

Research Article

The Critical Success Factors for Sustainability Financial Technology in Vietnam: A Partial Least Squares Approach

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This paper helps in determining the critical success factors (CSFs) for sustainability financial technology business. An attempt is made to study the influence of were found CSFs to be key aspects of a business that must go well to ensure the success of an organization. These CSFs include issues that are vital to a company's operating activities and its future success. The study collected data from 253 respondents through a structured questionnaire. Partial Least Square Structural Equation Modelling has been adopted to analyze the data through SmartPLSv3. For better understanding, we emphasize that companies within the same industry may exhibit different CSFs due to anomalies in their environmental situation or strategic situations, which might pose as a challenge for this study and the future exploration towards a general set of CSFs for sustainability fintech companies. The research concluded the presented seven CSFs with the following customer centricity, low profit margin, agility, scalability, security management, innovation, and compliance easy. The findings of the paper are beneficial for fintech enterprises and marketers to enhance the awareness and advantages of financial technology according to the needs of consumers and add value to the existing literature on the future sustainable financial technology businesses.

1. Introduction

Finance has seen significant development and expansion because of advances in information technology. The term “fintech” refers to the convergence of financial services and information technology. According to Gimpel et al. [1], Citygroup coined the phrase “fintech” in the 1990s to describe a technical collaboration. Moreover, the term was already in use two decades prior to Bettinger [2] use that fintech is an abbreviation for “financial technology,” and it refers to the merging of bank expertise with computer accessibility and functionality. The acceptance and adaptation of new tech have assumed a critical part in the period of industrial and commercial expansion [3]. In the 1990s, online financial inclusion was known as financial innovation; in the 2000s, it became known as e-finance or digital finance [4]. Fintech has evolved dramatically in the financial sector, from automatic teller machines with credit and debit cards to mobile phones and application software [5].

Fintech firms now operate in a wide range of financial services sectors. However, categorizing the fintech sector is vital; distinguishing in both traditional banks (incumbents) and non-banks is impractical due to the complexities of convergence procedures and collaboration, respectively, between non-bank lenders and banks. Consequently, a function-based categorization focused on an industry sub-sector, or solution classification is recommended. Warner [6] drew inspiring from the World Economic Forum and Deloitte (2015), the category of financial services, which were formed by constructing a structure of six financial services functions, all of which are financial services. [6] The framework also was redesigned by replacing the category “insurance” with “enterprise financial software.” This had been accomplished based on research from certified fintech reporting requirements and professionals [6]. It would be crucial to highlight that this categorization in this study is a working categorization because the sector is undergoing rapid changes in design, delivery, and providers; hence, the

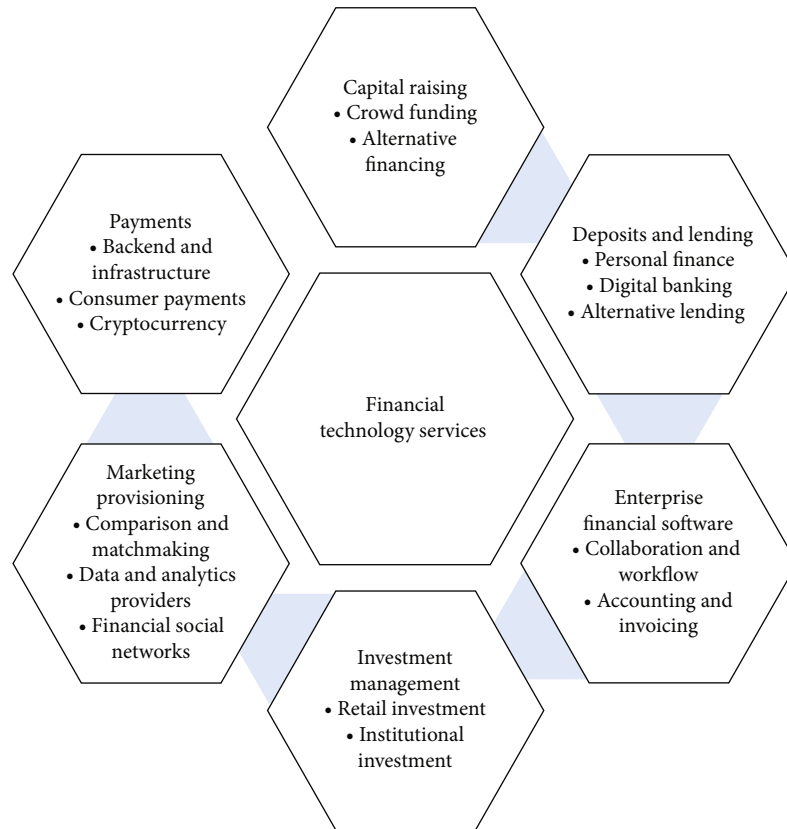


FIGURE 1: Financial technology services.

categorization might be disputed by other practitioners [6]. Figure 1 presents fintech services.

