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ARTIFICIAL INTELLIGENCE CAPABILITIES AND SUSTAINABLE FINTECH INNOVATION IN JORDANIAN SMES THE MEDIATING ROLE OF ENVIRONMENTAL COMMITMENT

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ABSTRACT

The increased integration of artificial intelligence with sustainable financial technology introduced new opportunities to innovate and improve financial practices and performance among small and medium-sized businesses, enabling them to become more environmentally responsible. SMEs in Jordan were under increasing pressure to develop advanced technological capacity, enhance operational flexibility, and align their business models with sustainability-oriented market demands. Despite previous research on the importance of artificial intelligence in business development and on sustainability issues in financial technology, little empirical research had examined the impact of artificial intelligence capabilities on sustainable FinTech innovation and whether environmental commitment mediated this relationship. This paper examined how artificial intelligence capabilities influenced sustainable FinTech innovation in Jordanian SMEs and explored the mediating effect of environmental commitment. A quantitative research design was used, and data were collected from SMEs operating in Jordan. Appropriate statistical techniques were used to test the proposed relationships and to determine both the direct impact of artificial intelligence capabilities on sustainable FinTech innovation and the indirect impact through environmental commitment. The results indicated that artificial intelligence capabilities had a significant positive impact on sustainable FinTech innovation. The findings also revealed that environmental commitment served as a mediating factor, enabling SMEs to convert artificial intelligence capabilities into more innovative, environmentally responsible, and sustainable financial technology practices. The results suggested that Jordanian SMEs that invested in artificial intelligence solutions and strengthened their environmental commitment were better positioned to develop sustainable FinTech innovation and enhance their future competitiveness. The study offered valuable implications for managers, investors, and decision-makers interested in promoting digital transformation and environmental sustainability among Jordanian SMEs.

KEYWORDS: Decision-Support Capability, Managerial Capability, Change Capability, Sustainable FinTech Innovation, Environmental Commitment.

1. INTRODUCTION

One of the most significant technological drivers of the contemporary business environment is artificial intelligence, which is boosting data processing, predictive analytics, decision quality, and organizational responsiveness (Bertello et al., 2024). Conceptualization of artificial intelligence capability at the firm level has been developed through past studies, which view AI capability as a collection of resources and competencies that enable organizations to create value and enhance performance through AI-enabled activities (Rehman et al., 2024). This makes AI particularly applicable to business models that require speed, intelligence, accuracy, and constant adaptation in uncertain, technology-heavy environments. Simultaneously, the financial sector is undergoing a wide-scale digital transformation, in which innovation is anticipated to contribute not only to efficiency and inclusivity but also to sustainability (Kusnadi et al., 2023). This change can be observed in the increasing policy and institutional focus on digital finance, electronic payments, financial inclusion, fintech innovation, and finance in Jordan. Official evaluations in the recent past have characterized the digital finance ecosystem of Jordan as a significant part of the economic transformation of the country, with the Central Bank of Jordan having pursued a fintech and innovation vision, national electronic payments strategy, and finance strategy to enhance the digital and sustainability orientation of the financial system(Osorno-Hinojosa et al., 2022). The developments imply that Jordan offers a valuable context for analyzing how advanced technological capacities can be leveraged to facilitate more sustainable forms of financial innovation. This is a concern, especially for small and medium-sized enterprises (Vaismoradi et al., 2013). In Jordan, the growth of MSMEs, entrepreneurship, and access to finance continue to be priorities in development, and the World Bank reports that MSMEs account for almost half of private-sector employment. Meanwhile, the financial inclusion diagnostics for Jordan reveal that the local fintech market is dynamic, particularly in digital payments and platform-based services. These circumstances put pressure on SMEs (Singh, 2022). The ever-more digital economy requires them to compete with limited resources, mounting sustainability requirements, and strong pressure to develop innovations in ways that are both financially sustainable (Zhang et al., 2024). AI capabilities can be used as a strategic lever, helping SMEs redesign financial operations, improve analytical effectiveness, identify opportunities for sustainability, and foster more adaptive innovation practices. Sustainable FinTech innovation is a potentially promising but untapped area in this changing landscape. It transcends traditional digital finance by placing focus on innovation in financial technologies that enhance efficiency, customer value, and business competitiveness without compromising environmental responsibility and long-term sustainability objectives. The literature on sustainable finance demonstrates that financial innovation is increasingly linked to environmental and social issues, and new research on fintech implementation indicates that digital financial services can help achieve sustainable outcomes for SMEs and other companies (Chadee et al., 2025). This means that AI's usefulness in fintech-driven SMEs might be confined to automation or analytical enhancement, as well as the creation of more sustainable and innovation-driven financial practices. AI capabilities can be automatically translated into sustainable Fintech innovation (Chu et al., 2024). One of the key organizational processes in this relationship is environmental commitment, which is the degree to which a company incorporates environmental issues into its strategic goals and priorities, internal values, and operational choices. Recent studies indicate that environmental promises, as well as environmental capabilities, can evoke innovation-oriented conduct, whereas sustainability-related orientations tend to influence the ability to transform internal assets into eco-innovation and competitive performance. Studies targeting SMEs also show that digitalization and internal environmental capabilities tend to enhance sustainable performance through environmentally oriented innovation (Venturini, 2012). In this regard, environmental commitment may be considered the organizational state that prompts Jordanian SMEs to focus AI-enabled intelligence on sustainable fintech-based innovation rather than on efficiency. The literature on the subject, however, remains incoherent despite the growing topicality of these themes. One stream has studied AI capabilities and organizational performance, one has studied fintech development and digital financial inclusion, and one has studied environmental commitment, eco-innovation, or sustainable business performance. However, little empirical attention has been paid to the overlap between these streams, especially in the case of Jordanian SMEs (Garud et al., 2014). To be more precise, there is a lack of studies that determine whether the potential of artificial intelligence can be

