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What Drives Successful FinTech and Intelligent Workflow Automation in Banking? The Roles of Organisational Readiness, Integration Capability, and Regulatory Pressure

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Abstract: The growing adoption of financial technology (FinTech) and intelligent workflow automation is transforming banking operations, yet the organisational and technological capabilities required to integrate these technologies successfully remain insufficiently understood. Drawing on the Technology–Organisation–Environment (TOE) framework and the Resource-Based View (RBV), this study examines the effects of technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, and regulatory pressure on integration capability, as well as the relationship between integration capability and automation success in banking sector of Pakistan. The relationships were examined using partial least squares structural equation modelling (PLS-SEM). The results indicate that all six antecedents have significant positive relationships with integration capability. Technological compatibility demonstrates the strongest association followed by top-management support digital infrastructure readiness organisational change readiness employee digital competence and regulatory pressure Furthermore, integration capability exhibits a strong positive relationship with automation success. These findings highlight the importance of technological compatibility, managerial commitment, digital infrastructure, employee capabilities, organisational adaptability, and the regulatory environment in developing effective integration capabilities for banking automation. The study contributes to the literature by integrating technological, organisational, and environmental determinants into a unified framework for understanding FinTech and intelligent workflow automation. The findings also offer practical guidance for banking managers seeking to strengthen technology integration and improve automation outcomes.

Keywords: FinTech; intelligent workflow automation; integration capability; automation success; technological compatibility; digital infrastructure readiness; regulatory pressure; banking; PLS-SEM

1. Introduction

The rapid advancement of financial technologies (FinTech), artificial intelligence (AI), and intelligent workflow automation is reshaping how banking institutions deliver financial services, manage information, and coordinate internal operations. Digital technologies enable banks to automate routine activities, improve information processing, support data-driven decisions, and respond to changing customer expectations. Applications such as robotic process automation, AI-enabled decision support, digital payment platforms, and automated compliance systems are increasingly relevant to banking operations. However, the value of these technologies depends not only on their adoption but also on the ability of financial institutions to integrate them with existing information systems, organisational processes, and regulatory requirements. Legacy infrastructure, fragmented data, limited employee capabilities, and organisational resistance may constrain the effective implementation of digital initiatives. Consequently, understanding the organisational and technological conditions that support successful FinTech and intelligent workflow automation has become an important research and managerial concern.

Digital transformation in banking is not simply a matter of acquiring advanced technologies; it also involves developing the organisational capabilities required to incorporate those technologies into established business processes. Pereira et al. [12] highlight the importance of dynamic capabilities in helping traditional banks respond to digital transformation and innovation challenges. Similarly, Rebekah and Afjal [14] examine FinTech adoption and digital transformation through the Technology–Organization–Environment (TOE) framework, demonstrating the relevance of technological and organisational conditions to banking transformation. These studies suggest that digital transformation should be understood as a multidimensional organisational process rather than a technology-adoption decision alone. Nevertheless, successful adoption and transformation do not necessarily guarantee that automated technologies will function effectively across interconnected banking operations. The capacity to coordinate digital applications, exchange information, and align technological systems with operational requirements therefore warrants further investigation.

The Technology–Organization–Environment framework provides a useful foundation for explaining the conditions associated with digital technology implementation. It proposes that technological characteristics, organisational resources, and external environmental conditions jointly shape organisational innovation [15]. In banking, technological compatibility and digital infrastructure readiness may influence whether new digital applications can connect with existing systems, while top-management support, employee digital competence, and organisational change readiness may determine whether institutions possess the resources and preparedness required for implementation. Regulatory pressure may further influence the integration of digital technologies by increasing compliance and reporting requirements. Although these factors represent distinct dimensions of the organisational environment, their combined relationship with integration capability in FinTech and intelligent workflow automation requires further empirical examination.

The Resource-Based View (RBV) complements the TOE framework by explaining why the effective coordination and deployment of organisational resources may be associated with successful outcomes. Barney [4] argues that valuable resources and organisational capabilities can provide a foundation for competitive advantage, while Bharadwaj [5] demonstrates the relevance of information technology capability to firm performance. Applied to banking, this perspective suggests that investments in AI, FinTech platforms, and automation software may not generate their intended benefits unless banks can integrate these technologies with existing infrastructure, employee knowledge, and operational routines. Integration capability is therefore an important construct because it captures an organization's ability to coordinate technological applications and incorporate them into interconnected business processes. Recent research on traditional banks similarly emphasizes the importance of dynamic capabilities in responding to technological disruption and supporting innovation [12]. However, further investigation is needed to clarify how technological, organisational, and environmental conditions are associated with integration capability and how this capability relates to automation success.

Another important consideration is the regulatory environment in which banking automation operates. Unlike many other industries, banking is subject to extensive requirements concerning data protection, cybersecurity, transaction monitoring, risk management, accountability, and regulatory reporting. These requirements may encourage institutions to develop more coordinated digital systems, but they can also create implementation challenges when compliance obligations are difficult to incorporate into existing technological infrastructure. It is therefore important to distinguish regulatory pressure from regulatory governance. Regulatory pressure represents external demands that influence organisational decisions, whereas regulatory governance concerns the mechanisms through which digital activities are monitored, controlled, and made accountable. Although regulatory pressure may be associated with the development of integration capability, regulatory governance may determine whether banks can translate this capability into successful automation outcomes. Examining these two constructs separately offers a more differentiated understanding of the external conditions surrounding digital transformation in banking.

