

## The effects of dynamic employee capabilities, fintech and innovative work behavior on employee and supply chain performance: Evidence from Vietnamese financial industry

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### ABSTRACT

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FinTech has become a popular term which describes novel technologies adopted by the financial service institutions. This term covers a large scope of techniques, from data security to financial service deliveries. An accurate and up-to-date awareness of FinTech has an urgent demand for both academics and professionals. The goal of the study is to assess the impact of dynamic employee capabilities on fintech applications, employees' innovation work behavior, thereby creating employee performance and supply chain finance performance for financial institutions in Vietnam. The data was collected through 189 mid-level managers of 189 financial institutions in Vietnam. The results of analysis using SPSS and Smart PLS software show that dynamic employee capabilities had a positive impact on fintech application, employees' innovative work behavior and improve employee performance while improving supply chain finance performance of financial institutions in Vietnam.

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### 1. Introduction

In recent years, the explosive growth of financial technology (Fintech) has been reshaping the financial services industry, especially in the banking sector. Along with the strong development of Fintech are opportunities for optimization in business operations, but there are also many challenges for banks providing traditional financial services in general for banks. The rapid change of technology has required personnel in the financial industry to update their knowledge and improve their skills to quickly adapt to the changing working environment with new technology applications. The strong development of Fintech has attracted a lot of attention from researchers and businesses alike. However, most studies focus on analyzing and assessing the impact of Fintech application or technological advancement on the performance or competitiveness of banks (Akhisar et al., 2015), but not much research has been done on specific aspects such as the impact of Fintech applications on employee performance. Several studies have shown that technological advances have a direct or indirect effect on employee performance in businesses in general and in banks in particular (Beccalli & Elena, 2007; Aliyu et al., 2012; Gomber et al., 2017; 2018). However, these studies only stop at analyzing technological progress in general, without specific analysis of Fintech technology application, especially without in-depth analysis combining Fintech technology, employee dynamics, Fintech application, employee innovative behavior and employee performance in the financial services sector, thereby helping to improve the efficiency of the financial supply chain of companies. The resource-based theory shows that human resources are extremely important for the development and are the main resource of enterprises. The function of human resources depends on the competence of employees and effective human resource management (Hung et al., 2010). The strong development of Fintech has sparked this trend of research and application development in Vietnam. However, most research and discussions mainly focus on aspects of the Fintech ecosystem, from regulatory issues to competition between

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Fintech companies and traditional banking businesses. While the cooperation between these two types of organizations is receiving more and more attention, there has been no research done to analyze and evaluate the factors affecting the employee's work performance in the current digital transformation.

In addition to the case studies related to the above topic, most of the studies mainly focus on the business performance of banks, without paying attention to the prerequisite factors for the results. From the above situation, it shows that the implementation of in-depth research, analysis and systematic evaluation of the relationship between employee dynamic capacity, Fintech application, innovation behavior of employees and efficiency productivity, thereby leading to the efficiency of the financial supply chain of financial institutions is essential. Especially, in the context that Vietnam is a country in transition, there are strong developments and rapid changes in the business environment in general and the working environment in particular.

## 2. Literature review

### 2.1. Supply chain finance (SCF) performance

A supply chain is considered as a business network consisting of upstream and downstream companies, resources, operations and relationships of the value chain. Organizations rely heavily on others in the network to provide critical resources (Marak & Pillai, 2019; Mathis & Cavinato, 2010; More & Basu, 2013). Aiming to align financial flows with products and information in the supply chain network, supply chain finance (SCF) has become an emerging trend in the 21st century (Blackman et al., 2013; Bui, 2020a, b,c; Bui & Doan, 2020).

SCF covers trade credit, payment terms, inventory financing, supplier-managed inventory, financial performance, cash flow management, working capital management, and financial risk management (Randall & Farris, 2009; Shaik, 2021; Virolainen et al., 2019). Studies on SCF have mentioned factors affecting SCF performance: negotiation and cooperation mechanisms. Using power asymmetries, a company reduces its cost of capital through favorable trade credits, cash flow, and cash conversion cycles (Wuttke et al., 2013; Zhang et al., 2019).

### 2.2. Employee Dynamic Capabilities

Employee dynamic competencies (EDC) are part of dynamic competencies (DCs) of the entire organization. DC has attracted a great deal of attention from researchers over the years, not only in the consideration of strategic management but also financial management, accounting, auditing and entrepreneurship. Furthermore, the competitive advantage gained today with the use of DC is identified as the source of sustainable development of organizations, based on resource-based theory. That is why DC is one of the important resources of an organization that contributes to achieving corporate sustainability.

Organizational DC needs to be separate from Employee Dynamic Capability (EDC) to see the important role of human resources in the business. EDC should be understood as the ability to integrate, build, and restructure employee issues to address a rapidly changing environment that directly affects the work of employees at the enterprise. EDC not only refers to the ability to adapt and solve current problems, but also to long-term improvement of business processes.