used to increase the sustainability of FinTech innovation and whether environmental commitment provides the mechanism for intensifying and increasing the strategic value of this effect (Li et al., 2017). This disconnect is significant, as companies in emerging economies are not only supposed to be digital adopters but also to turn them into innovation products that are both financially viable, strategically scalable, and environmentally friendly (Saviotti & Pyka, 2004). The study explores the influence of artificial intelligence capabilities on sustainable FinTech innovation among Jordanian SMEs and analyzes the mediating role of environmental commitment. The study contributed to literature in three ways. First, it expanded the scope of AI capability research to sustainable FinTech innovation, an area that had received limited empirical attention. Second, it introduced environmental commitment as a mediating variable to explain how technological capability was transformed into sustainability-oriented financial innovation (Ziemnowicz & Joseph, 1942). Third, it provided practical insights for SME managers, investors in Jordan, and policy actors seeking to strengthen digital transformation while maintaining environmental priorities and long-term competitiveness. The remainder of the paper proceeded with the literature review and hypothesis development, followed by methodology, results, discussion, and conclusion.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The capabilities of artificial intelligence have increasingly been recognized as an organizational strategic resource that can assist firms in creating value from developed digital technologies (Yun et al., 2024).The study defines AI capability as a company-level competence based on technological assets, human knowledge, and company preparedness, and demonstrates that it helps in organizational creativity and performance (Vial, 2021). Recent research suggests that AI's potential generates value by transforming major organizational processes and enhancing the firm's capacity to become digital. The study on sustainable finance and fintech proposes that fintech can help SMEs move towards more sustainable business models, but there is limited evidence that fintech development can also be used to promote green innovation and sustainability-focused performance (Li et al., 2023). In Jordan, recent research on fintech businesses also shows that sustainability-related practices are increasingly relevant to performance outcomes. Combined, these streams indicate that AI capabilities can be a significant antecedent of sustainable FinTech innovation, especially when companies are truly dedicated to environmental concerns (Frank et al., 2019).

2.1 Change Capability and Environmental Commitment

Change capability was defined as the firm's ability to reorganize routines, modify structures, overcome resistance, and align internal processes with new strategic priorities (Jafari-Sadeghi et al., 2021). From the perspective of dynamic capabilities, sustainability-oriented transformation was not achieved through isolated technological adoption, but through the organization's ability to adapt and redefine its operating logic over time (Zhao et al., 2024).Studies on sustainability-oriented innovation showed that firms moved toward sustainable innovation by developing capabilities related to adaptation, renewal, and transformation. Related evidence also indicated that organizational change capability strengthened the relationship between innovation and sustainability outcomes (Cozzi, 2023). In the context of artificial intelligence, capabilities generated value by driving change in organizational activities rather than remaining static technical resources. This argument suggested that SMEs with stronger change capability were more likely to integrate environmental concerns into their internal priorities, policies, and behaviors, thereby strengthening environmental commitment. Firms that managed to change effectively were better positioned to institutionalize environmental values, align employees with sustainability expectations, and embed environmentally responsible thinking into day-to-day decision-making. This capability was particularly important in Jordanian SMEs, where resource constraints often limited the pace of transformation, because it helped firms ensure that AI-enabled transformation was translated into a more consistent environmental orientation rather than remaining limited to isolated digital experimentation. Therefore, the following hypothesis was proposed:

H1: Change Capability positively affects Environmental Commitment.

2.2 Change Capability and Sustainable FinTech Innovation

Sustainable FinTech innovation is the process of developing or enhancing products, services, processes, or business practices that leverage fintech to generate financial value while being consistent with sustainable goals. The sustainable innovation

literature consistently argues that sustainable innovation requires organizational change, not operational fine-tuning. Research on dynamic capabilities shows that sustainable innovation occurs when companies can restructure resources, revitalize business operations, and adapt their strategies to shifts in the environment and market demands. Recent results show that organizational change capability enhances the innovation-sustainability relationship, and AI-related knowledge and organizational renewal foster innovation outcomes with sustainability implications. Sustainable fintech innovation usually requires new digital financial service habits, redesigned customer interfaces, governance, and the incorporation of sustainability criteria into financial processes. Such changes cannot be realized without a powerful internal change potential. Therefore, SMEs that are more change-capable ought to be in a better position to turn AI-enabled change into new, more sustainable fintech solutions that are also innovative. Therefore, the following hypothesis is proposed.

H2: Change Capability positively affects Sustainable FinTech Innovation.