The questionnaire of how and why several fintech companies have also succeeded has only been posed, and as a result, there is little observational concrete evidence of fintech's achievement [7, 8]. A complete dataset of fintech firms in Vietnam has been demonstrated through 2017 [9]. According to the study, the financial services business can be classified into six separate groups, each of which has 12 sub-sectors [9]. Furthermore, each firm in the Vietnamese fintech area was researched to comprehend the distinct business characteristics [9]. However, it left key concerns unsolved, particularly about which criteria are essential for a fintech organization to be sustainable. A further subject of significant interest is how the fintech industry has developed and progressed since then. The study sets the groundwork for a method of identifying crucial elements for recognizing prospective sustainable fintech enterprises and describing the growth of the Vietnamese fintech industry. This project aims to bridge this knowledge gap by performing literature analysis, obtaining, and analyzing information and data to analyze evolution of the fintech sector and identify, recognize, and classify success characteristics of fintech firms.

Asia has become one of the main fintech regions in recent years, recording the greatest fintech income worldwide. Vietnam is one of the region's developing fintech markets. The country's population is becoming increasingly interconnected, creating conditions for the growth of fin-

tech. As a result, the Vietnamese fintech industry has been rapidly growing, as digital payments, cryptocurrencies, blockchain technology, and more have emerged. As the primary battleground of fintech, it is anticipated that fintech will bring about major developments in industrial design, industrial production, and distribution, infuse new vitality and potential energy into the traditional sectors, while boosting the development, innovative thinking, and indeed restructuring of higher-dimensional industries. With the advancement of computer and storage capacity, particularly the development of big data and artificial intelligence, every industry has put forward unprecedented demands for data collecting methods. The acceptance and use of technology by its inhabitants are crucial factors in determining a country's economic progress. As a result of technological innovation and advancement, finance technology has become the standard.

There has been a considerable growth in the percentage of consumers that have adopted fintech from 16 percent in 2015 to 64 percent in 2019. Fintech is relatively well-known among customers, particularly those who have not adopted it. Fintech has progressed to the point that consumer expectations have grown substantially [10]. Even though fintech has attracted many users, the sustainability of financial services remains a concern. Some customers are hesitant to continue using financial services due to the substantial hazards involved. Users want to know whether the use of financial services will be more advantageous or dangerous. A consumer will only utilize financial services if

the advantages outweigh the risks. Identifying the factors that will increase the use of financial services empirically is necessary to determine the continued utilization of financial services. According to Manyika et al.'s [11] report, mobile devices will be a game changer for digital finance. With mobile payments, the cost of financial services can be decreased by 80-90 percent [12].

In recent decades, a lot of scholars in the domain of fintech have examined its success characteristics [13] and fintech key success has been evaluated using a variety of statistical and mathematical tools and approaches such as Data Envelopment Analysis (DEA) [14-17] and econometric regression [15, 18]. However, despite their presence in the literature, different approaches were employed to analyze the performance and indicators of fintech by other researchers. Earlier studies have identified the behavioral intention elements associated with the use of various financial services [13, 14, 19-21]. However, there are few studies that investigate the adoption and evaluation of critical success factors (CSFs) for sustainable fintech services.

The following are the contributions to the existing body of knowledge that this study aims to make. The purpose of the study is to widen the scope of the adoption decision by identifying and categorizing the explanatory power of CSFs for sustainability fintech organizations. However, there is still an opportunity for investigation focus to verify the existing observations of CSFs and to enhance new elements. Utilizing the net valence paradigm, this study can help professionals improve their understanding of benefit and risk conceptions that could be used to develop advantage and threat-reduction techniques to improve financial services. [22] As sustainable fintech is a relatively new phenomenon, its enabling and inhibiting factors are not sufficiently understood, despite the fact that its implications are substantial. Fintech's business model must be transformed from high margin to low margin. Previously, firms with high margins had been favorable investment targets. High profit margins, entry barriers, and absence of technological disruption thus marked their characteristics. Presently, tech firms that encourage funds are innovative, have low profit margins and a low barrier to entry, and have the potential to achieve high scalability, allowing fintech companies to focus on customer loyalty rather than cash flow [23]. Finally, our research can provide fintech companies with valuable information inside which challenges must be clarified or prevented while offering customers with digital financial services; this study also gives comprehensive indicators that can be used to quantify success factors in the fintech industry, and the final conclusions contain helpful recommendations and data for government organizations and businesses. The following sections of the study are organized as follows: the second section conducts a literature review on the critical success factors of sustainable fintech services and discusses the research framework that has been proposed. The third section discusses the hypothesis formulation used in this research. The next section contains the research methodology. Section 5 discusses the results of the research. Section 6 studies the conclusions and management implications. Section 7 contains limitations.