#### *Employee Dynamic Capacity and Employee Performance*

EDC seems to have an important effect on employee performance, especially when employees are faced with a dynamic and rapidly changing environment, full of pressure and they have to perform their duties, effectively anytime, anywhere. Furthermore, employee performance is an important determinant of the performance of the entire organization (Makkonen, 2014). According to resource-based theory, high-performing individuals are an important resource to help businesses achieve their goals and ultimately gain competitive advantage (Eriksson, 2014).

#### *Employee Dynamic Capabilities and Employee Innovative Work Behavior*

Dynamic capabilities refer to the ability to build, integrate, and reframe both internal and external capabilities to address rapidly changing environments. Dynamic capabilities are both strategic and operational processes. Recent reviews of the mechanisms and outcomes of dynamic capabilities have revealed that innovation is a major consequence of dynamic capabilities. This can manifest in a variety of ways, including the development of new products, services or processes (Cepeda et al., 2007; Chien et al., 2012).

### 2.3. Fintech

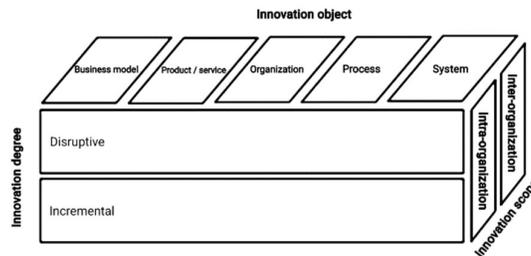
Fintech (Financial Technology) is a term used to refer to the application of new technologies to provide financial services. With Fintech, P2P - peer to peer lending companies (directly connecting borrowers with lenders on the Internet) have been able to shorten the loan approval time from a few weeks at traditional banks to only a few hours. In the field of investment management, big names like BlackRock and Vanguard have a "robo-advisor" service that uses algorithms to automatically adjust investment portfolios corresponding to the client's risk tolerance. Some hedge funds are experimenting with using artificial intelligence so that robots can learn algorithms on their own. In addition, services such as digital currency (Crypto Blockchain), crowdfunding services (crowd-funding), financial consulting (personal finance), insurance technology (Insur Tech), data governance (Data management) are also in the Fintech sector. Fintech's diverse applications impact almost all areas of the financial industry such as deposits, payments, insurance, securities, credit, risk management, etc. Fintech changes

the market structure, product structure and almost every aspect of a banking and financial system directly threatening the traditional financial method. The technology industry, strongly backed by financial regulators around the world, promises to make financial transactions simple, transparent, efficient and economical. Fintech is one of the leading success signals for the 4.0 revolution, bringing people benefits through comprehensive technology development, especially in the field of information technology.

Fintech is of high strategic importance for financial services companies. For example, in banks, IT costs account for 15–20% of total costs and are therefore the second largest cost factor after labor (Gomber et al., 2017). Traditionally, banks have the highest IT investment of all industries with 4.7–9.4 percent, while insurance companies invest 3.3 percent and airlines 2.6% of their revenue into IT. Because of the strategic importance of IT in financial services, the use of IT has a long history in the financial services industry with banks, insurance companies and other financial intermediaries being early adopters (Gomm, 2010).

Increasing fintech solutions lead to optimization of the status quo in regard to quality, time and cost reductions, disruptive technologies often underperform in the early stages of development, but in their later development lead to fundamental changes in the entire value chain (Navaretti & Pozzolo, 2017). An example for the first category is remote deposit capture apps for mobile phones that allow users to optimize their payment process by simply taking a picture of a payment slip instead of entering data into their online banking system. Contrary to this, an example of a disruptive innovation would be a blockchain-based peer-to-peer payment system such as Bitcoin, which completely changes the entire existing payment value chain and allows users to make payments and perform payment transactions without a bank.

Scope of Innovation Fintech innovations vary in their intra- or inter-organizational scope. While internal innovations focus on internal economic changes, the micro of innovation objects falls into one of five categories, the latter focuses on macroeconomic structures with changes of the value chain.



**Fig. 1.** Dimensions of fintech (Puschmann, 2017)

#### 2.4. Employee performance

Employee performance, the way employees perform their jobs, is measured by comparing task performance, based on organizational criteria, including leadership, time management, and productivity. capacity, etc. (Wilden et al., 2013). Sharing the same opinion, Harwiki (2016) asserts that employee performance is the value of a sequence of employee behaviors that contribute both positively and negatively to the overall goals of the organization. In other words, performance is the outcome of work relative to organizational goals (quality, efficiency, and other related effects) (Saksonova et al., 2017). Employee performance is an employee's ability to perform skills. Employee performance is important and necessary because of the ability to perform the tasks assigned to each employee (Muthukumaran, 2018). Performance refers to the quality and quantity work results achieved in the employee's work tasks as required by the organization. In addition, employee performance can be assessed by the employee's perception compared to their perception with the perception of their colleagues (Cho et al., 2019). Comparing the quality of one's work with the work of others is an important criterion for evaluating performance (Cho et al., 2019). Self-assessment measures are also used in other marketing research. Developing a definition of employee performance, based on five roles: Job (an individual's job description), Occupation (skills required in the advancement of an individual) Organization), Innovator (creativity and innovation in the work of an individual as well as that of an organization), Team (the ability to work with colleagues and team members to achieve company success) and Organization (related to corporate goals) (Bahador et al., 2019). The concept of employee performance stems from different approaches. For Arora & Talwar, (2019), job performance is a function of the abilities, skills and efforts that an employee brings to the organization. Later, Atkinson, (2008) argued that employee performance is an attitude or action in relation to organizational goals. In this view, Blackman (2013) argues that employee performance is the actions, behaviors and outputs that contribute to organizational goals. The three main characteristics of employee performance are as follows: (i) Evaluation is based on behavior, not results, (ii) Assessment based on behavior is related to the organization, (iii) is a concept multidimensional (Blackman, 2013). In short, employee performance can be measured by perceived or actual results as well as how the measurement can be assessed by employees or by direct management.