2.3 Decision-Support Capability and Environmental Commitment

Decision-support capability measures the firm's capacity to collect, process, analyze, and utilize information to influence managerial judgment and organizational activity (Alawneh et al 2025). In intelligent settings, decision-support systems enhance the quality of complex data processing, operational efficiency, predictive analysis, and the quality of strategic decisions. Recent evaluations of AI-based decision-support systems indicate that AI-based systems enhance productivity, quality, resource utilization, and operational reliability. At the sustainability level, integrated decision-support tools are increasingly regarded as a means for organizations to strike a balance between economic and environmental concerns in a more methodical manner. Related studies also indicate that digital ability enhances the performance of green innovation, partly by providing an informational foundation for environmentally oriented decisions. This implies that decision-support capability has the potential of enhancing environmental commitment through making environmental issues more visible, measurable, and actionable. With more accessible AI-driven information on energy consumption, risk-taking, sustainability trade-offs, and long-term efficiency, environmental issues are better positioned to be incorporated into the organizational agenda and not just symbolic declarations. Stronger decision-support capability can be used to defend and sustain a more serious environmental commitment in SMEs, where strategic choices are often constrained by limited resources. Therefore, the following hypothesis is proposed.

H3: Decision-Support Capability positively affects Environmental Commitment.

2.4 Decision-Support Capability and Sustainable FinTech Innovation

The connection between decision-support capability and innovation rests on the idea that decision quality enhances opportunity identification, resource allocation, and strategic responsiveness. AI-driven decision-support systems aid companies in assessing multifaceted alternatives, anticipating, detecting inefficiencies, and reacting more swiftly to dynamic business environments. Recent AI and innovation literature indicates a strong positive correlation between AI use and enterprise innovation capability. Other related studies on digital capability also show that data-driven decision support enhances the firm's capacity to advance green innovation. The wider literature in the fintech sector indicates that financial technologies may be used to support the shift toward more sustainable business models and help drive sustainability by upgrading technology and innovating.

In the case of Jordanian SMEs, decision-support capability will be particularly applicable to sustainable FinTech innovation, as it requires high precision in financial understanding, high throughput, flexible service design, and the ability to assess risks. As AI systems enhance the quality of financial and sustainability-related decisions, companies can be better positioned to develop or enhance innovative, environmentally aligned digital financial practices. This contributes to the fact that greater decision-support capability will enhance the chances of sustainable FinTech innovation. Therefore, the following hypothesis is proposed.

H4: Decision-Support Capability positively affects Sustainable FinTech Innovation.

2.5 Environmental Commitment and Sustainable FinTech Innovation

Environmental commitment is the extent to which a company is truly concerned about environmental issues in its strategic orientation, managerial values, and operational decisions. It is not just a matter of formality, since it indicates that an organization is willing to devote attention and resources to environmentally responsible activities. Earlier studies

have found that the strategic commitment to environmental issues is positively linked with innovation, especially process innovation. Evidence on large-scale SME also suggests that the commitment to resource-efficiency actions drives the transition to sustainability and is supported by technological change, cooperation, and business advice. Within the Jordanian fintech environment, sustainable practices and an ESG orientation are already discussed as aspects of fintech performance and responsible development. Environmentally focused companies are more inclined to adopt fintech solutions to minimize waste, enhance transparency, promote responsible investment reasoning, and align digital finance with sustainability objectives. Environmental commitment provides clear direction for innovation by encouraging companies to view ecological issues as value-creating rather than a limiting factor. This could inform the creation of new fintech services and digital financial processes that are more sustainable in intent and outcomes for SMEs. Therefore, the following hypothesis is proposed.

H5: Environmental Commitment positively affects Sustainable FinTech Innovation.

2.6 Managerial Capability and Environmental Commitment

Managerial capability is the ability of managers to make sense of information, allocate resources, coordinate action, frame strategic priorities, and guide organizational adjustment. Managerial factors have repeatedly been found to drive environmental orientation in sustainability-related research. The results demonstrate that individual dynamic capabilities of managers facilitate greater social and environmental commitment, whereas executive responsibility and discretion are related to greater corporate environmental commitment. More recent studies also find that managerial perceptions are relevant to the adoption of environmental strategies, and that organizational resources and capabilities are highly related to their implementation.

Managerial capability becomes even more vital in the context of AI-enabled SMEs, as managers need to make sense of AI-generated insights, balance the possibilities of technology with the constraints of the business, and lead the firm toward responsible strategic action. The more capable the managers are, the more they will recognize the long-term value of environmental responsibility and incorporate it into the firm's strategic and operating agenda. This is why managerial ability should lead to greater environmental commitment among Jordanian SMEs. Therefore, the following hypothesis is proposed.

H6: Managerial Capability positively affects Environmental Commitment.

2.7 Managerial Capability and Sustainable FinTech Innovation

Innovation also relies on managerial capability, since it seldom results from technology alone. It relies on leaders who can feel our opportunities, bring resources together, be champions of experimentation, and align innovation efforts with the organization's overall objectives. Studies on sustainable innovation indicate that managerial and organizational capabilities are among the pillars of success for sustainable-oriented innovation. Recent data also suggest that managerial and technical AI knowledge has a substantial positive impact on disruptive innovation, whereas AI capability, in general, positively influences innovation capability and responsible innovation. These results indicate that the management aspect of AI capability is never peripheral but a significant process by which companies transform digital intelligence into innovation outcomes. For Jordanian SMEs seeking sustainable fintech innovation, managerial capability is a key issue, as managers decide whether AI tools are applied solely for efficiency or as a platform to develop new sustainable financial practices. Greater managerial capacity can help companies integrate strategic vision, digital insights, and sustainability agendas to facilitate innovation in fintech procedures, products, and services. Thus, the hypothesis below is put forward.