Despite growing interest in banking digitalization, three research gaps motivate the present study. First, technological, organisational, and environmental factors are frequently examined in relation to technology adoption or digital transformation, whereas their combined relationships with integration capability in FinTech and intelligent workflow automation require greater attention. Second, the distinction between adopting digital technologies and successfully

integrating them into operational processes warrants further investigation. Integration capability may represent an important mechanism through which favorable technological and organisational conditions become associated with automation success, but this proposed mediating role requires explicit empirical testing. Addressing these gaps can extend the discussion beyond technology adoption towards the organisational capabilities and governance conditions associated with automation outcomes.

To address these gaps, this study develops and evaluates an integrated research framework combining the TOE framework and RBV. Specifically, it examines the relationships of technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, and regulatory pressure with integration capability. It further examines the relationship between integration capability and automation success. The research model is evaluated using partial least squares structural equation modelling (PLS-SEM). The reported structural results indicate that all six antecedents have significant positive relationships with integration capability, while integration capability has a strong positive relationship with automation success. These findings provide initial empirical support for the importance of technological, organisational, and environmental conditions and highlight integration capability as a central construct in the proposed framework.

This study makes three potential contributions to the literature. First, it extends the application of the TOE framework to FinTech and intelligent workflow automation by jointly examining six technological, organisational, and environmental antecedents of integration capability. Second, it contributes to the RBV by positioning integration capability as an organisational capability associated with automation success, thereby distinguishing technology availability from the ability to coordinate and deploy digital resources effectively. These contributions have practical relevance for banking executives, technology managers, operations professionals, and compliance officers seeking to align digital investments with operational requirements and regulatory obligations.

The remainder of the article is organized as follows. The next section reviews the relevant literature, develops the theoretical arguments, and presents the research hypotheses. The methodology section describes the research design, measurement instrument, data collection, and PLS-SEM procedures. The results section reports the measurement and structural model assessments, followed by a discussion of the findings and their theoretical and practical implications. Finally, the article presents its conclusion, limitations, and directions for future research.

2. Literature Review

2.1. Theoretical Foundations: TOE Framework and Resource-Based View

The Technology–Organization–Environment (TOE) framework provides a useful theoretical lens for explaining the adoption and implementation of technological innovations within organizations. Developed by Tornatzky and Fleischer [15], the framework proposes that technological innovation is influenced by three contextual dimensions: technology, organization, and environment. The technological context encompasses the availability and characteristics of technologies relevant to an organization; the organisational context includes resources, managerial support, employee capabilities, and organisational arrangements; and the environmental context concerns external conditions, including regulatory requirements and institutional pressures. In the banking sector, these dimensions are particularly relevant because digital transformation involves integrating emerging technologies with legacy systems, existing operational procedures, workforce capabilities, and stringent compliance requirements. The TOE framework therefore provides a basis for examining technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, and regulatory pressure as potential antecedents of integration capability.

While TOE explains the contextual conditions associated with technological implementation, the Resource-Based View (RBV) provides insight into how organisational resources and capabilities may contribute to successful outcomes. Barney [4] argues that resources that are valuable, rare, difficult to imitate, and appropriately organized can provide the basis for sustained competitive advantage. In the information systems literature, Bharadwaj [5] demonstrates the relevance of IT capability to firm performance, highlighting the importance of organisational abilities to deploy technological resources rather than considering technology investments in isolation. Applied to banking, this perspective suggests that access to FinTech applications or automation software may not be sufficient to achieve

operational benefits. Banks also need the capability to coordinate systems, combine technological resources, align digital applications with organisational routines, and manage interdependencies across business functions.

Integrating TOE and RBV offers a complementary explanation of FinTech and intelligent workflow automation. TOE helps explain the technological, organisational, and environmental conditions associated with integration capability, whereas RBV explains why the ability to combine and deploy these resources may be associated with automation success. Recent research on traditional banks also highlights the importance of dynamic capabilities in responding to digital transformation and developing innovation [12]. Accordingly, this study conceptualizes integration capability as a key organisational capability associated with automation success and examines regulatory governance as a potential boundary condition in this relationship.

2.2. FinTech and Intelligent Workflow Automation in Banking

FinTech refers to the application of digital technologies to financial products, services, and processes, whereas intelligent workflow automation involves the use of technologies such as artificial intelligence, robotic process automation, and digital workflow systems to automate or support operational activities. In banking, these developments can support payment processing, customer onboarding, fraud detection, document processing, compliance monitoring, and customer service. However, the benefits of digital technologies depend on how effectively they are incorporated into existing organisational systems and processes.

Recent studies have increasingly examined the relationship between digital capabilities and banking transformation. Pereira et al. [12], in a study published in Business Horizons, explain that traditional banks need to develop dynamic capabilities to respond to technological disruption and changing competitive conditions. Their case study emphasizes internal adaptation, organisational culture, governance, and the external political–legal environment as relevant considerations for digital transformation. Similarly, Rebekah and Afjal [14] investigate FinTech adoption and digital transformation using the TOE framework and data from 325 respondents in Chennai. Their findings indicate that technological and organisational capabilities are associated with digital transformation and FinTech adoption, highlighting the importance of examining organisational capabilities alongside technology adoption.

Papathomas and Konteos [11] further examine the stages of digital transformation in financial institutions and discuss the importance of monitoring business metrics as banks progress towards digitally driven operations. Taken together, these studies suggest that digital transformation in banking is a multidimensional process involving technology, organisational adaptation, and measurable operational outcomes. Nevertheless, the implementation of FinTech does not automatically guarantee successful automation. Banks must also develop the capability to connect systems, coordinate information, and embed digital applications into established workflows. This distinction provides the basis for examining integration capability as a central construct in the present study.

