capability, absorptive capacity, strategic agility, and dynamic capabilities to explain how firms acquire knowledge, adapt to change, and sustain performance. For example, absorptive capacity research focuses on how firms acquire, assimilate, transform, and exploit knowledge (Knoppen et al., 2022; Pu and Liu, 2023; Sancho-Zamora et al., 2022), while strategic agility research explains how organizations respond to environmental uncertainty and change (Ahammad et al., 2021; Atanassova et al., 2024). Despite these advances, existing research has focused primarily on learning capability, knowledge absorption, strategic responsiveness, and resource reconfiguration, while limited attention has been devoted to the speed with which learning is translated into organizational action.

To address this gap, the present study introduces organizational learning velocity (OLV), a temporal learning-to-action construct that captures the speed with which startups transform information, feedback, and experience into shared understanding, managerial decisions, revised routines, and organizational actions. By emphasizing the temporal dimension of learning, OLV shifts attention from whether organizations learn to how quickly learning is converted into performance-relevant action.

Rather than replacing established constructs such as organizational learning capability, absorptive capacity, or dynamic capabilities, OLV complements these perspectives by focusing specifically on the temporal dimension of learning-to-action conversion.

Despite the growing importance of startups in emerging economies, limited empirical evidence exists regarding the mechanisms through which managerial innovation contributes to organizational performance in the Moroccan startup ecosystem. Morocco represents a particularly relevant context because startups operate under conditions of resource constraints, institutional transformation, increasing digitalization, and growing competitive pressures. These conditions require organizations to continuously learn, adapt, and respond rapidly to environmental changes. Examining organizational learning velocity within Moroccan startups therefore provides valuable insights into how innovative managerial practices are translated into performance outcomes in emerging-market settings while extending organizational learning research beyond the predominantly Western contexts examined in prior studies.

This study argues that managerial innovation enhances startup performance by increasing organizational learning velocity. Innovative managerial practices can improve information flows, reduce decision bottlenecks, encourage experimentation, and accelerate the conversion of feedback into action. In this way, OLV functions as a mechanism linking managerial innovation to organizational performance. This argument is consistent with recent research showing that organizational learning, agility, and knowledge-based capabilities play important roles in firm performance under uncertain and changing conditions (Ahmed et al., 2022; Atanassova et al., 2024; Hernández-Linares et al., 2024; Troise et al., 2022).

Accordingly, this study examines three research relationships. First, it investigates the effect of managerial innovation on organizational learning velocity. Second, it examines the effect of organizational learning velocity on organizational performance. Third, it evaluates the mediating role of organizational learning velocity in the relationship between managerial innovation and organizational performance.

This study contributes to the literature in three ways. First, it extends organizational learning research by introducing organizational learning velocity as a temporal learning-to-action construct. Second, it explains how managerial innovation contributes to startup performance by positioning organizational learning velocity as the underlying mechanism through which innovative managerial practices are translated into performance outcomes. Third, it contributes empirical evidence from the Moroccan startup ecosystem, thereby enriching current knowledge on organizational learning and managerial innovation in emerging economies. By doing so, the study shifts attention from whether startups learn to how quickly they transform learning into performance-relevant action.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature and develops research hypotheses. Section 3 presents the research methodology. Section 4 reports the empirical findings. Section 5 discusses the results and their implications. The final section concludes the study and outlines limitations and directions for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Managerial Innovation and Organizational Learning Velocity

Managerial innovation refers to the introduction of new managerial practices, processes, structures, and systems that alter how organizations are managed, coordinated, and controlled. Unlike technological innovation, which focuses on products and technologies, managerial innovation concerns the way organizations organize work, make decisions, communicate, and allocate resources. In startup environments, managerial innovation may include decentralized decision-making, agile routines, digital monitoring systems, cross-functional coordination, flexible communication channels, and experimentation-based management practices.

These innovations are particularly important because startups operate under conditions of uncertainty, resource constraints, and continuous exposure to market feedback. Recent studies suggest that managerial and management innovation can support innovation outcomes, competitiveness, and organizational renewal. Kafetzopoulos et al. (2021) show that management innovation contributes to innovation outcomes, while Öztürk and Özen (2021) find that management innovation supports product and process innovation.