H7: Managerial Capability has a positive impact on Sustainable FinTech Innovation.

The suggested framework presupposes that three dimensions of artificial intelligence capabilities, i.e., change capability, decision-support capability, and managerial capability, have a direct impact on sustainable FinTech innovation, as well as an indirect impact on it through the commitment to the environment. This rationale aligns with the resource-based and dynamic capabilities perspectives, implying that companies produce better outcomes when technological and management capabilities are translated into innovation through aligned organizational values and adaptive internal processes.

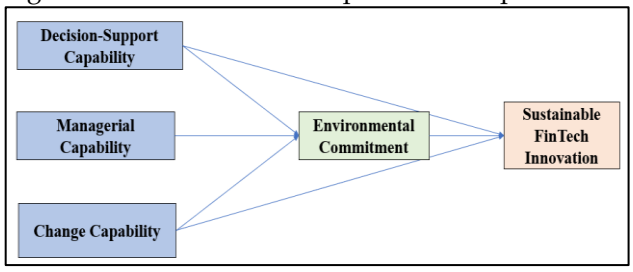

Fig. 1: Research Model.

3. DATA AND SAMPLE

Consistent with the existing body of literature, which highlights the need to develop an appropriate scientific methodology founded on established empirical research, the current study has chosen its sample of participants among the small and medium-sized enterprises in Jordan, where digital transformation, innovation, and sustainability-oriented practices are gaining momentum toward long-term competitiveness and business survival. The population under investigation was SMEs with presence in Jordan who have implemented, or are planning to implement into their business activities, artificial intelligence applications, digital financial tools, and sustainability-related managerial practices. These organizations were deemed suitable to the aims of this study since the research aims to measure the role of artificial intelligence capabilities in sustainable FinTech innovation and the mediation of environmental commitment in this connection in a dynamic SME environment. The study was based on primary data that were gathered using a structured questionnaire that was sent to the participants who had direct roles that were related to digital operations, managerial decision making, in innovation activities, environmental practices, finance and strategic planning. The respondents targeted consisted of the owners, the general managers, the financial managers, the operations managers, the information technology managers, the digital transformation managers, the innovation managers, the sustainability officers and the senior administrative personnel. These respondents were chosen according to their perceived capacity to give informed evaluations about the technological and managerial capabilities of their companies, the level of organizational commitment to environmental concern, and how the firm is orientated towards sustainable FinTech innovation. Their roles had positioned them in an apt environment to assess the study constructs with adequate familiarity and practical understanding. The sampling frame was constrained to SMEs in Jordan that fulfilled a set of inclusion criteria of active business operations, organizational processes involving the use of digital tools or AI-supported practices, and the ability of the firm to supply credible information on the variables explored in the research. Moreover, organizations were supposed to possess a minimum level of awareness or application in terms of innovation, environmental practices, and digital financial activities in such a way that the variables of the study could be measured meaningfully. The screening stage helped to remove questionnaires with a significant portion of missing data, missing sections, or apparent response bias to enhance consistency and quality of the final data. Consequently, only valid and useable responses were included in the statistical analysis and testing of the hypothesis. The ensuing data gave a suitable empirical basis on the direct and indirect connections hypothesized in the research model. To be more precise, the data contained information on change capability, which refers to the levels to which SMEs can adapt, reorganize and react to the needs of internal and external transformations. The indicators of decision-support capability that were also included in the dataset are the capacity of the organization to apply analytical instruments, digital information, and AI-driven insights to enhance the quality and speed of managerial decisions. Moreover, the information included signs of management ability, which is the ability of managers to guide technological assets, organize business processes, and promote innovation- and sustainability-related agendas. The mediating variable, environmental commitment was measured using the indicators that indicated the level to which the organization expressed being concerned with environmental responsibility and integrating the concern into the strategic and operational orientations of the organization. Lastly, the dependent variable, sustainable FinTech innovation was operationalized by using indicators that reflect the capacity of the firm to design or facilitate innovative financial technology practices that can be aligned with sustainability goals and carry out business development in an environmental-friendly manner. The sample provides a pertinent empirical foundation to test whether artificial intelligence capabilities in terms of change capability, decision-support capability, and managerial capability have direct impacts on sustainable FinTech innovation and indirect impacts by environmental commitment. The variety of the received responses related to the Jordanian SMEs that are engaged in the digital transformation and sustainability-related activities contributes to the relevance of the results and helps to analyze these interconnections within the framework of the current business environment with the technological change, financial innovation, and growing environmental expectations.