## 2.5. Innovative Work Behavior (IWB)

The concept of Innovative Work Behavior was introduced in 1998, then it has flourished and become popular to this day. The research on Innovative Work Behavior is characterized by the diversity of research methods from both qualitative and quantitative as well as different approaches (dependent and independent variables). However, despite the relatively rich empirical literature, the development of the concept of IWB is still meager (Taştan & Davoudi, 2015), indeed, even the initial studies, Scott and Bruce (1998), did not provide a clear definition for IWB. Therefore, studies usually only refer to IWB's definition (Bysted, 2013). Definitions developed for IWB are rarely accepted by other researchers. In other words, there is no universally accepted definition for IWB. Here are some popular definitions of IWB according to research over the years:

- IWBs are innovative acts that reflect the creation of something new or different. Change-oriented innovation behaviors involve the creation of a new product, service, idea, procedure or process (Spreitzer, 1995)
- IWB is the creation, purposeful application of new ideas in the work of a group or organization, for the benefit of the organization (Janssen, 2000)
- IWB is interested in the willingness of employees to create innovation such as upgrading the way of working, using computers or developing new services or products (Dorenbosch et al., 2005)
- IWB is defined as a multi-stage process in which an individual recognizes a problem, generates new ideas and solutions, and then works to promote and build support for the problem. it, while at the same time creating a model that can be applied to its use and enhanced for the benefit of the organization (Carmeli et al., 2006)
- IWB is all activities that contribute to the creation or use of new features for more benefit in an organization (Tuominen & Toivonen, 2011).

In general, after summarizing the previous concepts and studies, it is possible to draw a common ground about the concept of IWB for use in this study. Accordingly, IWB is the search, approach and application of new ideas, work processes and products during the working period, thereby bringing significant benefits to organizations and businesses. Innovation factor is also one of the important factors in non-financial factors used to evaluate the performance of enterprises, in addition to factors such as innovation, customer retention rate, etc. (Chung & Kim, 2017).

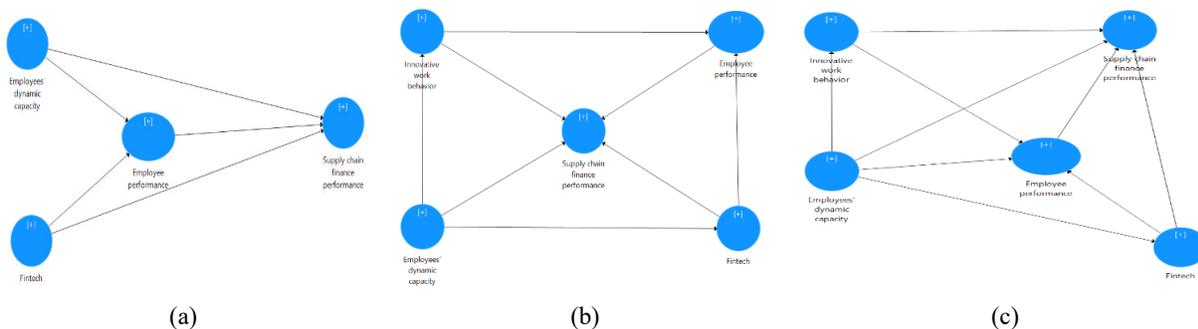
### *IWB and Employee performance*

According to Leong and Rasli (2014), social cognitive theory is a learning theory based on the premise that individuals learn by observing what others do and do not. Thus, the two expectations that individuals hold include both the ability to perform a particular behavior and the expected outcome of that behavior. According to social cognitive theory, some individuals' acquisition of knowledge depends on their observations of others through social interactions, experiences, or media. In the workplace, social cognitive theory can be viewed as on-the-job learning through imitation of behaviors ranging from actions to outcomes. Individuals educate themselves through this application, even when no external agent tells them to do so. IWB involves deliberately initiating, generating, and using new and valuable ideas within an organization or workplace to improve employee performance (Janssen, 2000). On the other hand, employee performance is the expected performance level, which affects how employees adapt to new changes, especially in a dynamic environment (Javed et al., 2017). They note that organizations will be more effective in achieving desired performance if they motivate employees to be more innovative in their mission.

## 3. Research Methods

### 3.1. Research models

The research model is implemented through three research models as follows:



**Fig. 2.** Research models

- **Employee's dynamic capacity:** Studying the impact of employee's dynamic capacity on work performance. Specific elements of dynamic competence include: Learning capability: learning capability represents the ability to absorb, assimilate and apply general knowledge and knowledge associated with Fintech into work practice. Integration Capability (Integration Capability: capacity to update and integrate new knowledge and experience into

effective implementation of existing work), Reconfiguration Capability: ability to re-establish action plans to achieve work goals). Assess the impact of Dynamic Competency in general and specific factors on employee performance.