2.3. Technological Compatibility and Integration Capability

Technological compatibility refers to the extent to which a new technology is consistent with an organization's existing technological infrastructure, systems, and operational requirements. Compatibility is particularly relevant in banking because institutions often operate legacy platforms alongside newer applications for digital payments, customer services, risk management, and compliance. If new applications are incompatible with existing systems, integration may require additional investment, system modification, and process redesign. Conversely, compatible technologies may facilitate information exchange and reduce implementation complexity.

The TOE framework identifies technological characteristics as important considerations in the implementation of organisational innovation [15]. Previous research on IT capability also indicates that organisational benefits depend partly on how technological resources are deployed and combined [5]. In the banking context, Pereira et al. [12] emphasized the need for traditional financial institutions to realign internal capabilities and processes in response to digital transformation. These arguments suggest that technological compatibility can provide a foundation for developing integration capability by making it easier to connect digital solutions with existing banking systems. Accordingly, the following hypothesis is proposed:

H1: Technological compatibility has a positive and significant relationship with integration capability.

2.4. Digital Infrastructure Readiness and Integration Capability

Digital infrastructure readiness refers to the extent to which an organization possesses the technological resources and supporting systems needed to implement and integrate digital solutions. These resources may include reliable IT infrastructure, adequate computing capacity, secure data environments, system connectivity, and the technical arrangements necessary for information exchange. In banking, infrastructure readiness is particularly important because automated activities often depend on accurate data, continuous system availability, and coordination across multiple applications.

The TOE framework suggests that an organization's technological context influences its ability to implement innovations [15]. From an RBV perspective, technological infrastructure may provide a valuable resource, but its contribution depends on the organization's ability to use it effectively [5]. Research on digital transformation in financial institutions also highlights the need to develop technological and organisational capabilities to respond to changing business conditions [12].

Accordingly, banks with stronger infrastructure readiness may be better positioned to connect new digital applications with existing systems, support information exchange, and coordinate automated workflows. Therefore, the following hypothesis is proposed:

H2: Digital infrastructure readiness has a positive and significant relationship with integration capability.

2.5. Top-Management Support and Integration Capability

Top-management support refers to senior managers' commitment to, and involvement in, the implementation of digital technologies through strategic direction, resource allocation, and organisational coordination. Digital transformation initiatives frequently require financial investment, collaboration across departments, changes to established processes, and sustained attention to implementation challenges. Senior managers can facilitate these activities by aligning digital projects with organisational objectives, allocating appropriate resources, and encouraging cooperation between IT, operations, compliance, and human resource departments.

The organisational dimension of the TOE framework recognizes that managerial resources and organisational arrangements are relevant to innovation implementation. The RBV similarly suggests that organisational resources become strategically useful when they are coordinated and deployed to support organisational objectives [4]. Pereira et al. [12] identify organisational adaptation, governance, and internal capabilities as important considerations in digital transformation within traditional banks. These arguments imply that management commitment may facilitate the coordination of technological resources and business processes required for integration capability. Therefore, the following hypothesis is proposed:

H3: Top-management support has a positive and significant relationship with integration capability.

2.6. Employee Digital Competence and Integration Capability

Employee digital competence refers to employees' knowledge, skills, and ability to use digital technologies effectively in their work. In the context of banking automation, these competencies may include the ability to operate digital applications, understand automated processes, interpret system-generated information, identify exceptions, and collaborate with technical specialists. The integration of digital technologies requires more than technical infrastructure because employees must also be able to work with new systems and adapt to changing procedures.

The TOE framework identifies organisational characteristics as relevant to technological innovation, while the RBV highlights the potential value of human knowledge and skills as organisational resources [4]. Bharadwaj [5] also demonstrates the relevance of organisational IT capabilities to firm performance. In banking, digital transformation may require employees to develop new skills and working practices alongside technological changes. Pereira et al. [12] similarly emphasizes the importance of developing organisational capabilities and adapting internal practices to digital transformation. These arguments suggest that employees with stronger digital competence may be better able to coordinate digital systems, identify integration problems, and support the incorporation of automated applications into everyday banking operations. Therefore, the following hypothesis is proposed:

H4: Employee digital competence has a positive and significant relationship with integration capability.

2.7. Organisational Change Readiness and Integration Capability

Organisational change readiness refers to an organization's preparedness and willingness to adapt its structures, routines, responsibilities, and working practices in response to new initiatives. FinTech implementation and intelligent workflow automation can require substantial changes to established banking procedures, including approval processes, information-sharing arrangements, employee responsibilities, and coordination across business units. Organizations that are prepared to implement such changes may be better positioned to integrate new technologies into existing operations.

The TOE framework highlights organisational characteristics as important contextual conditions for innovation. The RBV complements this perspective by emphasizing the value of organisational capabilities that allow firms to deploy resources and adapt their activities. Pereira et al. [12] explain that digital transformation in traditional banks involves internal adaptations and changes in organisational culture, governance, and business processes.

Papathomas and Konteos [11] also discuss the progression of financial institutions towards digitally driven operations and the organisational actions associated with that transformation. These studies support the argument that technological implementation must be accompanied by organisational adaptation. Consequently, banks with greater change readiness may be better able to coordinate implementation activities and integrate automated workflows into established processes. The following hypothesis is proposed:

H5: Organisational change readiness has a positive and significant relationship with integration capability.

2.8. Regulatory Pressure and Integration Capability

Regulatory pressure refers to the external requirements and expectations that influence banks' decisions concerning technology implementation, operational processes, and compliance. Financial institutions operate within regulatory environments that require appropriate management of financial risks, data protection, transaction monitoring, cybersecurity, and reporting. These requirements can influence how digital systems are designed and integrated into banking operations.