The measurement and structure model of the study is provided in Figure 2. The results obtained in the measurements reveal that the loadings of all the indicators are within reasonable ranges and therefore demonstrate a good representation of the latent constructs. The Decision-Support Capability loads between 0.838 to 0.909, Managerial Capability loads

between 0.758 to 0.860, Change Capability loads between 0.792 to 0.931, Environmental Commitment loads between 0.818 to 0.876, and Sustainable FinTech Innovation loads between 0.7 The explained variance in the structural model is high where Environmental Commitment and Sustainable FinTech Innovation have R 2 of 0.571 and 0.811 respectively, thus indicating that the model is highly explanatory. The path coefficients also indicate that Managerial Capability produces the strongest impact on Environmental Commitment (= 0.447), then Change Capability (= 0.306) and Decision-Support Capability (= 0.115). In terms of Sustainable FinTech Innovation, Environmental Commitment has the greatest impact (= 0.444) followed by Managerial Capability (= 0.371) and Change Capability (= 0.160) and the impact of Decision-Support Capability is relatively small (= 0.052) as well. Overall, the number indicates that the model has strong support at the measurement level and that Environmental Commitment is a core factor of the model that elucidates the contribution of artificial intelligence capabilities to sustainable FinTech innovation among Jordanian SMEs.

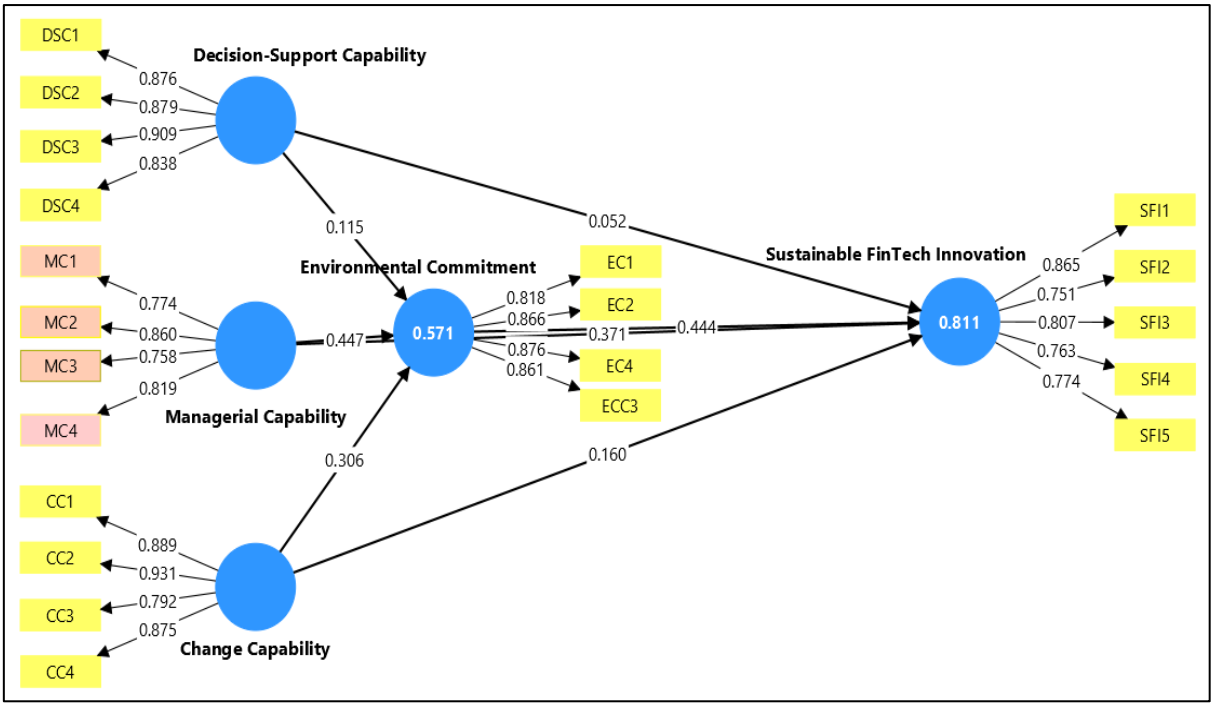

Fig.2: Structural model results.

Table 1. Measurement items and reliability.

Constructs	Items	Factor loadings	Cronbach's Alpha	C.R.	(AVE)
Change Capability	CC1	0.889	0.896	0.928	0.763
	CC2	0.931			
	CC3	0.792			
	CC4	0.875			
Decision-Support Capability	DSC1	0.876	0.899	0.929	0.767
	DSC2	0.879			
	DSC3	0.909			
	DSC4	0.838			
Environmental Commitment	EC1	0.818	0.878	0.916	0.732
	EC2	0.866			
	EC3	0.861			
	EC4	0.876			
Managerial Capability	MC1	0.774	0.818	0.879	0.646
	MC2	0.860			
	MC3	0.758			
	MC4	0.819			
Sustainable FinTech Innovation	SFI1	0.865	0.854	0.894	0.629
	SFI2	0.751			
	SFI3	0.807			
	SFI4	0.763			
	SFI5	0.774			