- “Change sensitivity—item 1: I quickly notice and successfully recognize in the environment (both inside and outside of the organization) opportunities and threats (including early warning signals) that can affect the work I do Change adaptation—item 1: I adapt effectively to the opportunities and threats appearing in the environment (both inside and outside of the organization). I undertake preventive actions that will enable me to carry out the tasks entrusted to me despite changes in the environment Change sensitivity—item 2: I quickly notice and successfully recognize problems appearing at the workplace Problem solving and innovative approach—item 1: I quickly solve problems appearing, I do it on my own or seek support (within the scope of knowledge and information) that allow me to perform assigned tasks Problem solving and innovative approach—item 2: I generate innovative ideas and original solutions to problems Personal development—item 1: I constantly develop my competencies and raise my qualifications. I develop myself through my work.”

- **Financial technology application:** Studying the impact of Fintech application on employee performance. Fintech adoption is reshaping the way organizations operate in the financial services sector, as well as employee performance. Fintech application will be studied from the perspective of application capacity, showing the level of application and ability to apply Fintech in business activities. Fintech is measured by 5 items developed from the research performed by Puschmann (2017).

- **Employee performance:** in theory, work performance is analyzed from many different angles, such as employee morale, job attachment, employee commitment to work, and the success of employees at work. However, these measurement criteria are not really effective, not reflecting aspects of performance, such as the improvement in the ability to solve problems in the process of working and economic efficiency that employees bring to the business.

“I always complete the duties specified in my job description and all the formal performance requirements of my job. I always fulfill all responsibilities required by my job. I appropriately complete the work duties allocated to me. I perform my work duties precisely. I follow through on tasks to completion. I am rarely absent from my work. I make a few mistakes at work. I always do all the tasks entrusted to me on time. I create new ideas and original solutions for improvements in my own field”.

- **Financial performance of the supply chain:** This factor is measured in theory in many different ways, in this study, the author focuses mainly on the evaluations of middle managers. Therefore, the evaluation of the business performance of the organization will mainly be assessed through the performance results of its divisions, offices, branches.

“Supply chain finance performance (Zhang, 2015) (1 - “strongly disagree” to 5 - “strongly agree”): SCFP1: You see supply chain finance as a risk prevention system (strategy). SCFP2: Supply chain finance increases the capital flow coordination in the supply chain. SCFP3: Supply chain finance brings a high level of overall supply chain efficiency. SCFP4: Supply chain finance is considered as a high-risk prevention capability of core enterprise. SCFP5: Supply chain finance requires a high degree of technology for its application. SCFP6: Financial institutions hold a supportive attitude when applying supply chain finance. SCFP7: Commercial banks' system for granting supply chain finance is easy for all SC players. SCFP8: Risk prevention system is perfect when applying supply chain finance”.

### 3.2. Data collection and analysis techniques

#### *Qualitative Secondary Data analysis:*

- The author group will collect domestic and foreign scientific studies related to the topic and in-depth research. For each concept in the topic, the research team collects documents describing the concept's properties, the direct/indirect relationships that have been studied by other scholars around the world for the outcome variable, employee performance in financial services firms.
- Analytical techniques used are analysis and synthesis according to research topics and concepts.

#### *Qualitative Primary Data analysis:*

- Qualitative primary research was conducted by interviewing 20 managers working in enterprises in the financial services sector in Vietnam.
- The data collection technique used is semi-directive interview (entretien semi directif/ semi-structured interview) - using open-ended questions to collect qualitative data.
- The data analysis technique used is Content analysis of the interview responses. Specifically, this technique consists of three stages: (i) Pre-analysis, (ii) information extraction, results processing and (iii) Inference and conclusion.
  - o Pre-analysis phase: is the stage of synthesizing starting ideas to build a scenario for information collection and analysis. This phase includes the formulation of hypotheses, research objectives as well as identification of content cues (indices contenus).
  - o Information extraction and result processing stage: After being recorded in a text (transcription), the opinions of participants will be processed by Sphinx analysis software or an equivalent cutting technique. vocabulary in sentences to find the content analysis.

- Inference and conclusion phase: from the synthesis and analysis in the previous stage, the author's assessments and conclusions are made to serve the research model.