In an African SME context, Boubakary et al. (2021) also demonstrate that managerial innovation can improve SME performance.

Recent research highlights the importance of managerial capabilities in enabling organizational adaptation and renewal. Dynamic managerial capabilities support strategic change, digital transformation, management innovation, and innovation performance in SMEs (Ge et al., 2026; Heubeck, 2024; Merín-Rodrigáñez et al., 2025).

Managerial innovation is particularly relevant for startups because internal managerial systems influence how quickly firms acquire, process, share, and utilize information. Abdellah et al. (2025) demonstrate that organizational conditions influence managerial innovation within Moroccan startups, highlighting the importance of internal management practices for organizational development. Likewise, Ayub et al. (2022) argue that leadership behaviors contribute to management innovation and learning dynamic capability, suggesting a close relationship between managerial practices and organizational learning processes.

From the perspective of dynamic capabilities theory, managerial innovation enables organizations to develop flexible mechanisms for sensing opportunities, interpreting information, and responding to environmental changes. Fabrizio et al. (2022) emphasize the role of dynamic capabilities in strengthening SME competitiveness, while Ali et al. (2021) demonstrate that dynamic capabilities contribute to intellectual capital development and innovation performance. Hernández-Linares et al. (2024) further show that knowledge-based dynamic capabilities are positively associated with organizational performance, Heubeck and Meckl (2022) further provide empirical evidence that dynamic managerial capabilities positively influence innovativeness in digital firms.

Recent SME research also suggests that managerial adaptation and business model renewal depend on dynamic capabilities. Heider et al. (2021) show that dynamic capabilities support business model innovation in SMEs, while Latifi et al. (2021) demonstrate that business model innovation can improve SME performance through organizational mechanisms. Similarly, Quansah et al. (2022) emphasize that adaptive practices help SMEs respond strategically to environmental changes.

Building on these arguments, managerial innovation is expected to enhance organizational learning velocity (OLV), defined as the speed with which organizations transform information, feedback, and experience into shared understanding, managerial decisions, revised routines, and organizational actions. Innovative managerial practices facilitate faster communication, reduce decision bottlenecks, improve coordination, and accelerate the conversion of learning into action. Consequently, startups characterized by higher levels of managerial innovation are expected to exhibit greater organizational learning velocity than those relying on more traditional managerial systems.

- H_1: Managerial innovation has a positive effect on organizational learning velocity.

2.2. Organizational Learning Velocity and Organizational Performance

Organizational learning velocity (OLV) refers to the speed with which organizations transform information, feedback, and experience into shared understanding, managerial decisions, revised routines, and organizational actions. While traditional organizational learning research focuses on the acquisition, interpretation, and utilization of knowledge, OLV emphasizes the temporal dimension of learning by capturing how quickly learning is converted into action. This distinction is particularly important in startup environments, where delayed responses may lead to missed opportunities, slower adaptation, and reduced competitiveness.

Although several established constructs address organizational adaptation and learning, none explicitly focus on learning speed. Organizational learning capability emphasizes a firm's ability to acquire and use knowledge, absorptive capacity focuses on acquiring, assimilating, transforming, and exploiting external knowledge, and dynamic capabilities explain how organizations sense opportunities, seize resources, and reconfigure capabilities in changing environments Jansen et al.(2006). While these perspectives provide valuable insights into organizational adaptation, they do not directly capture the rate at which learning is translated into organizational action.

OLV is conceptually related to absorptive capacity because both involve the utilization of information and knowledge. Research shows that absorptive capacity, organizational learning, and innovation capability contribute to innovation and business performance (Cassol and Marietto, 2021; Knoppen et al., 2022; Makhloufi et al., 2021; Pu and Liu, 2023; Sancho-Zamora et al., 2021; Sancho-Zamora et al., 2022). However, these studies focus primarily on learning capability and knowledge utilization rather than on the speed of learning-to-action conversion.

The concept of OLV is also linked to organizational learning and dynamic capabilities research. Organizational learning, absorptive capacity, and dynamic capabilities have been shown to support SME internationalization, innovation performance, and organizational effectiveness (Farzaneh et al., 2021; Kang et al., 2022; Zheng, 2022). Likewise, knowledge management capabilities, organizational agility, and knowledge-based dynamic capabilities positively influence innovation and firm performance (Feng et al., 2022; Hernández-Linares et al., 2021; Li, 2022).