Table 1 indicates that the reflective measurement model has desirable reliability and convergent validity. First, indicator loading of all indicators is higher than the general recommended indicator reliability. The loadings are between 0.751 and 0.931 which demonstrates that every measurement item has a significant percentage of variance with the target latent construct. More precisely, Change Capability loads range 0.792 0.931, Decision-Support Capability loads range 0.838 0.909, Environmental Commitment loads range 0.818 0.876, Managerial Capability loads range 0.758 0.860, and Sustainable FinTech Innovation loads range 0.751 CC2 (0.931) is the strongest single indicator, DSC3 (0.909) is the next, and the relatively low loading of SFI2 (0.751) and MC3 (0.758) in the model. Nevertheless, these values are still above the acceptable cut-off and thus they do not compromise the reliability of the indicators or warrant the deletion of the items. Outer loadings above 0.708 are usually considered good in PLS-SEM with indicators between 0.40 and 0.70 only being removed when it enhances composite reliability or AVE. Second, both Cronbach alpha and composite reliability (CR) are strong indicators of internal consistency reliability of all constructs. The alpha values of Cronbach are between 0.818 and 0.899, and the composite reliability values are between 0.879 and 0.929 which all exceed the recommended minimum 0.70. These findings support the fact that the items are always able to measure their underlying constructs. Decision-Support Capability has the best internal consistency of alpha = 0.899 and CR = 0.929 with Change Capability coming closely with alpha = 0.896 and CR = 0.928. Environmental commitment also exhibits good scale reliability with alpha =0.878 and CR=0.916. Managerial Capability has the lowest alpha and CR values (0.818 and 0.879, respectively), but these values still lie within the realm of acceptable. The methodology advice of PLS-SEM also indicates that composite reliability is usually desired more than Cronbach alpha since it does not assume the restrictive fact that the indicators carry equal loads. Third, the findings give a clear indication of convergent validity. All constructs have an AVE value above the value of 0.50 with a range of 0.629 to 0.767 implying that a single construct explains more than half the variance in indicators. The strongest convergent validity of the constructs is the Decision-Support Capability (0.767), then Change Capability (0.763), Environmental commitment (0.732), Managerial Capability (0.646) and Sustainable FinTech Innovation (0.629). Even though the AVE of Sustainable FinTech Innovation is the lowest, it still surpasses the minimum and hence meets the requirement of convergent validity. Methodologically speaking, when an AVE of 0.50 or above suggests that a latent construct is capturing more variance among its indicators than can be credited to measurement error.

Table 2. HTMT.

	Change Capability	**Decision-Support Capability**	**Environmental Commitment**	**Managerial Capability**	**Sustainable FinTech Innovation**
Change Capability					
Decision-Support Capability	0.665				
Environmental Commitment	0.694	0.659			
Managerial Capability	0.661	0.769	0.805		
Sustainable FinTech Innovation	0.733	0.694	0.816	0.830	

Table 2 displays the ratios of the HTMT and indicates a definite indication of discriminant validity between the study constructs. In PLS-SEM, discriminant validity is usually determined when the values of HTMT are below the conservative value of 0.85 or by a more lenient value of 0.90. The model reported HTMT values that are 0.659 to 0.830, which implies that the constructs are empirically different to each other, and they are not problematic with overlaps. Thus, the HTMT findings prove that Change Capability, Decision-Support Capability, Environmental Commitment, Managerial Capability, and Sustainable FinTech Innovation represent different conceptual areas of the model, the highest HTMT value is achieved between Managerial Capability and Sustainable FinTech Innovation (0.830), next between Environmental Commitment and Sustainable FinTech Innovation (0.816), These values indicate that these constructs are a bit more strongly connected than the rest, which is theoretically understandable due to their influence on enhancing innovation and organizational sustainability, but they nevertheless fall short of the rigorous 0.85 mark. This means that the constructs are not overlapping or redundant although they are correlated. The values of HTMT are also satisfactorily within acceptable ranges. All relationships between Decision-Support Capability and Managerial Capability (0.769), Change

Capability and Sustainable FinTech Innovation (0.733), Change Capability and Environmental commitment (0.694), Decision-Support Capability and Sustainable FinTech innovations (0.694), Change Capability and Decision-Support Capability (0.665), Change Capability and The minimum value of the HTMT, between Decision-Support Capability and Environmental Commitment, also shows that there is more empirical difference between the two constructs in the measurement model.

Table 3: Fornell-Larcker.

	Change Capability	Decision-Support Capability	Environmental Commitment	Managerial Capability	Sustainable FinTech Innovation
Change Capability	0.873				
Decision-Support Capability	0.603	0.876			
Environmental Commitment	0.630	0.592	0.856		
Managerial Capability	0.571	0.657	0.696	0.804	
Sustainable FinTech Innovation	0.682	0.654	0.833	0.805	0.793