*Collect and analyze quantitative data:*

- Design of the questionnaire: The questionnaire consists of variable scales designed to serve the hypothetical model proposed by the research team to build on the basis of references from domestic and international past studies, adjusted, updated and supplemented from qualitative research results.
- The proposed scale is designed according to the Likert scale with 5 levels to increase the accuracy and objectivity in the respondents' assessment.
- The questionnaire before being used to collect data will be evaluated for clarity and intelligibility of the content.
- Research sample: Our target sample is the directors of bank branches, bank headquarters and financial companies in Vietnam. The survey questionnaire is written in Vietnamese because the Vietnamese language is used in financial enterprises in Vietnam. As a result, out of 260 questionnaires collected, only 189 questionnaires were used after data screening, the remaining questionnaires were disabled because of incomplete values. The final sample size used for our analysis was reasonable.
- The research team will collect and build a list of business units in the financial services sector and contact them to send the questionnaire.
- The questionnaire was collected by 3 methods: paper printing, receiving soft file responses via email, and creating online data collection questionnaires (online questionnaire).
- It is expected that the method of accessing and obtaining data directly by paper-based questionnaires will be the main method to ensure the authenticity of the respondents and the reliability of the collected data.
- The software used for data entry and analysis is expected to be SPSS and Smart PLS. The data analysis method is a combination of many groups of analytical methods: descriptive statistics, factor analysis and reliability analysis, structural modeling SEM.

The choice of the PLS-SEM method over the covariance-based SEM (CB-SEM) technique is because PLS-SEM is suitable when a study seeks to predict important target structures or seeks to determine basic driver structure. The application of PLS-SEM to evaluate a model is divided into two steps, that is, the measurement model evaluation and the structural model evaluation (Hair et al., 2014). It is necessary to evaluate both the validity and reliability of the latent variables, as well as the relationships that exist between the latent variables and their related items, in order to evaluate the measurement model. Instead, determining the relationship between latent variables is necessary to conduct structural model evaluation (Hair et al., 2012).

#### 4. Results

Of the 189 respondents who participated in the study. Gender analysis shows that 56.5% are male and the remaining 43.5% are female. In terms of education, 11.4% have a doctorate, 63.6% hold a master's degree, and the remaining 25% have a bachelor's degree. SPSS is used for data analysis; elements were not rotated, and principal component analysis was used to extract the data. According to the test results, five extracted factors explain 62.85% of the total variance. As a result, no single factor representing the majority of variance was extracted and therefore the samples were considered free of common methodological bias (Podsakoff et al., 2003). It is thus sufficient to perform the subsequent analysis.

**Table 1**  
Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Employee performance	0.866	0.873	0.868	0.622
Dynamic employee dynamic capacity	0.849	0.849	0.848	0.528
Fintech	0.800	0.800	0.799	0.570
Innovative work behavior	0.841	0.846	0.842	0.640
Supply chain finance performance	0.885	0.888	0.886	0.660

The test results show that all latent variables have the overall Cronbach's Alpha coefficient always greater than 0.8; Rho\_A coefficient greater than 0.8 Composite Reliability coefficient greater than 0.7 and Average Variance Extracted coefficient greater than 0.5 means that all variables are satisfied.

**Table 2**  
Discriminant Validity (Fornell-Larcker Criterion)

	Employee performance	Dynamic employee capacity	Fintech	Innovative work behavior	Supply chain finance performance
Employee performance	0.789				
Dynamic employee capacity	0.469	0.727			
Fintech	0.387	0.467	0.755		
Innovative work behavior	0.321	0.428	0.224	0.8	
Supply chain finance	0.582	0.618	0.615	0.527	0.813

To establish a convergent value for a variable, the average variance extracted (AVE) must be greater than 0.50 (Hair et al., 2016). All AVE values are greater than 0.50, indicating that the model exhibits convergent validity. Cronbach's Alpha, composite reliability and Rho\_A all need to be greater than 0.70 to demonstrate the reliability of the research model (Hair et al., 2016). Cronbach's Alpha is said to have limitations because it is based on the assumption that all indicators are equally reliable and have equal loads on the structure, while Rho\_A is based on loads (Hair et al., 2016). Cronbach Alpha of each variable, composite reliability and Rho\_A values are greater than 0.70 (Table 1 and Table 2). As a result, the model is considered reliable.

**Table 3**  
Model Fit (Fit Summary)

	Saturated Model	Estimated Model
SRMR	0.034	0.035
d <sub>ULS</sub>	0.225	0.227
d <sub>G</sub>	0.174	0.175
Chi-Square	755.647	756.321
NFI	0.919	0.919

All the fit values of the model are consistent with the suggestion of Hair et al., (2017), so the model is considered to be in agreement with the research data and research theory.

**Table 4**  
The results of R-Square

	R Square	R Square Adjusted
Employee performance	0.272	0.270
Fintech	0.218	0.218
Innovative work behavior	0.183	0.182
Supply chain finance performance	0.719	0.718

The R-Square value indicates the explanatory level of the variables in the research model. The variables in the research model explain more than 70% of the variation in supply chain finance performance, so it is a good research model.