For startups, the speed of learning-to-action conversion is particularly critical Jaworski and Kohli (1993). Organizations that rapidly interpret feedback, revise routines, implement decisions, and adjust strategies are more likely to respond effectively to

customer needs, identify opportunities, correct mistakes, and adapt to environmental changes. Furthermore, dynamic capabilities and ambidextrous learning have been found to strengthen innovation and performance outcomes in SMEs (Ma and Wei, 2026).

Building on this logic, organizational learning velocity is expected to improve organizational performance by enabling startups to convert learning into effective action more quickly than competitors (De Diego Ruiz et al.,2024). Accordingly, startups characterized by higher levels of organizational learning velocity are expected to achieve superior organizational performance.

- H_2: Organizational learning velocity has a positive effect on organizational performance.

2.3. The Mediating Role of Organizational Learning Velocity

Although managerial innovation has the potential to enhance organizational performance, its influence is unlikely to operate solely through a direct path. Rather, its performance implications depend on the organizational mechanisms through which innovative managerial practices are translated into effective action. Managerial innovation refers to the introduction and implementation of new managerial practices, processes, structures, or techniques intended to improve organizational functioning (Birkinshaw et al., 2008). Its performance effect depends on whether such practices enhance the organization's ability to acquire information, distribute knowledge, interpret feedback, make decisions, and implement action.

From this perspective, organizational learning velocity (OLV) represents a key explanatory mechanism through which managerial innovation is translated into organizational performance. The mediating role of OLV is particularly relevant in startup environments, where firms operate under conditions of uncertainty, rapid change, and limited resources. In such contexts, organizational success depends not only on learning but also on how quickly learning is converted into action.

Organizational learning research emphasizes that learning involves knowledge acquisition, information distribution, information interpretation, and organizational memory (Huber, 1991). Similarly, the 4I framework suggests that learning becomes organizationally valuable when insights move from individual intuition and interpretation to collective integration and institutionalized routines (Crossan et al., 1999). Therefore, startups benefit when managerial innovation accelerates these learning processes and reduces the time between information acquisition, interpretation, decision-making, and implementation.

Innovative managerial practices can improve communication, coordination, experimentation, employee participation, and information sharing, thereby reducing barriers to knowledge flow and enabling faster responses to market feedback. As a result, managerial innovation can strengthen organizational learning velocity by helping startups transform feedback, experience, and environmental signals into timely strategic and operational responses. This argument is consistent with evidence showing that decision speed is associated with stronger firm performance (Baum and Wally, 2003) and with research demonstrating that adaptive practices, knowledge management capabilities, and dynamic capabilities improve organizational responsiveness and performance outcomes (Dejardin et al., 2023; Feng et al., 2022; Quansah et al., 2022).

From an organizational learning perspective, learning generates value only when it leads to meaningful action. Dynamic capabilities theory further suggests that organizations create value by integrating, building, and reconfiguring resources in response to changing environments (Teece et al., 1997). In high-velocity markets, such capabilities are often reflected in simple, experiential, and iterative routines that facilitate rapid adaptation (Eisenhardt and Martin, 2000). Managerial innovation provides the structures and processes that support sensing, interpretation, coordination, and reconfiguration, whereas OLV captures the speed with which learning is converted into decisions and actions. Consequently, OLV can be conceptualized as the temporal mechanism through which managerial innovation contributes to organizational performance.

Previous research provides indirect support for this argument. Studies have shown that organizational learning, absorptive capacity, and dynamic capabilities contribute to organizational performance by enhancing knowledge utilization and adaptation (Farzaneh et al., 2021; Kang et al., 2022; Sancho-Zamora et al., 2022; Zheng, 2022). Similarly, Ferreira et al. (2021) show that innovation mediates the relationship between dynamic capabilities and firm performance, while Farzaneh et al. (2022) demonstrate that dynamic capabilities contribute to innovation ambidexterity. However, existing research has focused primarily on learning capability and knowledge processes rather than on the speed with which learning is converted into action. By introducing organizational learning velocity, the present study extends previous research by emphasizing the temporal dimension of organizational learning and its role in explaining performance outcomes.