Table 3 gives a mixed outcome regarding discriminant validity. The square root of the AVEs of each construct according to the Fornell-Larcker criterion in the diagonal must be bigger than the maximum correlation of the construct with any other construct in the model. This is the conventional comparison that is employed in PLS-SEM to determine whether a construct has more variance in common with its own indicators as compared to other constructs. Simultaneously, recent Smart-PLS advice points out that the Fornell-Larcker criterion is comparatively feeble in identifying problems of discriminant validity, this is the reason why scholars also tend to report HTMT. In the case of Change Capability, the value of the diagonal is 0.873, which is greater than its correlations with Decision-Support Capability (0.603), Environmental Commitment (0.630), Managerial Capability (0.571), and Sustainable FinTech Innovation (0.682). This indicates that Change Capability satisfies the Fornell–Larcker criterion. Similarly, Decision-Support Capability satisfies the requirement since its diagonal of 0.876 is higher than all the other respective correlations with the highest of 0.657 with Managerial Capability. Environmental Commitment is also acceptable as its diagonal value of 0.856 is larger than its correlations with Change Capability (0.630), Decision-Support Capability (0.592), Managerial Capability (0.696), and Sustainable FinTech Innovation (0.833), though the latter comparison is quite close and indicates a significant overlap in the conceptualization of these two construct In the case of Managerial Capability, the diagonal value is 0.804 but its correlation with Sustainable FinTech Innovation is 0.805, which is a bit better. This implies that Managerial Capability fails to exhibit adequate discriminant validity when compared to Sustainable FinTech Innovation when the Fornell-Larcker test is used. This is even more significant in the case of Sustainable FinTech Innovation, where a diagonal value equals 0.793, whereas the correlations with Environmental Commitment (0.833) and Managerial Capability (0.805) are higher than diagonal. This is a clear indication that Sustainable FinTech Innovation is not different enough against the two constructs based on the Fornell Larcker criterion.

Table 4: R-square adjusted.

	R-square	R-square adjusted
Environmental Commitment	0.571	0.567
Sustainable FinTech Innovation	0.811	0.808

According to Table 4, the structural model has significant explanatory power. Environmental commitment adjusted R 2 equals 0.567, indicating that the combination of Change Capability, Decision-Support Capability and Managerial Capability explain 56.7% of the difference in Environmental commitment. This shows that there is moderate predictive accuracy or substantial predictive accuracy. Moreover, the R2 adjusted of Sustainable FinTech Innovation is 0.808 and this implies that the model can explain 80.8 percent of its variance using Change Capability, Decision-Support Capability, Managerial Capability, and Environmental Commitment. This is indicative of a powerful explanatory ability of the model. The adjusted values are quite close to the original values of R 2 and so, the model is not seen to be overestimated significantly thus its stability. In general, according to standard PLS-SEM rules, anything above 0.75, 0.50, and 0.25 can be said to be strong, moderate, and weak respectively, and therefore your model can be said to be strong in general, particularly regarding Sustainable FinTech Innovation.

Table 5. Hypothesis testing estimates.

	O	SD	T statistics	P values	Result
Change Capability -> Environmental Commitment	0.306	0.049	6.263	0.000	Supported
Change Capability -> Sustainable FinTech Innovation	0.295	0.046	6.396	0.000	Supported
Decision-Support Capability -> Environmental Commitment	0.115	0.057	2.015	0.044	Supported
Decision-Support Capability -> Sustainable FinTech Innovation	0.103	0.063	1.629	0.103	Unsupported
Environmental Commitment -> Sustainable FinTech Innovation	0.444	0.037	11.961	0.000	Supported
Managerial Capability -> Environmental Commitment	0.447	0.070	6.380	0.000	Supported
Managerial Capability -> Sustainable FinTech Innovation	0.569	0.050	11.449	0.000	Supported

Table 5 shows the estimated structural paths of bootstrapping procedure to test the hypotheses proposed. In PLS-SEM, the bootstrapped t-statistics and p-values are used to assess the significance of the structural paths, and paths are usually deemed to be statistically significant at the 5% level when $p < 0.05$. The results indicate that Change Capability positively and statistically significantly influences Environmental Commitment (0.306 t = 6.263 p < 0.001), which confirms the hypothesis that the stronger adaptive and transformational ability of firms, the more inclined these firms are to exhibit stronger environmental commitment. The positive and significant effect of Change Capability on Sustainable FinTech Innovation (0.295, t = 6.396, p < 0.001) also means that the higher the ability to manage and implement change, the better the organizations can develop sustainable fintech-based innovations. These findings prove that Change Capability not only helps to reinforce environmental orientation but also has a positive effect on the results of innovation per se. The findings also show that the impact of Decision-Support Capability on Environmental Commitment is positive and statistically significant (0.115, 2.015, 0.044), suggesting that more analytical and AI-assisted decision-making process results in more environmental commitment. Nevertheless, it has a positive but not significant impact on Sustainable FinTech Innovation (= 0.103,

t = 1.629, p = 0.103). Thus, the hypothesis which states that Decision-Support Capability relates to Sustainable FinTech Innovation is not confirmed. This trend indicates that the Decision-Support Capability can be more significantly relevant to innovation via Environmental Commitment not via a direct channel. The positive and statistically significant influence of Environmental Commitment on Sustainable FinTech Innovation is strong (0.444, t = 11.961, p < 0.001) meaning that the higher the level of environmental commitment, the higher the chances of a firm to attain higher levels of sustainable fintech-oriented innovation. This observation underscores the pivotal position of environmental commitment in transforming organizational capabilities into the sustainability-based innovation outcomes. The results also indicate that the positive and statistically significant impact of Managerial Capability on the Environmental Commitment is positive (= 0.447, t = 6.380, p < 0.001), which means that the higher managerial competence, the higher the chances is that the firm can integrate environmental values and priorities into its strategic orientation. Meanwhile, the most direct impact on Sustainable FinTech Innovation is had by Managerial Capability (= 0.569, = 11.449, = 0.001), the strongest direct predictor in the structural model. It means that skilled managers can make a critical contribution to converting AI-related organizational advantages into durable fintech innovation results. In general, the results of the hypothesis testing support the direct relationship between six out of seven proposed relationships. The direct connection between Decision-Support Capability and Sustainable FinTech Innovation is the only unsupported relationship. The overall trend indicates that Managerial Capability and Environmental Commitment appear to be the strongest forces of Sustainable FinTech Innovation, whereas Change Capability also plays an important role in both Environmental Commitment and Sustainable FinTech Innovation. In comparison, Decision-Support Capability seems to have fewer direct impacts on Sustainable FinTech Innovation and can be more effective with the mediating role of Environmental Commitment.