2. Literature Review

2.1. Critical Success Factor of Sustainable Fintech Services. The CSF notion has unavoidably changed with time and has been utilized in a variety of settings. CSFs are closely tied to the vision, mission, strategic, and visionary goals of any project and organization; however, whereas the vision and objectives focus on what is to be accomplished, CSFs concentrate on the primary crucial aspects of the methodology and reach to the core of both the "what" and "how." In addition, it is crucial to note that organizations in the same industry may exhibit distinct CSFs due to environmental, temporal, geographic, or strategic circumstances [15]. This makes it challenging to determine a generic set of CSFs for fintech firms.

The CSF notion has changed and has been implemented through numerous disciplines over time. Each of these environments is information and communication technologies (ICT), but these exams are restricted to the financial services industry only. Nicoletti [24], utilizing ICT studies of Fayaz et al. [25], Kiih [26], and Lee and Teo [8], introduced a structure of CSFs for fintech firms. Lee and Teo [8] described several characteristics, which can benefit from the earlier discovery of viable future fintech companies. Low margin, asset light, scalable, innovative, and compliance easy are the factors (LASIC). Every factor was described and further adapted to the case studies of Alibaba and M-PESA [8]. Nicoletti [24] utilized the research results of all three previously cited publications and presented a structure mostly focused on Lee and Teo [8]. Nicoletti [24] expanded and modified their LASIC principles, who combined the attributes suggested by Lee and Teo [8] with the research conducted by Fayaz et al. [25], Kiih [26], and Nguyen [27]. With the adjustment of "asset light" to "agility" and the integration of "customer centricity" and "security management," this resulted in an approach with seven CSFs. Sustainable fintech plays an important role through reinventing finance and reducing business costs to serve a large portion of individuals who are currently served by financial firms with scalable growth potential. Customers will be inspired by these new technologies due to their low prices and convenience. Banking and financial organizations with large assets and substantial fixed expenses will be disrupted as a result of the need to respond to disruptions. Aligning with the government's social, economic, and financial inclusion policies will reduce compliance, costs, and political resistance [23]. According to a review of the literature review, the previous research on the CLASSIC of Nicoletti [24] should be argued with these factors, which consists of the following: *customer centricity, low profit margin, agility, scalability, security management, innovation, compliance easy*.

The seven CSFs from Nicoletti's [24] framework are discussed in detail in the following sections. In addition, CSFs are summarized, supported, presented with a keyword-based description of each, and critically evaluated.

2.2. Substantiation of the Critical Success Factors. Lee and Teo [8] recognized CSFs, which can assist with the identification of future potential sustainable fintech firms, which is

termed the LASIC principle. To remain sustainable and profitable, Alibaba and M-PESA enterprises must develop their business functions to remain sustainable and profitable by adopting financial inclusion. This means that there are no definitive statements on how important each of these things. Mads Frederik [28] suggested eight critical success factors across nine case studies, with varying levels of explanatory power. The recognized factors seem to be innovation, scalability, customer centricity, organization, agility, low profit margin (funding), simplicity, and products and services of Danish fintech companies from 2017 to 2020 [22]. The study analyzed the facilitating and deactivating factors of fintech and recognized 13 various factors as the contributing factors to the widespread increase in the use of fintech in different financial areas of the economy.

Nicoletti [24], based on past research, suggested strategy for substantiating the importance of CLASSIC principles and identifies seven essential characteristics with varying degrees of explanatory power of business models that can successfully leverage fintech to meet the goal of developing a sustainable social enterprise for financial inclusion; it means the relative weight of each factor on a scale from 1 to 10, as represented by a radar diagram, there are not definitive assertions regarding the relative importance of all of these factors. Additionally, our work likewise seeks to address this research gap. For this study, to definitively define the CSFs of sustainable fintech organizations, qualitative studies involving both fintech professionals and customers would constitute an especially valuable contribution.

3. Hypotheses Formulation

In addition to providing a framework of CSFs for sustainability fintech organizations, the reflective thinking and critical assessment of the structure have revealed certain issues in attempting to present such a framework, due primarily to the industry's quick rate of development and the limited research of fintech. It was feasible to discover certain keywords for each of the criteria when presenting them. Concentrated on Nicoletti's [24] framework, Figure 2 provides a visualization in accordance with the seven CSFs detailed in the fintech CLASSIC model.

The following sections outline the factors through this new paradigm. These factors can effectively leverage fintech activities to achieve the goal of establishing a sustainable fintech enterprise.