Accordingly, managerial innovation is expected to improve organizational performance indirectly through its positive effect on organizational learning velocity. Startups that adopt innovative managerial practices should be better able to transform information, feedback, and experience into timely action, thereby achieving superior organizational performance. The proposed conceptual model and hypothesized relationships are presented in Figure 1.

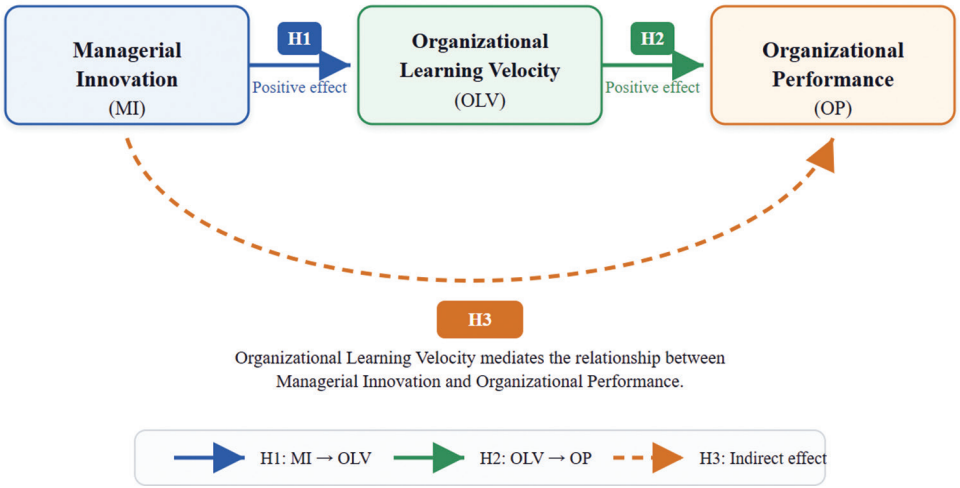
- H_3: Organizational learning velocity mediates the relationship between managerial innovation and organizational performance.

3. METHODOLOGY

3.1. Research Design

This study adopts a quantitative, explanatory, cross-sectional research design to examine the relationships among managerial innovation, organizational learning velocity (OLV), and organizational performance in startups. A survey-based approach is appropriate because the study investigates perceptual managerial and organizational constructs that are commonly measured through

Figure 1: Research model and hypotheses



structured questionnaires in management and entrepreneurship research.

The study employs partial least squares structural equation modeling (PLS-SEM) using SmartPLS 4. PLS-SEM is particularly suitable because the proposed model includes a mediation relationship, introduces a novel construct, and aims to explain variance in organizational performance. The model examines three relationships: (1) the effect of managerial innovation on organizational learning velocity, (2) the effect of organizational learning velocity on organizational performance, and (3) the mediating role of organizational learning velocity in the relationship between managerial innovation and organizational performance.

3.2. Population and Sample

The target population consists of employees, managers, and founders working in Moroccan startups. Morocco was selected as the empirical context because its startup ecosystem has experienced substantial growth in recent years while remaining characterized by resource constraints, institutional transformation, increasing digitalization, and growing competitive pressures. These conditions make Moroccan startups an appropriate setting for examining how managerial innovation influences organizational learning velocity and organizational performance.

Startups were defined as young and growth-oriented firms operating under conditions of uncertainty and innovation. Data were collected from startups operating across multiple industries, including technology, digital services, manufacturing, retail, education, and financial technology.

A non-probability sampling approach combining purposive and snowball sampling was employed. Respondents were recruited through startup incubators, accelerators, entrepreneurship networks, LinkedIn, and professional associations. A total of 600 valid responses were retained for the final analysis. This sample size exceeds the minimum requirements for PLS-SEM and provides sufficient statistical power for testing the proposed mediation model.

3.3. Data Collection Procedure

Data were collected through an online questionnaire. Prior to the main survey, a pilot test involving 30 respondents was conducted to evaluate item clarity, wording, and preliminary reliability. Based on participant feedback, minor modifications were made to improve questionnaire clarity.