4. FINDINGS

This study presents good empirical findings, which reveal that artificial intelligence abilities make significant contributions to the concept of Sustainable FinTech Innovation amongst Jordanian SMEs, either directly or indirectly by its impacts on the Environmental Commitment. The results of the structural model show that Managerial Capability, Change Capability, and Environmental Commitment all have significant positive effects on Sustainable FinTech Innovation. The results also indicate that Change Capability, Decision-Support Capability and Managerial Capability have a strong impact on

Environmental Commitment, and therefore they are relevant as organizational capabilities that enhance environmental orientation of firms. Conversely, the correlation between Decision-Support Capability and Sustainable FinTech Innovation was not statistically significant. These findings identify that SMEs that have better managerial competence, are more adaptive to change, and have a better environmental orientation are better placed to produce sustainable fintech-related innovation. They also hint that AI-related capabilities play not equally as some capabilities have a direct innovation impact whereas others work better with organizational commitment to environmental responsibility. The findings also show Managerial Capability to be the most predictive of Sustainable FinTech Innovation in the model. This means that Jordanian SMEs that have managers who are more capable, have better strategic direction, and can better coordinate their resources are more likely to evolve the artificial intelligence capabilities into innovative and sustainability-oriented financial practices. Moreover, Environmental Commitment has a significant positive impact on Sustainable FinTech Innovation, indicating that the companies that demonstrate a high level of environmental responsibility are better placed to translate their internal potential into the transformative fintech innovation. This observation underscores the idea that the capacity to achieve sustainable development in the areas of fintechs is not fueled by technological and managerial competencies, but also the desire of the organization to integrate environmental concerns into its strategic and operational practices. In addition, the substantial impact of Change Capability on Environmental Commitment and Sustainable FinTech Innovation indicates that adaptive and transformation-oriented companies are better positioned to facilitate sustainability-oriented innovation. Even though Decision-Support Capability is highly effective in enhancing Environmental Commitment, there is no direct impact on Sustainable FinTech Innovation, which implies that the latter is more indirect than direct. In general, the results prove that artificial intelligence potential, especially managerial and change-related potential, can better contribute to the sustainability of fintech innovation in the case when it is supported by a strong environmental commitment among Jordanian SMEs.

5. CONCLUSIONS

This research finding indicates that Managerial Capability, Environmental Commitment, and Change Capability have the greatest contribution to Sustainable FinTech Innovation among Jordanian SMEs with a positive but non-significant contribution by Decision-Support Capability to affect Environmental Commitment but have no direct effects on innovation. The empirical findings also show that Managerial Capability positively affects both Environmental Commitment and Sustainable FinTech Innovation, which confirms that the more companies have a superior managerial competence, strategic focus, and resource coordination, the higher the chances of a company strengthening its environmental orientation and high-level sustainable fintech-related innovation. These results also revealed that Environmental Commitment and Sustainable FinTech Innovation have a strong positive relationship meaning that the will of SMEs to ensure environmental responsibility in their strategic and operational focus serves as a crucial factor in boosting innovation performance in sustainable financial technology. The analysis also indicates that Change Capability is a significant positive predictor of Environmental Commitment, as well as Sustainable FinTech Innovation. This implies that the capacity of SMEs to change, reorganize and meet the internal and external transformation demands is a significant element of sustainability-oriented innovation. On the contrary, Decision-Support Capability positively affects Environmental Commitment significantly, and its direct correlation with Sustainable FinTech Innovation is not statistically significant. This implies that the results of data-driven and AI-aided decision-making are not inevitably associated with innovation unless there is a wider organizational adherence to environmental principles. In this regard, Environmental Commitment is a valuable tool, according to which some artificial intelligence abilities are transformed into valuable innovation outputs. On the whole, the results prove that the artificial intelligence potential alone does not drive Sustainable FinTech Innovation in Jordanian SMEs, but the interplay of the managerial power, organizational flexibility, and environmental devotion. The analysis indicates that the creation of sustainable fintech solutions is not only a question of implementing artificial intelligence solutions, but an organization-level process, which is based on the quality of leadership, internal willingness to change, and a true desire to be environmentally responsible. The more defined managerial and adaptive capabilities of SMEs and their higher degree of environmental commitment will help them improve sustainable fintech innovation and increase their long-term competitiveness. Thus, the research shows the

necessity to combine artificial intelligence competencies with the strategic behavior that shows commitment to the environment to obtain more significant innovation results in the Jordanian sphere of the SME.

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