Customer centricity: Drucker [29] established the notion of customer centricity, which states that the customer dictates how a business is, what that really produces, and its success level. As stated in a 2003 Gartner Group report, "By 2007, less than 20 percent of marketing enterprises among Global 1000 enterprises will have progressed sufficiently to the required attributes customer-centric, value-added processes and capabilities" [30]. According to the same analysis, "by 2007, marketers who spend nearly 50% of their time on sophisticated, customer-centric marketing efforts and abilities would then generate a marketing return on investment (ROI) which is at least 30% higher than their counterparts do not place such a focus." Customer centricity

entails providing an exceptional experience to customers at any virtual and real interaction points with the firm, while also adding value to the business. A customer-centric method can add value to a fintech enterprise by allowing it to distinguish itself from direct competitors who do not provide having similar experience. The following are the defining features of a customer-centric approach: convenient, customer needed, customer engagement. Thus, the first hypothesis has been framed as:

H1: Customer centricity is significantly and positively related to sustainable financial technology business.

Low profit margin: In the early phases of a fintech firm, a low profit margin is a defining characteristic [8]. According to Accenture, even profitable fintech startups require 8 to 14 years to reach profitability. Numerous individuals spend considerable time "waiting in the lobby," implying that the company is likely to fail. A company has a good chance of achieving operational success, but only if its beginning phase of growth is adequately rapid and turbulent [31]. Eventually, as future revenue contributions are identified, the profitability will appear to be low but that will improve [32]. Typically, profitability falls under the category of profitability ratio. This category includes various profitability ratios, such as gross profit margin, operating profit margin, net profit margin, earnings per share, return on assets, and return on equity. The profitability is calculated by dividing net income by sales or net profit by revenue. In addition to profitability measurements, other non-profitability-related statistics such as customer acquisition costs, customer lifetime value, customer retention rate (churn), net promoter score, and daily active users are also useful [33]. The second hypothesis has been framed as:

H2: Low profit margin is significantly and positively related to sustainable financial technology business.

Agility: Advanced Research Programs Agency (ARPA) and Agility Forum (AF) identify agility as "the ability to function and compete within a state of dynamic, continuous, and often unanticipated change" [34]. Since it is a broad definition of the phrase, it is essential to specify it in the context of organizations and/or businesses. Liu et al. [16] synthesized the duties of researchers and provided a detailed explanation of agility in an enterprise context. Enterprise agility is defined as "a complex, multidimensional, and context-specific concept comprised of the ability to sense environmental change and quickly respond to unpredicted change by flexibly assembling resources, processes, knowledge, and capabilities" [16]. The convergence of information technology offers businesses numerous options to increase their agility. For its market rationale and operational success, the ability to identify and capture market possibilities quickly and the element of surprise are deemed indispensable [35]. To exploit opportunities, it is essential for businesses to continuously identify openings in their respective markets and to acquire the requisite skills and resources as soon as possible. A company's success in the wider definition results out of its capacity to continuously enhance and reinvent its value generation and achieve a competitive edge through the development of new products, distribution channels, service offerings, and developing markets [36]. Companies that are

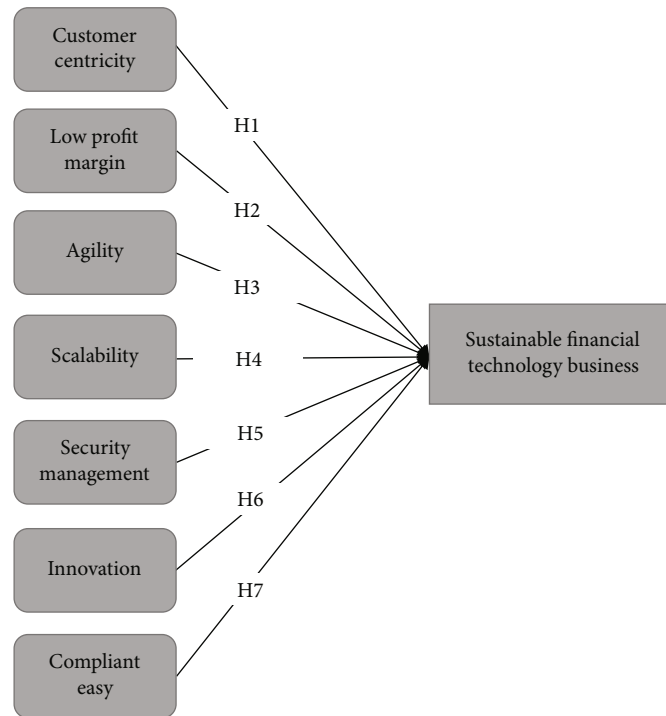


FIGURE 2: Sustainable fintech business structure model [24].

agile can be supplemented and reformulated, allowing them to develop and expand less imposing excessive operating expenses. Additionally, this strategy is underpinned by two essential concepts of digital technology: reprogrammability and self-reference [37]. Because asset light is a means and not an aim, agility is preferred over asset light. In addition, asset lightness is a generalization that might be difficult to objectively assess due to its variable connotation [24]. The third hypothesis has been framed as:

H3: Agility is significantly and positively related to sustainable financial technology business.