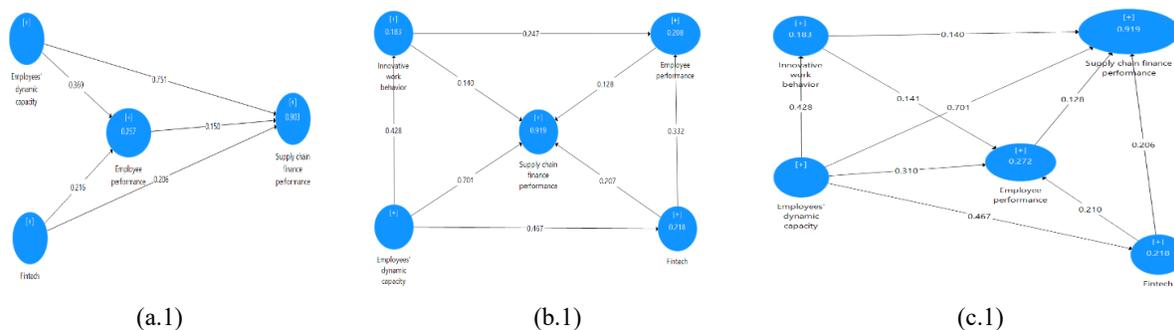
**Table 5**  
The results of f-Square

	Employee performance	Dynamic employee capability	Fintech	Innovative work behavior	Supply chain finance performance
Employee performance					0.147
Dynamic employee capability	0.089		0.279	0.224	3.725
Fintech	0.047				0.391
Innovative work behavior	0.022				0.192
Supply chain finance performance					

Most of the F-square reflection values show good association between latent variables in the research model. Except, the relationship between Employee performance and supply chain finance performance is small and the relationship between Employee performance and Fintech.

The results of testing the hypothesis are as follows:

The impact coefficients of the variables in the research model (a) are as follows:



**Fig. 3.** Impact coefficient

The impact coefficients of the variables in the 3 models are suitable for the next test. The results from model (a.2) show that employee dynamic capacity has a positive impact on employee performance with an impact coefficient of 0.327 at the 1% significance level (P\_value = 0.000) This result is equivalent to one number of previous studies (Al Wali et al., 2022; Nasir et al., 2019).

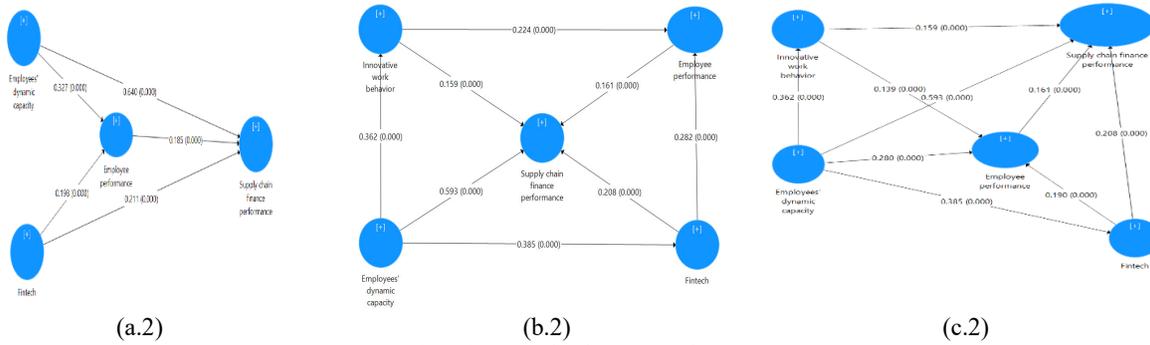


Fig. 10. Hypothesis test results

Fintech usability has a positive impact on employee performance with an impact factor of 0.198 at 1% significance level (P\_value = 0.000). This means that the application of Fintech helps to increase Employee performance of employees at financial institutions in Vietnam. It proves that Fintech has brought positive effects to financial institutions in Vietnam. For a financial institution, supply chain finance performance is a very important factor. Through the research results, it shows that both Employees' dynamic capacity, fintech and Employee performance have a positive impact on Supply chain finance performance with respective impact coefficients of 0.640. In Fig. (b.2), the results show that Supply chain financial performance does not play a full mediating role in the relationship between Employees' dynamic capacity and employees' fintech adoption. At the same time, Employees' dynamic capacity has a strong positive effect on the ability of bank employees to apply fintech with an impact coefficient of 0.385 at 1% significance level (P\_value = 0.000). Similar to Fig. (c.2), employee dynamic capacity and ability to apply fintech have a positive impact on employee performance with impact coefficients of 0.280 and 0.190, respectively, at significant levels. 1% (P\_value = 0.000). Summary of research hypotheses are given in Table 6 and the results of the mediate role are given in Table 7.

Table 6  
Path Coefficients (Mean, STDEV, T-Values, P-Values)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Employee performance → Supply chain finance performance	0.161	0.161	0.019	8.369	0.000
Employees' dynamic capacity → Employee performance	0.280	0.280	0.033	8.360	0.000
Employees' dynamic capacity → Fintech	0.385	0.388	0.026	14.674	0.000
Employees' dynamic capacity → Innovative work behavior	0.362	0.363	0.035	10.433	0.000
Employees' dynamic capacity → Supply chain finance performance	0.593	0.594	0.027	21.918	0.000
Fintech → Employee performance	0.190	0.190	0.038	4.937	0.000
Fintech → Supply chain finance performance	0.208	0.208	0.022	9.444	0.000
Innovative work behavior → Employee performance	0.139	0.139	0.030	4.634	0.000
Innovative work behavior → Supply chain finance performance	0.159	0.158	0.021	7.526	0.000