Within the TOE framework, the environmental context captures external influences that may shape organisational innovation. Regulatory requirements may encourage banks to coordinate information systems, improve the traceability of transactions, standardize data management, and embed compliance activities within automated workflows. Pereira et al. [12] identify the political–legal environment and governance issues as relevant contextual factors in the digital transformation of traditional banks. Rebekah and Afjal [14] also examine technological, organisational, and environmental conditions in relation to FinTech adoption and digital transformation. These arguments suggest that regulatory pressure may encourage the development of integration capability by increasing the need for coordinated systems and consistent compliance processes. However, regulatory pressure may also impose costs and implementation constraints, meaning that its consequences can depend on the resources and capabilities available to individual institutions. In the proposed model, the expected relationship is positive. Therefore, the following hypothesis is proposed:

H6: Regulatory pressure has a positive and significant relationship with integration capability.

2.9. Integration Capability and Automation Success

Integration capability refers to an organization's ability to connect, coordinate, and align technological systems, data, and operational processes to support the effective implementation of digital solutions. In banking, this capability may enable automated applications to communicate with core banking systems, exchange information across departments, and execute workflows with fewer unnecessary manual interventions. Integration capability is therefore con-

ceptually distinct from technology adoption: while adoption concerns the introduction or use of a technology, integration capability concerns how effectively that technology is incorporated into the organization's broader operational environment.

The RBV provides a theoretical basis for expecting integration capability to be associated with automation success because organisational outcomes depend not only on resource availability but also on the ability to coordinate and deploy resources effectively [4, 5]. Recent banking research supports the broader importance of such capabilities. Pereira et al. [12] explain how dynamic capabilities can help traditional banks respond to digital disruption, while a 2024 study in the Journal of Open Innovation: Technology, Market, and Complexity [1] examines technological, organisational, ecosystem, and governance-related capabilities in banking digital transformation.

Furthermore, research on generative AI in banking identifies integration, reliability, managerial preparedness, and regulatory compliance as important considerations in the implementation of AI-based solutions. These findings reinforce the importance of examining implementation conditions rather than assuming that technology acquisition automatically produces successful outcomes. Accordingly, banks with stronger integration capability may be better positioned to coordinate automated processes, improve workflow consistency, and achieve their intended operational objectives. The following hypothesis is proposed:

H7: Integration capability has a positive and significant relationship with automation success.

3. Methods

This study employs a quantitative research approach to investigate the factors influencing integration capability and automation success in the banking sector. A quantitative design is appropriate because it enables the proposed relationships to be assessed statistically and allows the hypothesised research model to be evaluated using structural equation modelling. The target population comprises 300 banking professionals from Sindh and Punjab, Pakistan who possess relevant knowledge of digital transformation, FinTech implementation, information systems, banking operations, compliance, or intelligent workflow automation. Respondents include banking managers, IT professionals, digital transformation specialists, operations managers, compliance officers, and other employees involved in digital banking initiatives. A structured questionnaire used to collect primary data from respondents with direct experience of, or informed involvement in, the implementation and use of digital technologies in banking institutions. Before completing the questionnaire, participants were informed about the purpose of the research, the voluntary nature of participation, and the confidentiality of their responses. Figure 1 indicates theoretical framework of the study