Participation was voluntary, and respondents were informed that their responses would remain anonymous and confidential. Several procedural remedies were implemented to reduce the potential impact of common method bias, including assuring respondent anonymity, using clear and concise wording, separating questionnaire sections, and informing respondents that there were no right or wrong answers.

3.4. Measurement of Constructs

All constructs were measured using multi-item scales. Managerial innovation and organizational performance were measured using established scales adapted from prior research. Organizational learning velocity (OLV) was introduced as a novel construct and measured using a six-item scale developed specifically for this study.

All items were measured using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The use of a seven-point scale is consistent with prior management and entrepreneurship research and allows greater response variability. The measurement items used for the study constructs are presented in Table 1.

For Managerial Innovation, the measurement items were adapted from Vaccaro et al. (2012) and supported by the conceptual framework proposed by Khosravi et al. (2019). Organizational Performance was measured using subjective performance indicators adapted from Wiklund and Shepherd (2005).

Organizational learning velocity (OLV) was introduced as a novel construct and measured using a six-item scale developed specifically for this study. The scale was derived from the theoretical foundations of organizational learning and dynamic capabilities and was designed to capture the speed with which

Table 1: Measurement of constructs

Construct	Measurement source	Number of items	Scale	Measurement model
Managerial innovation	Adapted from Vaccaro et al. (2012) and Khosravi et al. (2019)	5	7-point Likert scale	Reflective
Organizational learning velocity (OLV)	Developed in this study based on the proposed OLV definition	6	7-point Likert scale	Reflective
Organizational performance	Adapted from Wiklund and Shepherd (2005)	5	7-point Likert scale	Reflective

Table 2: Organizational learning velocity (OLV) items

Code	Item
OLV1	Our startup quickly identifies important information from customers, markets, and operations.
OLV2	Our startup rapidly understands the implications of new information and feedback.
OLV3	New insights are quickly shared among relevant members of the startup.
OLV4	Our startup rapidly converts new learning into managerial decisions.
OLV5	Changes based on new learning are implemented quickly within the startup.
OLV6	Our startup rapidly transforms feedback and experience into revised routines, processes, or actions.

organizations transform information, feedback, and experience into shared understanding, managerial decisions, revised routines, and organizational actions.

Organizational learning velocity (OLV) was operationalized as the speed with which startups transform information, feedback, and experience into shared understanding, managerial decisions, revised routines, and organizational actions. The six-item scale was refined through pilot testing to improve clarity and content validity. Table 2 summarizes the measurement items developed to assess Organizational Learning Velocity.

3.5. Data Analysis Technique

Data analysis was conducted using SmartPLS 4 following a two-stage approach. Following the recommendations of Hair et al. (2022), the analysis proceeded through separate assessments of the measurement model and the structural model.

First, the measurement model was assessed through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Reliability was evaluated using Cronbach's alpha, composite reliability (CR), and rho_A, while convergent validity was assessed through indicator loadings and average variance extracted (AVE). Discriminant validity was examined using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT).

Second, the structural model was evaluated using path coefficients, t-values, P-values, confidence intervals, coefficients of determination (R^2), and collinearity statistics (VIF). Hypothesis testing was conducted using bootstrapping with 10,000 subsamples and a significance level of 0.05.

The mediating role of organizational learning velocity was assessed through the significance of the indirect effect between managerial innovation and organizational performance. Mediation was evaluated using bootstrapped indirect effects and bias-corrected confidence intervals.

Table 3: Respondent profile (n=600)

Characteristic	Category	Frequency	Percentage
Gender	Male	360	60.0
Gender	Female	240	40.0
Age	Under 25	120	20.0
Age	25–34	280	46.7
Age	35–44	150	25.0
Age	45 and above	50	8.3
Position	Employee	270	45.0
Position	Manager	210	35.0
Position	Founder/Owner	120	20.0
Industry	Technology	180	30.0
Industry	Digital services	140	23.3
Industry	Retail	90	15.0
Industry	Manufacturing	80	13.3
Industry	Education	60	10.0
Industry	FinTech	50	8.4
Startup age	<3 years	260	43.3
Startup age	3–5 years	210	35.0
Startup age	More than 5 years	130	21.7

Table 4: Reliability and Convergent validity

Construct	Cronbach's alpha	rho_A	Composite reliability	AVE
MI	0.934	0.936	0.950	0.790
OLV	0.954	0.955	0.963	0.812
OP	0.905	0.905	0.929	0.724

4. RESULTS

4.1. Respondent Profile

A total of 600 valid responses were collected from employees, managers, founders, and owners working in Moroccan startups operating across various industries. Table 3 presents the demographic characteristics of the respondents.