Scalability: Scalability is just the extent that a resource may be changed to enable application-engineered goods including a variety of predetermined measurements. It relates especially to the capacity of a system or program to incorporate extra resources effectively and efficiently [38]. In an organizational context, it refers to systems, networks, or procedures mostly with the capacity to handle increasing demand or the capacity to be expanded to allow such development; for example, the system could increase its maximum total production in response to a growing customer demand (Hughes, 2016, p. 276). To increase production at the optimal time, the expansion's duration is just as crucial as the entry's timing. Staykova and Damsgaard [39] defend that entry timing is any crucial factor in a successful entering the market when estimating the most advantageous moment to enter a market can result in a considerable competitive advantage. In this setting, although, the expansion's timing is of much more importance. According to Staykova and Damsgaard [39], fintech companies should explore multi-sided marketplaces despite utilizing through an approach that can only be successful if there are large network effects,

significant scale economies, and high retention rates. This strengthens the argument for a low profit margin early stage combined with an increase in the second CSF [39]. Furthermore, networks are only insufficient to create significant barriers of entry; the cost of switching also is crucial. The recently acquired competitive advantage may be lost if the development is still not completed within the optimal time-frame [39]. Despite the fact that developers must be careful that their technology is scalable, the advent of digital business strategies has facilitated the growing firm extremely simple. The fourth hypothesis has been framed as:

H4: Scalability is significantly and positively related to sustainable financial technology business.

Security management: Security management refers to the process of identifying an organization's resources, followed by the development, documenting, and application of procedures and policies to protect these resources [24]. Such controls are presented by Lee [40] in an approach of analyzing various security properties. The general concept would be security properties must be met even within challenging situations. A collection of generic requirements was proposed, which allows a property to be checked just against the most powerful intruder. The method can be used with a variety of existing security properties [24]. Customers should prioritize security when utilizing the web or mobile apps. Regarding financial services, worry must be amplified. Fintech firms must create security services irrespective of regional or local legislation [24]. The framework is a blueprint for how organizations with key infrastructure should strengthen their cyber risk through offering a platform that organizations, policymakers, and customers could have used to start creating, advise, evaluate, or keep improving effective

cybersecurity programs and services [24]. This enables organizations to implement optimal risk assessment practices to enhance resilience and protection. Organizations can utilize the framework to identify their present degree of cybersecurity and build a plan for preserving or increasing cybersecurity in coordination with their corporate environment [24]. This framework technique will secure privacy and civil rights and assist firms in incorporating these measures throughout existing overall cybersecurity programs [24]. The fifth hypothesis has been framed as:

H5: Security management is significantly and positively related to sustainable financial technology business.

Innovation: To be successful in the fintech industry, it is essential to have new products and procedures. As a result of the advent of technology and digitalization, most of innovation in the fintech industry may now be accomplished through technological means which include autonomy, Big Data analytics, Internet of Things (IOT), social media networks, cloud technologies, and artificial intelligence. Successful fintech organizations must be inventive in a variety of business facets: goods, operations, organization, and business strategies [24]. Following Drucker and Christensen [41], entrepreneurship's specific function is invention, whether it may be through an established firm, a government service organization, or an individual starting a new endeavor. It is how an entrepreneur generates new wealth-generating resources or enhances the wealth-generating potential of existing resources; in certain literature, this is also differentiated as radical and incremental technology (or entrepreneurialism). There remains no agreed-upon definition of entrepreneurial; the ambivalence differs between new and small firms. Moreover, many existing businesses participate in entrepreneurial success; so, its phrase does not actually imply the size or duration of a firm, instead to the type of business activity engaged in [41]. It is frequently connected with innovation and a flash of brilliance. Moreover, some breakthroughs result from one deliberately and systematic search for new opportunities for innovation. There are four such chances within a company or industry: unexpected occurrences, incongruity, process demand, and industry and market shifts. Outside of the company's social and intellectual environment, three other sources of opportunity exist: changing demographic needs, changing in perception, and conceptual understanding [41]. Methodical and intentional innovation starts with such an ongoing evaluation of novel potential sources. Focusing mostly on the situation, every source will have a different unique significance. Inside the perspective of fintech organizations, related industries and market shifts, as well as new information, are of critical relevance [41]. Other factors may also be relevant; therefore, innovators must evaluate all potential opportunities regardless of the situation. Even though the innovation is also theoretical and experiential, innovators may employ all brain hemispheres when they observe, question, and listen [41]. In addition, they must employ analytical reasoning to establish what the innovation must be to capitalize on a given opportunity. Lastly, innovative companies should always investigate the preconceptions, values, and requirements of a possible user base that strengthens

the first achievement element of customer centricity [41]. The sixth hypothesis has been framed as:

H6: Innovation is significantly and positively related to sustainable financial technology business.