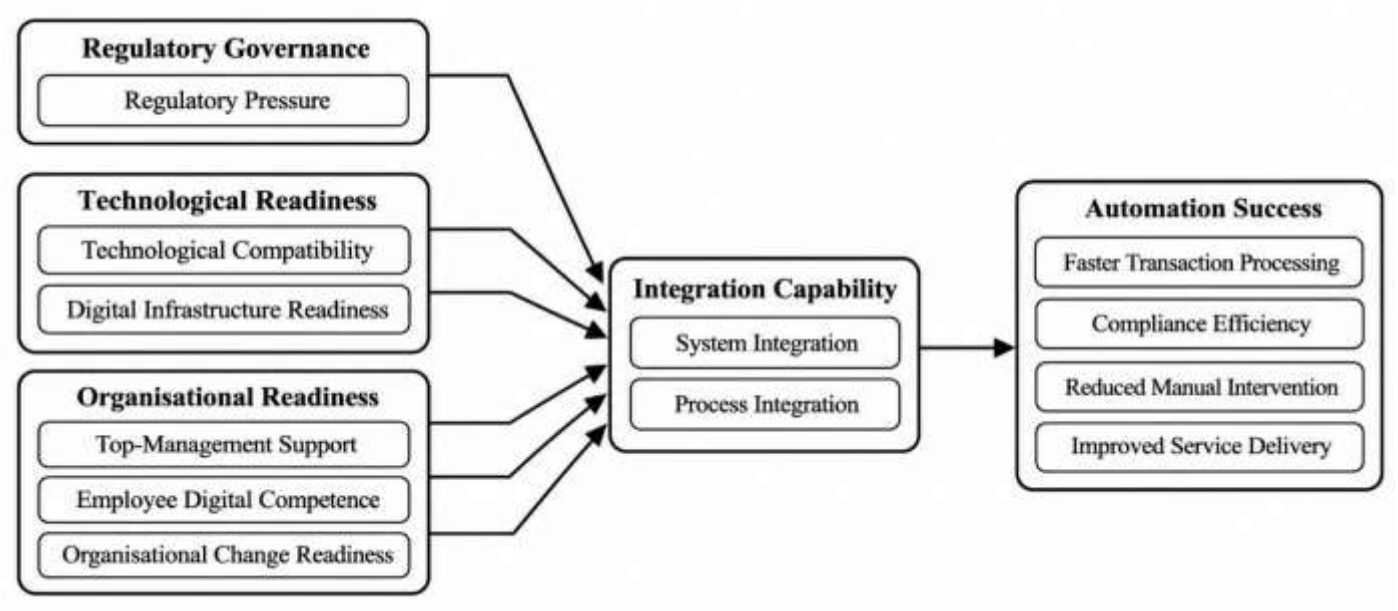


Figure 1. Theoretical framework

The study uses a structured questionnaire to measure constructs: technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, regulatory pressure, integration capability, and automation success. The questionnaire items were taken from established literature where suitable measures are available and adapted to the context of FinTech and intelligent workflow automation in banking. Seven-point Likert scale ranging from strong disagreement to strong agreement, can be used to capture respondents' perceptions. The selected scale must match the questionnaire actually administered. Before full-scale data collection, the instrument should be reviewed for clarity, construct relevance, and contextual appropriateness. Where feasible, expert review and pilot testing can help identify ambiguous wording and improve the questionnaire's suitability for banking professionals. The proposed research model was assessed using partial least squares structural equation modelling (PLS-SEM). This technique allows researchers to evaluate the measurement model and structural model within a unified analytical framework and is useful for examining models involving several latent constructs and hypothesized relationships. Table 1 indicates the demographic profile of respondents.

Table 1. Demographic profile of respondents

Demographic variable	Category	Frequency (n)
Gender	Male	186
	Female	114
Age	Below 25 years	24
	25–34 years	126
	35–44 years	99
	45 years and above	51
Educational qualification	Bachelor’s degree	72
	Master’s degree	156
	MPhil/MS or equivalent	57
	PhD or other	15
Job position	Banking manager	63
	IT professional	72
	Digital transformation specialist	45
	Operations manager/professional	60
	Compliance officer	36
	Other banking professional	24
Professional experience	Less than 5 years	48
	5–10 years	108
	11–15 years	81
	More than 15 years	63
Province	Punjab	174
	Sindh	126

4. Results

4.1. Construct reliability and convergent validity

The reliability and convergent validity of the measurement model were assessed using Cronbach’s alpha, composite reliability (CR), and average variance extracted (AVE). Generally, Cronbach’s alpha, and composite reliability values above 0.70 indicate acceptable internal consistency, whereas an AVE value of at least 0.50 indicates satisfactory convergent validity. As reported in Table 2, Cronbach’s alpha and composite reliability values meets recommended threshold of above 0.7, hence indicate satisfactory internal consistency across all constructs. Convergent validity was assessed using AVE. The results indicated that AVE values exceeding the minimum recommended

threshold of 0.50. These findings suggest that each construct explains more than half of the variance in its associated indicators, thereby establishing satisfactory convergent validity. Figure 2 indicates the measurement model of the current study.

Table 2. Construct reliability and convergent validity

Construct	Cronbach's alpha	Composite reliability	AVE
Automation success (AS)	0.891	0.920	0.697
Digital infrastructure readiness (DIR)	0.871	0.911	0.720
Employee digital competence (EDC)	0.885	0.921	0.743
Integration capability (IC)	0.864	0.898	0.596
Organisational change readiness (OCR)	0.878	0.916	0.732
Regulatory pressure (RP)	0.849	0.898	0.687
Technological compatibility (TC)	0.895	0.927	0.760
Top-management support (TMS)	0.860	0.905	0.704