The sample was dominated by male respondents (60.0%), while female respondents represented 40.0% of the sample. Most participants were between 25 and 34 years old (46.7%). Employees represented 45.0% of respondents, followed by managers (35.0%) and founders/owners (20.0%). Technology and digital services accounted for more than half of the participating startups, reflecting the growing importance of knowledge-intensive entrepreneurial ventures within the Moroccan startup ecosystem.

4.2. Measurement Model Assessment

The reliability and validity of the reflective constructs were assessed using Cronbach's alpha, composite reliability (CR), rho_A, average variance extracted (AVE), and the Heterotrait-Monotrait ratio (HTMT). The reliability and convergent validity results for the study constructs are reported in Table 4.

All Cronbach's alpha values exceeded the recommended threshold of 0.70, indicating strong internal consistency reliability. Similarly, composite reliability values ranged from 0.929 to 0.963, exceeding the recommended threshold of 0.70. The AVE values ranged from 0.724 to 0.812, exceeding the recommended threshold of 0.50 and supporting convergent validity.

Discriminant validity was assessed using the HTMT criterion, as shown in Table 5.

All HTMT values were below the recommended threshold of 0.85, supporting satisfactory discriminant validity and indicating that the constructs measured distinct conceptual phenomena.

Indicator collinearity was assessed using outer-model variance inflation factor (VIF) values. The VIF values ranged from 2.194 to 4.752, remaining below the recommended threshold of 5.0. These results indicate that multicollinearity among the indicators was not a concern and that collinearity did not threaten the estimation of the measurement model.

4.3. Structural Model Assessment and Hypothesis Testing

The structural model was evaluated using path coefficients, t-statistics, P-values, and coefficients of determination (R^2). Hypothesis testing was conducted using bootstrapping with 10,000 resamples.

As shown in Table 6, Managerial Innovation explained 40.8% of the variance in Organizational Learning Velocity. Furthermore, managerial innovation and organizational learning velocity jointly explained 38.2% of the variance in organizational performance. According to Hair et al. (2022), these values indicate moderate explanatory power and suggest that the model provides a meaningful explanation of learning and performance outcomes within Moroccan startups. The structural model results obtained from the PLS-SEM analysis are presented in Figure 2.

As reported in Table 7, managerial innovation had a significant positive effect on organizational learning velocity ($\beta = 0.639$, $t = 11.201$, $P < 0.001$), supporting H_1. Likewise, organizational learning velocity had a significant positive effect on organizational performance ($\beta = 0.557$, $t = 6.067$, $P < 0.001$), supporting H_2.

In contrast, the direct relationship between managerial innovation and organizational performance was not statistically significant ($\beta = 0.082$, $t = 0.848$, $P = 0.396$).

Table 5: HTMT matrix

Construct	MI	OLV	OP
MI	–		
OLV	0.674	–	
OP	0.481	0.660	–

Table 6: Coefficient of determination (R^2)

Endogenous construct	R^2	Adjusted R^2
OLV	0.408	0.407
OP	0.382	0.380

4.4. Mediation Analysis

The mediating role of organizational learning velocity was assessed through the significance of the indirect effect between managerial innovation and organizational performance.

As shown in Table 8, the indirect effect of managerial innovation on organizational performance through organizational learning velocity was positive and statistically significant ($\beta = 0.355$, $t = 5.198$, $P < 0.001$). Furthermore, the confidence interval did not include zero, supporting the significance of the mediation effect.

The mediation results indicate that organizational learning velocity plays a central role in explaining how managerial innovation influences organizational performance. Although managerial innovation did not exert a significant direct effect on organizational performance, it significantly enhanced organizational learning velocity, which subsequently exerted a significant positive effect on organizational performance.