Compliance easy: The State Bank of Vietnam (SBV) controls the financial regulation and compliance framework in Vietnam as an integrated supervisor. The SBV is responsible for drafting financial regulations and legislation. As a member of the Association of Southeast Asian Nations (ASEAN), Vietnam is subject to the overall regulatory framework given by ASEAN directives and rules, International Monetary Fund (IMF, 2014)[42]. The laws of financial firms have been getting more complicated and probably expensive, especially for fintechs. Significant elements influencing the invention activities of business, industry, and economic structure have been recognized as regulatory framework modifications [43]. In general, compliance is adhered to prerequisites including criteria, regulations, or legislation. Compliance with the law financial systems is required, and each country must have its unique regulations focused on its cultural environment, economic structure, and historical experience. This method ensures how all relevant specifications are met without excessive effort being duplicated [24].

The variety of several laws and regulations that firms must adhere will probably increase over time [24]. This should lead to an increasingly competitive and effective market. Thus, the potency of a uniform worldwide fintech regulatory framework emerges, with the purpose of maximizing market opportunities while establishing a baseline for controlling the risks to financial stability and consumer protection [24]. The seventh hypothesis has been framed as:

H7: Compliance easy is significantly and positively related to sustainable financial technology business.

4. Research Methodologies

4.1. Samples Design and Data Collection. To empirically evaluate the proposed paradigm, we obtained by conducting a comprehensive literature review and explored by a quantitative methodology that gathered data from a questionnaire survey. An effective and comprehensive evaluation of the literature review on CSFs for sustainability and fintech readiness. Previously acknowledged and evaluated items had been utilized to aid accumulated study [44–46]. Taking into account previous research, items evaluating managerial obstacles and organization, preparation factors have been constructed specifically for this research [47, 48]. Even though the CLASSIC has been used in several company-level fintech adoptions, to the best of our knowledge, very few of the constructs utilized in these research findings were mainly focused on fintech adoption [28]. To confirm that the constructs' components were suitable for evaluating framework measurements in the context of this study, a pre-test survey was conducted.

This study surveyed significant Vietnamese enterprises through mail to obtain a number of valuable participants. From a conceptual perspective, this research highlighted the CSFs for fintech firms by evaluating, enhancing, and extending Nicoletti's [24] success factors conceptual model

to include the fintech industry. Seven constructs, customer centricity, low profit margin, agility, scalability, security management, innovation, and compliance easy, were operationally defined as factors of a total of 29 items. To evaluate these items and obtain the highest number of respondents, a 7-point Likert scale varying from “I strongly agree” (7 points) to “I strongly disagree” (1 point) is used. The majority of participants are senior managers, specifically those directly in charge of fintech systems in both public and private enterprises in Vietnam. The objective used to gather a sample that is representative of the Vietnamese business community at a variety of levels, backgrounds, gender, age, and geographic location. Utilizing the <http://LinkedIn.com> database provides benefits such as the capacity to reach a large number of respondents with extremely diverse attributes such as position, educational level, and geographical location within Vietnam, allowing for more generalizable findings, as shown in Table 1. In total, 500 invitations were provided to Vietnam’s various industries. The overall number of replies from LinkedIn was 263, with 10 data points incomplete. By removing those responses, the total of valid questionnaires was decreased to 253, which remains sufficient to conduct the quantitative analysis with a valid sampling [49, 50].

4.2. Data Analysis. This research utilizes structural equation modeling (SEM) to examine the sample data and assess model fit. Developed in the second generation, SEM is a method for conducting high-quality statistical analysis on multivariate data [51]. SEM is performed using SmartPLSv3, a covariance-based method for examining models that include variables with estimation errors [52]. Using a combination of multivariate and regression analysis, the study examines factor analysis and idea connections. SmartPLSv3 is utilized in this study to investigate the structural model and the measurement model. The evaluation model demonstrates the relationships between constructs (latent variables) and their indicators (observed variables), while the structural model represents the latent variables’ potential causal relationships [53].

4.3. Measurement of Variables. A comprehensive literature review informed and formed the survey’s structure and content. The dependent variable, i.e., sustainable fintech business, has been impacted and modified by the research of Nguyen [27], Nicoletti [24], Picoto et al. [47], Wright et al. [48], and Cheng et al. (2006). Several independent variables, namely, customer centricity (CUC), low profit margin (LPM), agility (AGI), scalability (SCA), security management (SCM), innovation (INO), and compliant easy (COE), have been integrated into the research article [19]. Table 2 presents the executive summary.