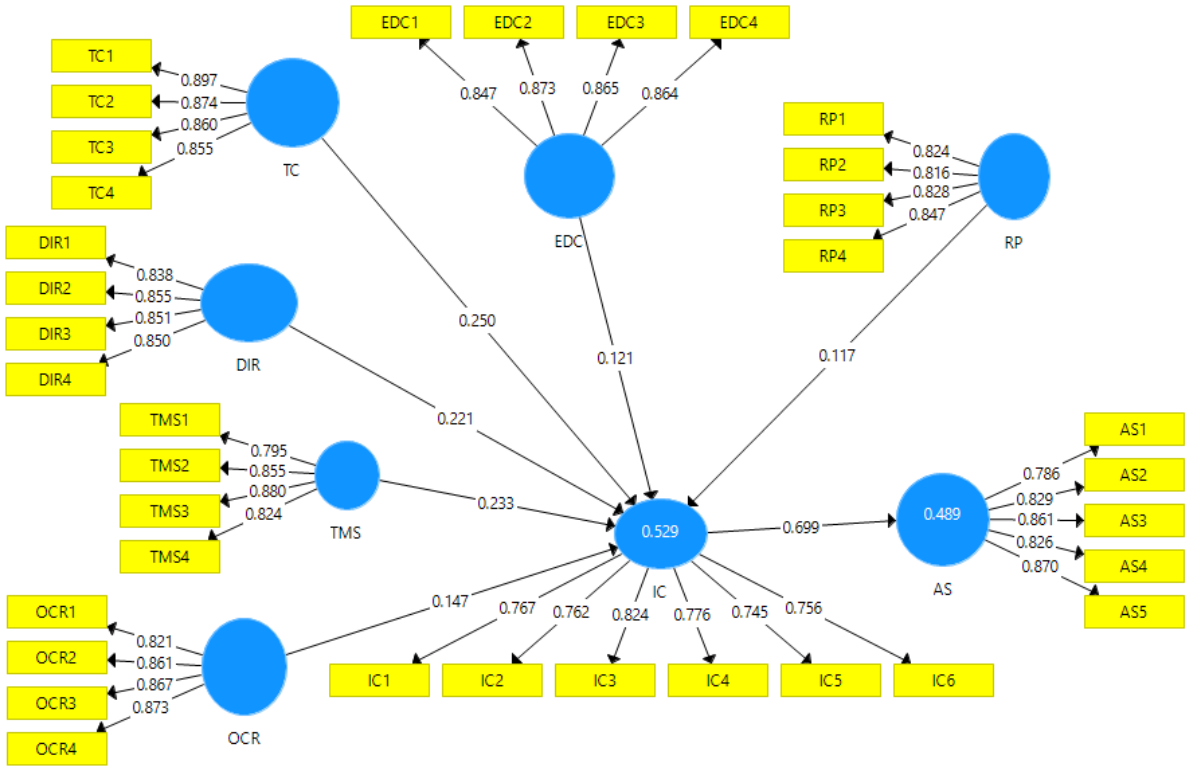


Figure 2. Measurement model

4.2. Discriminant validity assessment

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT), which evaluates whether conceptually distinct constructs are empirically distinguishable. Following Henseler et al. [7], an HTMT value below 0.85 represents a conservative criterion for establishing discriminant validity, whereas a threshold of 0.90 may be appropriate for conceptually related constructs. As reported in Table 3, the HTMT values were less than 0.85, these results indicate that the constructs capture related but distinguishable dimensions of the proposed research framework.

Collinearity was assessed using the inner variance inflation factor (VIF) to determine whether excessive correlations among the predictor constructs could bias the estimation of the structural model. In PLS-SEM, VIF values below 3 are commonly considered indicative of low collinearity, although values below 5 are also frequently accepted

as a less conservative criterion. As presented in Table 4, the VIF values for the predictors of integration capability (IC) are substantially below the conservative threshold of 3, indicating that multicollinearity is unlikely to pose a serious concern among the predictors of integration capability.

Table 3. Heterotrait–monotrait ratio (HTMT)

	AS	DIR	EDC	IC	OCR	RP	TC	TMS
AS								
DIR	0.554							
EDC	0.484	0.418						
IC	0.793	0.594	0.496					
OCR	0.560	0.299	0.532	0.547				
RP	0.408	0.225	0.223	0.379	0.305			
TC	0.549	0.513	0.256	0.584	0.334	0.241		
TMS	0.565	0.394	0.412	0.600	0.544	0.289	0.331	

4.3. Structural model assessment and hypothesis testing

The structural model was assessed using the bootstrapping procedure in PLS-SEM to examine the significance, direction, and magnitude of the hypothesised relationships. The results indicate that all seven reported structural paths are positive and statistically significant, with p-values below 0.05. These findings provide empirical support for the proposed relationships between the technological, organisational, and regulatory factors and integration capability, as well as the relationship between integration capability and automation success

Table 4. Inner VIF values

	AS	DIR	EDC	IC	OCR	RP	TC	TMS
AS								
DIR				1.438				
EDC				1.420				
IC	1.000							
OCR				1.545				
RP				1.119				
TC				1.338				
TMS				1.426				

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As reported in Table 5, digital infrastructure readiness (DIR) has a positive and significant effect on integration capability (IC) ($\beta = 0.221$, $p < 0.001$). This finding suggests that adequate digital infrastructure facilitates the integration of technologies and workflows required for successful intelligent automation. Employee digital competence (EDC) also positively influences IC ($\beta = 0.121$, $p = 0.018$), indicating that employees' digital skills contribute to an organisation's ability to integrate digital technologies effectively.

Organisational change readiness (OCR) demonstrates a positive and significant relationship with IC ($\beta = 0.147$, $p = 0.001$). This result highlights the importance of organisational preparedness for managing technological and procedural changes associated with automation. Similarly, regulatory pressure (RP) positively influences IC ($\beta = 0.117$, $p = 0.004$), suggesting that regulatory demands may encourage banks to strengthen their technological integration capabilities. However, this relationship should be interpreted in the context of the relevant banking regulations and institutional environment.

Technological compatibility (TC) has a positive and significant effect on IC ($\beta = 0.250$, $p < 0.001$). Among the six reported predictors of IC, TC exhibits the largest standardised path coefficient, suggesting that compatibility between existing systems and emerging technologies is particularly important for integration capability. Top-management support (TMS) also has a positive and significant effect on IC ($\beta = 0.233$, $p < 0.001$), indicating that managerial commitment, resource allocation, and strategic direction may facilitate the integration of FinTech and intelligent workflow automation.

Finally, IC has a strong positive and statistically significant relationship with automation success (AS) ($\beta = 0.699$, $p < 0.001$)). This is the strongest reported path coefficient in the model. The finding suggests that banks' ability to integrate technologies, information systems, and operational workflows is closely associated with successful FinTech implementation and intelligent workflow automation. Overall, the results support all seven reported direct relationships. Nevertheless, these findings alone do not establish the proposed mediation or moderation effects; those effects require separate tests.