Given that the indirect effect was significant while the direct effect was not significant, the findings indicate an indirect-only mediation pattern, commonly interpreted as full mediation. Therefore, the results provide empirical support for H_3 and suggest that the performance benefits of managerial innovation are realized primarily through its ability to accelerate organizational learning velocity. In other words, innovative managerial practices contribute to organizational performance when they enhance the speed with which organizations acquire, interpret, share, and apply knowledge in response to changing conditions.

4.5. Summary of Findings

The findings provide support for the proposed research model. First, managerial innovation was found to have a significant positive effect on organizational learning velocity, indicating that innovative managerial practices facilitate faster learning and adaptation processes within startups. Second, organizational learning velocity significantly enhanced

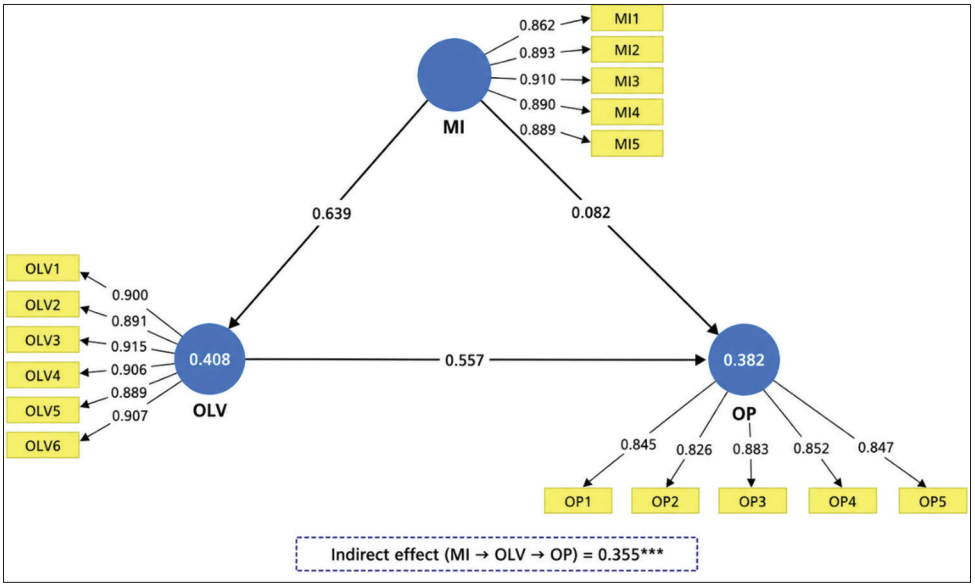
Table 7: Direct effects and hypothesis testing

Hypothesis	Relationship	β	t-value	P-value	Decision
H_1	MI→OLV	0.639	11.201	<0.001	Supported
H_2	OLV→OP	0.557	6.067	<0.001	Supported
–	MI→OP	0.082	0.848	0.396	Not significant

Table 8: Mediation analysis

Indirect relationship	β	t-value	P-value	95% Confidence interval	Decision
MI → OLV → OP	0.355	5.198	<0.001	(0.228; 0.497)	Supported

Figure 2: Structural model results



Values on the arrows are standardized path coefficients. Values inside the circles are R^2 values. ***P < 0.001

organizational performance, suggesting that startups benefit when they rapidly transform information, feedback, and experience into organizational action.

Finally, the mediation analysis revealed that organizational learning velocity fully mediates the relationship between managerial innovation and organizational performance. This finding highlights the importance of learning speed as the mechanism through which managerial innovation is translated into improved organizational outcomes. Collectively, the results suggest that managerial innovation contributes to startup performance primarily by increasing the speed with which organizations learn and act upon new knowledge and environmental feedback.

5. DISCUSSION

This study examined the relationships among managerial innovation, organizational learning velocity (OLV), and organizational performance in Moroccan startups. The findings provide support for all proposed hypotheses and highlight the importance of learning speed as a mechanism linking managerial innovation to organizational outcomes.

5.1. Managerial Innovation and Organizational Learning Velocity

The results showed that Managerial Innovation is positively associated with organizational learning velocity ($\beta = 0.639$, $P < 0.001$), supporting H_1. This finding suggests that innovative managerial practices, such as flexible communication structures, decentralized decision-making, and agile work processes, facilitate faster learning and adaptation within startups.