5. Results

5.1. Measurement Model. First, the assessment model’s multivariate normality was examined. Using multivariate kurtosis and skewness, the web software was utilized to verify the normality of data [54, 55]. As $p < 0.05$ for kurtosis and skew-

ness, the outcomes indicated that the data lacked multivariate normality. Therefore, PLS-SEM was preferred for data analysis [56]. In addition, the data were examined for methodological bias. According to Podsakoff et al. [57], a single factor must not account for more than 50% of the variance in model evaluation. Because as value for the current analysis was determined to be less than 50%, the consideration for common method bias was completely removed.

To evaluate the validity and reliability of the reflective measurement model, three parameters were selected: indicator reliability, convergent validity, and discriminant validity [58, 59]. The outer loading values were greater than 0.7, as shown in Table 3. Resultantly, the indicator’s dependability is justifiable. Therefore, the indicator reliability is justified. In addition, the convergent validity of the model was assessed via internal consistency (Cronbach Alpha) (ρ Alpha), composite reliability (CR), and average variance extracted (AVE) [60]. Internal consistency was confirmed by Cronbach Alpha and ρ alpha values that were all greater than 0.70 [61]. The composite reliability values were all greater than 0.7, so the data are reliable. AVE is also greater than 0.5 [62], though convergent validity has been established for the data.

The discriminant validity was determined by comparing the values of the square root of AVE to the intercorrelation between constructs and other measures [63]. In Table 4, the values on the diagonal represented the square root of AVE, whereas the values of the diagonal represented the intercorrelation between the constructs. Although the value of the square root of AVE has been greater than the inter-construct correlation, discriminant validity was established; due to this reason, Fornell and Larcker [63] are insufficient to determine discriminant validity. Accordingly, the Fornell-Larcker criterion and cross-loading via the values of the Heterotrait-Monotrait ratio were utilized to validate this study’s discriminant validity (HTMT). For determining the viability of reflective elements, the Fornell-Larcker method is acceptable. Indicative of viability, the diagonal values are greater than any other correlation of other constructs. Cross-loading evaluates the structure’s external indicator load, which is greater than other construction loads. Cross-loads that are greater than the external load of the indicators represent an issue with discriminative validity. In this study, the loads of the associated indicators are greater than the order cross-loading of the constructs, indicating the discriminative significance of the fixtures. All values in Table 4, clear indication reliability, internal consistency, and convergent validity of the measurement model were found being under the limit of 0.85, which is shown in Table 5 [64].

5.2. Evaluating the Structural Model and Testing Hypotheses. The structural model was evaluated via collinearity examination, structural model significance, and coefficient of determination (R^2) [65]. Variance inflation f(VIF) was utilized to determine multicollinearity between the constructs [59, 64]. The values obtained for VIF through SPSS v25 with scores for latent variables were less than 5. Accordingly, this is guaranteed that multicollinearity does not exist [59].

TABLE 1: Respondent profile.

Item	Category	Number	Percentage (%)
Respondent's position	Middle-level specialist and IT manager	127	50.20%
	IT Fintech executives	90	35.57%
	IT Fintech technical	36	14.23%
	Total	253	
Experiences in the industry	Less than 5 years	53	20.95%
	Over 5 years – less than 10 years	120	47.43%
	Over 10 years	80	31.62%
	Total	253	
Educational level	Bachelor	140	55.34%
	Master	89	35.18%
	Ph.D.	26	10.28%
	Total	253	
Geographical location	The north of Vietnam	76	30.04%
	The central of Vietnam	38	15.02%
	The south of Vietnam	139	54.94%
	Total	253	
Fintech sector	Capital raising	27	10.75%
	Deposits and lending	35	13.98%
	Enterprise financial software	24	9.68%
	Investment management	30	11.83%
	Market provisioning	60	23.66%
	Payments	76	30.11%
	Total	253	

TABLE 2: Construct and references.

Constructs	No. of items	Reference
Customer centricity (CUC)	4	[27]; [24]
Low profit margin (LPM)	3	[27]; [24]; [47]; [48]; Cheng et al. 2006
Agility (AGI)	4	[27]; [24]; [47]; [48]; Cheng et al. 2006
Scalability (SCA)	5	[27]; [24]; [47]; [48]; Cheng et al. 2006
Security management (SCM)	4	[27]; [24]; [47]; [48]; Cheng et al. 2006
Innovation (INO)	4	[27]; [24]; [47]; [48]; Cheng et al. 2006
Compliant easy (COE)	5	[27]; [24]; [47]; [48]; Cheng et al. 2006

Because the values of collinearity were justifiable, the correlation between the constructs was meaningful. The significance of model constructs was evaluated using the PLS-SEM bootstrapping algorithm. Through using the original cases, a random sample of 5,000 cases was developed to determine the significance of the relationship between both the construct and the variable of interest [59, 64].