Table 5. Hypotheses Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
TC -> IC	0.250	0.251	0.050	5.041	0.000
DIR -> IC	0.221	0.217	0.047	4.715	0.000
TMS -> IC	0.233	0.233	0.044	5.297	0.000
EDC -> IC	0.121	0.122	0.051	2.383	0.018
OCR -> IC	0.147	0.150	0.046	3.236	0.001
RP -> IC	0.117	0.121	0.041	2.888	0.004
IC -> AS	0.699	0.702	0.029	24.126	0.000

5. Discussion

The results support H1, demonstrating a significant positive relationship between technological compatibility and integration capability ($\beta = 0.250$, $p < .001$). Among the six antecedents examined, technological compatibility exhibits the strongest relationship with integration capability, suggesting that compatibility between new FinTech and intelligent workflow automation solutions and existing banking systems is particularly important. Banking institutions typically rely on interconnected systems for payment processing, customer relationship management, risk assessment, and regulatory reporting. When these systems are compatible, banks may be better able to exchange data, coordinate workflows, and minimize operational fragmentation. This finding is consistent with the Technology–Organization–Environment (TOE) framework, which emphasizes the relevance of technological characteristics to innovation implementation, and with Pereira et al. [12], who highlight the importance of developing capabilities to manage digital transformation in traditional banks. Therefore, the findings support H1 and suggest that banks should prioritise interoperability and compatibility when implementing digital automation solutions.

The results support H2, indicating that digital infrastructure readiness has a significant positive relationship with integration capability ($\beta = 0.221$, $p < .001$). This finding suggests that the availability of reliable technological infrastructure is important for connecting digital applications with existing banking operations. Adequate infrastructure facilitates data exchange, system connectivity, information processing, and the execution of automated workflows, whereas outdated systems and insufficient technical resources may constrain integration. From the TOE perspective, infrastructure readiness represents an important technological condition for implementing innovation, while the Resource-Based View (RBV) highlights the value of technological resources when organizations can deploy them effectively. This interpretation aligns with Pereira et al. [12], who discuss the capabilities required for digital transformation in traditional banking. Accordingly, the findings support H2 and indicate that banks should invest in reliable

infrastructure, data-management systems, cybersecurity, and integration technologies to strengthen their capacity to implement FinTech and intelligent automation successfully.

The results support H3, revealing a significant positive relationship between top-management support and integration capability ($\beta = 0.233$, $p < .001$). This finding indicates that senior management commitment is an important organisational condition for coordinating digital technologies and integrating them into banking processes. Automation initiatives frequently require financial resources, cross-functional collaboration, employee training, and changes to established procedures. Management support can facilitate these activities by establishing strategic priorities, allocating resources, resolving implementation barriers, and aligning IT investments with operational objectives. The finding is consistent with McTaggart and Loonam [10], who examine top-management support for digital transformation in a financial services organization, and with Pereira et al. [12], who emphasized organisational capabilities in banking transformation. Thus, the findings support H3 and suggest that banking executives should treat automation as a strategic organisational initiative rather than an isolated technological project.

The results support H4, showing that employee digital competence has a significant positive relationship with integration capability ($\beta = 0.121$, $p = .018$). Although the estimated coefficient is smaller than those of the other antecedents, its statistical significance indicates that employee knowledge and digital skills remain relevant to the integration of FinTech and intelligent workflow automation. Employees need the ability to operate digital systems, interpret system-generated information, resolve routine technical problems, identify exceptions, and adapt to changing work processes. Without appropriate competencies, even technologically advanced solutions may be difficult to integrate effectively into everyday banking operations. This finding is consistent with the broader capability-based perspective of digital transformation, which recognizes the importance of developing organisational resources alongside technological investments [12]. Therefore, H4 is supported, and the findings suggest that banks should strengthen employee digital competence through continuous training, practical learning, and role-specific development programs.

The results support H5, demonstrating a significant positive relationship between organisational change readiness and integration capability ($\beta = 0.147$, $p = .001$). This finding suggests that an organization's preparedness to adapt its structures, routines, and working practices is relevant to the integration of new digital technologies. Implementing automation often requires changes to approval procedures, employee responsibilities, information-sharing arrangements, and coordination across departments. Organizations that are prepared to undertake these changes may be better positioned to incorporate automated workflows into existing processes. This interpretation aligns with the broader digital transformation literature, which emphasis's the need to align technological initiatives with organisational processes and capabilities [11, 12]. Accordingly, H5 is supported, suggesting that banks should complement technological investment with effective change management, transparent communication, employee involvement, and organisational learning.

The results of H6 indicated that regulatory pressure has a significant positive relationship with integration capability ($\beta = 0.117$, $p = .004$). This finding suggests that external regulatory requirements are associated with banks' efforts to develop integrated digital systems and workflows. Financial institutions must comply with requirements concerning data protection, cybersecurity, transaction monitoring, auditability, and regulatory reporting. Such requirements may encourage banks to improve information exchange, strengthen system coordination, and embed compliance checks within automated processes. This interpretation is broadly consistent with Khan et al. [9], who examine FinTech adoption, regulatory conditions, and bank stability in Gulf Cooperation Council economies. From the TOE perspective, the finding reinforces the relevance of environmental conditions to technological implementation. Therefore, H6 is supported, indicating that banks should incorporate regulatory requirements into the design and implementation of digital systems. However, the finding establishes a positive association and does not imply that regulatory pressure invariably improves integration capability in every institutional context.

The results support H7, revealing a strong and statistically significant positive relationship between integration capability and automation success ($\beta = 0.699$, $p < .001$). This is the strongest structural relationship reported in the model, highlighting the importance of integrating digital technologies with existing systems and operational processes. Although banks may invest in artificial intelligence, robotic process automation, and digital workflow platforms, the

benefits of these technologies may remain limited when applications operate independently or require substantial manual intervention. Strong integration capability can facilitate information exchange, coordinate workflows, reduce unnecessary handovers, and improve the consistency of automated operations. This finding is consistent with Pereira et al. [12], who emphasized the importance of organisational capabilities in supporting digital transformation and innovation in traditional banks. Therefore, H7 is supported, suggesting that banks should evaluate automation initiatives not only in terms of technology adoption but also in terms of their ability to integrate digital solutions into operational processes.