Table 7  
Specific Indirect Effects (Mean, STDEV, T-Values, P-Values)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Dynamic employee capacity → Fintech → Employee performance → Supply chain finance performance	0.012	0.012	0.003	4.078	0
Dynamic employee capacity → Innovative work behavior → Employee performance	0.051	0.051	0.012	4.062	0
Dynamic employee capacity → Innovative work behavior → Supply chain finance performance	0.058	0.058	0.01	5.632	0
Dynamic employee capacity → Employee performance → Supply chain finance performance	0.045	0.045	0.007	6.061	0
Fintech → Employee performance → Supply chain finance performance	0.031	0.03	0.007	4.251	0
Dynamic employee capacity → Fintech → Employee performance	0.073	0.074	0.016	4.568	0
Dynamic employee capacity → Innovative work behavior → Employee performance → Supply chain finance performance	0.008	0.008	0.002	3.749	0
Innovative work behavior → Employee performance → Supply chain finance performance	0.023	0.022	0.005	4.114	0
Dynamic employee capacity → Fintech → Supply chain finance performance	0.08	0.081	0.009	8.774	0

## 5. Conclusion

In Vietnam, after more than 30 years of opening up and innovating, the country's economy has made many spectacular changes. Per capita income in Vietnam has risen to the average level since 2010. The poverty rate has been significantly reduced. Economic development means that information technology will come closer and closer to consumers as well as businesses.

However, new technology is only easily accessible to the environment in urban areas and cities, while in rural areas, remote areas or a few Fintech micro enterprises is still a big obstacle. Therefore, to be able to implement more sustainable development strategies, the Vietnamese government has made efforts to promote financial inclusion, working with the State Bank to comprehensively coordinate the economy, providing innovative and innovative products and services, increasing the percentage of people using smartphones, the internet and social networks, etc.

Currently, there are still nearly 70% of adults who do not have access to bank account services, so the state has recognized the potentials of Fintech and thoroughly applied and developed utilities. expanded so that people can more easily access new technology. Starting from March 16, 2017, the State Bank of Vietnam established a Steering Committee on the field of financial technology, to complete and develop this ecosystem, helping Fintech in Vietnam to be researched and developed. bring the best benefits to consumers. Fintech is considered as a stepping stone for finance to break through and develop further. Certainly, in the future, Fintech will increasingly expand and reach users in more ways.

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## References

- Atkinson, W. (2008). Supply chain finance: the next big opportunity. *Supply Chain Management Review*, 12(4), S57–S60.
- Akhisar, I., Tunay, K. B., & Tunay, N. (2015). The effects of innovations on bank performance: The case of electronic banking services. *Procedia-Social and Behavioral Sciences*, 195, 369-375.
- Aliyu, A., & Tasmin, B. H. (2012). The impact of information and communication technology on banks' performance and customer service delivery in the banking industry. *International Journal of Latest Trends Finance and Economy*, 2(1), 80-90.
- Arora, V., & Talwar, R. (2019). A Study on Evaluating the Effectiveness of Training in Public Sector Bank. *IUP Journal of Management Research*, 18(1), 135–149.
- Bahador, M. H., Isahak, N., & Razak, N. A. (2019). Implications of Employees Workload in the Banking Industry: A Case of BIMB Branches in the Central 3 Region. *Management & Accounting Review*, 18(2), 163–192.
- Beccalli, E. (2007). Does IT investment improve bank performance? Evidence from Europe. *Journal of Banking & Finance*, 31(7), 2205-2230.
- Blackman, I.D., Holland, C.P., & Westcott, T. (2013). Motorola's global financial supply chain strategy. *Supply Chain Management: An International Journal*, 18(2), 132-147.
- Carmeli, A., & Spreitzer, G. M. (2009). Trust, connectivity, and thriving: Implications for innovative behaviors at work. *The Journal of Creative Behavior*, 43(3), 169-191.
- Bui, T. (2020a). How do financial leverage and supply chain finance influence firm performance? Evidence from construction sector. *Uncertain Supply Chain Management*, 8(2), 285-290.
- Bui, T. (2020b). How does corporate performance affect supply chain finance? Evidence from logistics sector. *Uncertain Supply Chain Management*, 8(3), 563-568.
- Bui, T. (2020c). Supply chain finance, financial development and profitability of real estate firms in Vietnam. *Uncertain Supply Chain Management*, 8(1), 37-42.
- Bui, T. N., & Doan, T. T. T. (2020). Factors influencing supply chain finance of real estate sector: Evidence using GMM estimation. *Uncertain Supply Chain Management*, 8(3), 627-632.
- Bysted, R. (2013). Innovative employee behaviour: The moderating effects of mental involvement and job satisfaction on contextual variables. *European Journal of Innovation Management*, 16(3), 268-284.
- Cepeda, G., & Vera, D. (2007). Dynamic capabilities and operational capabilities: A knowledge management perspective. *Journal of business research*, 60(5), 426-437.
- Chien, S. Y., & Tsai, C. H. (2012). Dynamic capability, knowledge, learning, and firm performance. *Journal of Organizational Change Management*, 25(3), 434-444.
- Cho, W., Ke, J. Y. F., & Han, C. (2019). An empirical examination of the use of bargaining power and its impacts on supply chain financial performance. *Journal of Purchasing and Supply Management*, 25(4), 100550.
- Chung, Y. W., & Kim, T. (2017). Impact of using social network services on workplace ostracism, job satisfaction, and innovative behaviour. *Behaviour & Information Technology*, 36(12), 1235-1243.
- Dorenbosch, L., Engen, M. L. V., & Verhagen, M. (2005). On-the-job innovation: The impact of job design and human resource management through production ownership. *Creativity and innovation management*, 14(2), 129-141.
- Eriksson, T. (2014). Processes, antecedents and outcomes of dynamic capabilities. *Scandinavian journal of management*, 30(1), 65-82.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of management information systems*, 35(1), 220-