The result is consistent with previous studies emphasizing the role of managerial capabilities and management innovation in organizational adaptation and change (Birkinshaw et al., 2008; Heubeck, 2024). From a dynamic capabilities perspective (Teece et al., 1997), innovative managerial systems help organizations process information more efficiently and respond more rapidly to environmental challenges.

5.2. Organizational Learning Velocity and Organizational Performance

The findings also revealed a positive association between organizational learning velocity and organizational performance ($\beta = 0.557$, $P < 0.001$), supporting H_2. This result suggests that startups benefit when they rapidly transform information, feedback, and experience into decisions and organizational actions.

This finding extends organizational learning research by emphasizing that learning effectiveness depends not only on acquiring knowledge but also on the speed with which learning is converted into action. Consistent with organizational learning theory (Huber, 1991; Crossan et al., 1999), startups that accelerate learning cycles appear better positioned to adapt to changing market conditions and improve performance outcomes.

5.3. The Mediating Role of Organizational Learning Velocity

The mediation analysis showed that organizational learning velocity significantly mediates the relationship between managerial innovation and organizational performance. While the indirect effect was significant ($\beta = 0.355$, $P < 0.001$), the direct effect of managerial innovation on organizational performance was not significant ($\beta = 0.082$, $P = 0.396$). These findings indicate an indirect-only mediation pattern, commonly interpreted as full mediation.

This finding provides empirical support for the argument that the benefits of managerial innovation are realized primarily through accelerated learning processes. Rather than exerting a direct influence on organizational performance, managerial innovation appears to create value by enhancing the speed with which

organizations transform information, feedback, and experience into effective action.

5.4. Theoretical and Managerial Implications

The study contributes to the literature by introducing organizational learning velocity as a temporal extension of organizational learning research. While previous studies have focused on learning capability, absorptive capacity, and dynamic capabilities, relatively limited attention has been devoted to the speed with which learning is converted into organizational action. The findings suggest that learning speed represents an important mechanism linking managerial innovation to organizational performance, thereby extending current understanding of organizational adaptation within startup environments.

From a managerial perspective, the findings suggest that startup leaders should focus on reducing learning and decision-making delays, strengthening knowledge-sharing mechanisms, encouraging experimentation, and improving communication processes. Such practices may help accelerate organizational learning velocity and enhance organizational performance.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

This study investigated the relationships among managerial innovation, organizational learning velocity, and organizational performance within Moroccan startups. Using data from 600 respondents and PLS-SEM analysis, the findings showed that Managerial Innovation is positively associated with organizational learning velocity, while organizational learning velocity is positively associated with organizational performance.

The mediation analysis further revealed that organizational learning velocity explains the relationship between managerial innovation and organizational performance. These findings highlight the importance of learning speed as a mechanism through which innovative managerial practices are translated into organizational outcomes.

6.2. Recommendations

Based on the findings, several recommendations can be proposed.

First, startup managers should implement managerial practices that accelerate the transformation of information and feedback into organizational action. Reducing delays in decision-making and implementation may improve organizational performance.

Second, startups should strengthen internal communication and knowledge-sharing mechanisms to facilitate faster learning and coordination across teams.

Third, startup incubators and accelerators should provide training programs that help entrepreneurs develop managerial capabilities and rapid learning processes.

Fourth, organizations should monitor learning speed indicators, such as the time required to identify problems, make decisions, and implement changes.

Finally, policymakers should continue supporting initiatives that strengthen managerial innovation and organizational learning within startup ecosystems.

6.3. Limitations and Future Research

This study has several limitations. First, the use of a cross-sectional design limits the ability to draw causal conclusions. Second, the research focused exclusively on Moroccan startups, which may limit the generalizability of the findings. Third, the study relied on self-reported organizational-level constructs, which may introduce respondent bias.

Future research may further validate the organizational learning velocity scale across different organizational and cultural contexts and examine its relationship with established constructs such as absorptive capacity, organizational learning capability, and decision speed. Researchers may also investigate additional antecedents of OLV, including leadership styles, organizational culture, digital transformation capabilities, and entrepreneurial orientation. Finally, longitudinal studies could provide deeper insights into how Organizational Learning Velocity evolves over time and influences organizational performance throughout different stages of startup development.

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