5.1 Implications

5.1.1 Theoretical Implications

Theoretically, this study contributes to the literature on FinTech and intelligent workflow automation by integrating the Technology–Organization–Environment (TOE) framework with the Resource-Based View (RBV) to explain automation success in the banking sector. The findings extend the application of the TOE framework by demonstrating that technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, and regulatory pressure are positively and significantly associated with integration capability. Furthermore, the strong positive relationship between integration capability and automation success the importance of organisational capabilities in translating technological resources and organisational preparedness into successful automation outcomes. By positioning integration capability as a central construct linking technological, organisational, and environmental conditions with automation success, this study complements the RBV perspective, which emphasizes the effective coordination and deployment of organisational resources. The findings also identify technological compatibility as the strongest antecedent of integration capability among the six predictors examined, highlighting the theoretical importance of interoperability between emerging digital technologies and existing banking systems. Overall, this study advances a capability-oriented understanding of intelligent automation by suggesting that automation success is associated not merely with technology availability but also with organizations' ability to integrate digital resources, employee competencies, and operational processes within a regulated environment.

5.1.2 Practical implications

The findings offer important practical implications for banking executives, digital transformation managers, information technology departments, and regulatory authorities seeking to improve FinTech implementation and intelligent workflow automation. First, banks should priorities technological compatibility and interoperability when selecting new digital solutions, ensuring that FinTech applications and intelligent automation tools can integrate effectively with existing banking systems, databases, and operational workflows. Second, adequate investment in reliable, secure, and scalable digital infrastructure is essential to support information exchange and seamless coordination across organisational functions. Third, top management should demonstrate active commitment by allocating sufficient financial and human resources, establishing cross-functional teams, and aligning automation initiatives with organisational objectives. Banks should also strengthen employee digital competence through continuous training in digital technologies, data literacy, cybersecurity, and automated workflow management, while implementing effective change-management practices to reduce resistance and facilitate organisational adaptation. Furthermore, regulatory requirements should be incorporated into automation planning and system design to ensure compliance, transparency, data protection, and operational accountability. Most importantly, the strong positive relationship between integration capability and automation success indicates that banks should treat integration capability as a strategic priority rather than focusing exclusively on acquiring advanced technologies. Accordingly, banking institutions should develop integration roadmaps, standardize data and processes, monitor system interoperability, and evaluate automation initiatives through indicators such as processing efficiency, error reduction, workflow reliability, and service quality. These measures can help banks coordinate technological and organisational resources more effectively and establish a stronger foundation for successful digital transformation.

6. Conclusion

This study examined the factors influencing FinTech and intelligent workflow automation success in the banking sector by integrating the Technology–Organization–Environment (TOE) framework with the Resource-Based View (RBV). The findings demonstrate that technological compatibility, digital infrastructure readiness, top-management support, employee digital competence, organisational change readiness, and regulatory pressure have positive and statistically significant relationships with integration capability. Among these antecedents, technological compatibility exhibits the strongest estimated effect, followed by top-management support and digital infrastructure readiness. These results highlight the importance of technological interoperability, organisational commitment, and adequate digital resources in developing the capabilities required to integrate digital technologies into banking operations. Furthermore, integration capability demonstrates a strong positive and statistically significant relationship with automation success underscoring its importance in connecting technological resources and organisational preparedness with successful automation outcomes. By combining TOE and RBV perspectives, this study advances a capability-oriented understanding of intelligent automation and suggests that successful implementation involves more than the adoption of advanced technologies; it also requires the effective coordination of systems, people, and organisational processes within a regulated environment. Practically, the findings encourage banking institutions to prioritise interoperable systems, invest in digital infrastructure, strengthen managerial support, develop employee competencies, and integrate regulatory considerations into automation strategies. Despite these contributions, the reported results establish only the direct relationships presented in the structural model. Future research could extend this study by examining these mechanisms, comparing banking institutions across different regulatory environments, and employing longitudinal or multi-country designs to assess the generalizability of the findings. Overall, the study provides a useful foundation for understanding the organisational and technological conditions associated with successful FinTech implementation and intelligent workflow automation in the banking sector.

This study has several limitations that provide opportunities for future research. First, the study focuses on the banking sector, which may limit the generalizability of its findings to other industries, such as healthcare, manufacturing, and insurance, where the technological and organisational requirements for intelligent workflow automation may differ. Future studies could validate the proposed framework across different industries and compare organizations operating under diverse regulatory environments. Second, the findings are based on the reported structural relationships within the proposed research model; therefore, future research should examine the mediating role of integration capability through bootstrapped indirect-effect testing and assess the moderating role of regulatory governance using an appropriate interaction-effect analysis. Third, the data are collected through a cross-sectional survey, the findings may not fully capture how organisational readiness and integration capabilities evolve over time. Longitudinal research could provide a deeper understanding of the processes through which banks develop integration capabilities and achieve automation success. Furthermore, future studies could incorporate additional factors, such as cybersecurity readiness, organisational culture, data governance, artificial intelligence capabilities, and customer acceptance, to provide a more comprehensive explanation of automation outcomes. Finally, future research could employ mixed-methods approaches or objective organisational performance indicators to complement survey-based evidence and strengthen the understanding of how technological, organisational, and regulatory conditions contribute to successful FinTech implementation and intelligent workflow automation.

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N/A

Data Availability

N/A

Conflicts of Interest

The Authors declare no conflict of interest for this study

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