- Gomber, P., Koch, J. A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, 87(5), 537-580.
- Gomm, M. L. (2010). Supply chain finance: applying finance theory to supply chain management to enhance finance in supply chains. *International Journal of Logistics: Research and Applications*, 13(2), 133-142.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. In *European Business Review* (Vol. 31, Issue 1). <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, Jr. J. F., Hult, G. T. M., Ringle, C. M., & Rstedt, M. S. (2014). a primer on partial least squares structural equation modelling. In *Practical Assessment, Research and Evaluation* (Vol. 21, Issue 1).
- Hung, R. Y. Y., Yang, B., Lien, B. Y. H., McLean, G. N., & Kuo, Y. M. (2010). Dynamic capability: Impact of process alignment and organizational learning culture on performance. *Journal of world business*, 45(3), 285-294.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology*, 73(3), 287-302.
- Javed, B., Bashir, S., Rawwas, M. Y., & Arjoon, S. (2017). Islamic work ethic, innovative work behaviour, and adaptive performance: The mediating mechanism and an interacting effect. *Current Issues in Tourism*, 20(6), 647-663.
- Leong, C. T., & Rasli, A. (2014). The Relationship between innovative work behavior on work role performance: An empirical study. *Procedia-Social and Behavioral Sciences*, 129, 592-600.
- Makkonen, H., Pohjola, M., Olkkonen, R., & Koponen, A. (2014). Dynamic capabilities and firm performance in a financial crisis. *Journal of business research*, 67(1), 2707-2719.
- Marak, Z.R., & Pillai, D. (2019). Factors, outcome, and the solutions of supply chain finance: Review and the future directions. *Journal of Risk and Financial Management*, 12(3), 1-23.
- Mathis, J.F., & Cavinato, J. (2010). Financing the global supply chain: growing need for management action. *Thunderbird International Business Review*, 52(6), 467-474.
- More, D., & Basu, P. (2013). Challenges of supply chain finance. *Business Process Management Journal*, 19(4), 624-647
- Muthukumar, M. (2018). Effect of Quality of Work Life on Job Satisfaction and Organizational Performance: A Structural Equation Analysis. *Optimization: Journal of Research in Management*, 10(2), 46-51.
- Navaretti, G.; Pozzolo, A. (2017). FinTech and Banks: Friends or Foes. *European Economy*, 2, 9-30.
- Puschmann, T. (2017). Fintech. *Business & Information Systems Engineering*, 59(1), 69-76.
- Randall, W., & Farris II, T. (2009). Supply chain financing: using cash-to-cash variables to strengthen the supply chain. *International Journal of Physical Distribution & Logistics Management*, 39(8), 669-689.
- Saksonova, Svetlana; Kuzmina-Merlino, Irina. (2017). Fintech as Financial Innovation—The Possibilities and Problems of Implementation. *European Research Studies*, 20(3A), 961.
- Shaik, A. (2021). Significance of supply chain finance: Insights from Saudi Arabia. *Uncertain Supply Chain Management*, 9(3), 539-548.
- Scott, S. G., & Bruce, R. A. (1998). Following the leader in R&D: The joint effect of subordinate problem-solving style and leader-member relations on innovative behavior. *IEEE Transactions on engineering management*, 45(1), 3-10.
- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of management Journal*, 38(5), 1442-1465.
- Taştan, S. B., & Davoudi, S. M. M. (2015). An examination of the relationship between leader-member exchange and innovative work behavior with the moderating role of trust in leader: A study in the Turkish context. *Procedia-Social and Behavioral Sciences*, 181, 23-32.
- Tuominen, T., & Toivonen, M. (2011). Studying innovation and change activities in KIBS through the lens of innovative behaviour. *International Journal of Innovation Management*, 15(02), 393-422.
- Virolainen, V.M., Pirttila, M., Lind, L., & Karri, T. (2019). Scenario development for collaborative financial supply chain management in the automotive industry. *Procedia Manufacturing*, 39, 1538-1544.
- Wilden, Ralf, et al., (2013). Dynamic capabilities and performance: strategy, structure and environment. *Long Range Planning*, 46(1-2), 72-96.
- Wuttke, D.A., Blome, C., Foerstl, K., & Henke, M. (2013). Managing the innovation adoption of supply chain finance: empirical evidence from six European case studies. *Journal of Business Logistics*, 34(2), 148-166.
- Zhang, T., Zhang, C.Y., & Pei, Q. (2019). Misconception of providing supply chain finance: Its stabilizing role. *International Journal of Production Economics*, 213, 175-184.