To verify the research hypotheses, a structural model evaluation was performed. Using the structural equation model SEM-PLS, the structural model was then evaluated. To validate the measurement model, its path coefficients, coefficient of determination, and predictive significance were evaluated. The path coefficient method encapsulates the relationships between the structures.

The hypotheses (H1, H2, H3, H4, H5, H6, and H7) have significant paths leading to the endogenous variable, as shown in Table 6. According to our findings, the R^2 value is 0.679, indicating a high level of prediction accuracy. [66] f^2 values greater than 0.35 are defined as “high,” those between 0.15 and 0.35 as “medium,” those between 0.02 and 0.15 as “low,” and those less than 0.02 as “weak.” According to our research, the f^2 of CUC, AGI, SCA, and SCM is high, whereas the f^2 of LPM is weak (less than 0.02); however, the f^2 of COE and INO is also less than 0.02. The strongest relationship emerged, supporting customer centricity (CUC) impact sustainable fintech business ($\beta=0.802$; $t=2.04$; $p<0.01$), followed by the compliance easy (COE) ($\beta=0.754$; $t=2.21$; $p<.01$). Security

TABLE 3: Measurement model results.

Constructs	Keywords	Items	Outer loadings	Cronbach Alpha	Rho Alpha	CR	AVE	Discriminant validity
Customer centricity (CUC)	Simple and convenient	CUC1	0.951	0.927	0.939	0.954	0.873	Yes
	Customer needed	CUC2	0.921					
	Customer engagement	CUC3	0.931					
	Customer retention	CUC4	0.921					
Low profit margin (LPM)	Net profit margin	LPM1	0.911	0.906	0.909	0.941	0.842	Yes
	Customer lifetime value	LPM2	0.931					
	Initial phase of mass accumulation	LPM3	0.911					
Agility (AGI)	Redefinable value creation	AGI1	0.931	0.864	0.869	0.918	0.789	Yes
	Self-reference	AGI2	0.831					
	Enhancing value creation	AGI3	0.901					
	Quick respond to change	AGI4	0.831					
Scalability (SCA)	Timing of expansion	SCA1	0.901	0.873	0.88	0.922	0.797	Yes
	Get big fast strategy	SCA2	0.811					
	Scale economy	SCA3	0.861					
	High switching costs	SCA4	0.821					
	Multisided markets	SCA5	0.811					
Security management (SCM)	Protect privacy and civil liberties	SCM1	0.901	0.87	0.907	0.911	0.721	Yes
	Risk management	SCM2	0.811					
	Improve security and resilience	SCM3	0.821					
	Enhance cybersecurity	SCM4	0.911					
Innovation (INO)	Customer demanded	INO1	0.901	0.903	0.907	0.94	0.839	Yes
	Sources of new opportunities	INO2	0.931					
	Simple and focused	INO3	0.941					
	Purpose and driven	INO4	0.901					
	Free of legacy systems	COE1	0.931					
Compliant easy (COE)	Comply with multilevel regulations	COE2	0.881	0.876	0.912	0.924	0.849	Yes
	Operational transparency	COE3	0.901					
	Harmonized compliance control	COE4	0.891					
	Customer privacy	COE5	0.941					

management (SCM) is also reported to have a significant effect on sustainable fintech ($\beta=0.417$; $t=2.98$; $p < 0.01$). In affecting, agility (AGI) has a significant effect ($\beta=0.221$; $t=6.06$; $p=0.011$). In addition, innovation (INO) was also supported; this CSF is a significant impactor of sustainable fintech ($\beta=0.206$; $t=5.11$; $p < 0.013$). For two predictors, scalability (SCA) and low profit margin (LPM), were reported to be significant, H4 ($\beta=0.205$; $t=4.30$; $p < 0.014$) and H2 ($\beta=0.155$; $t=5.30$; $p < 0.019$). In terms of model fit, we received a goodness of fit (GOF) score of 0.744.

5.3. Model Fit. As described in Section 5.1, the results of each proposed construct have been presented. As illustrated in Figure 3, this section examines the results of the SmartPLS structural model, using data from all proposed model con-

structions. The findings of the SmartPLS structural model are summarized in Table 5. The model fit in a research model consists of the following three components: first, the coefficient of determination (R^2), which is unacceptable when it is less than 0.19, poor when it is between 0.19 and 0.33, moderate when it is between 0.33 and 0.67, and excellent when it is greater than 0.67 [67]. All components exert a moderate degree of influence. The values for CUC, LPM, AGI, SCA, SCM, INO, and COE are approximately 0.873, 0.842, 0.789, 0.797, 0.721, 0.839, and 0.849, respectively. Besides, to be considered normalized, the standardized root of the square residual (SRMR) should not exceed 0.08 [56, 68, 69]. This achieves an acceptable result for the calculation of 0.061. The goodness of fit (GOF) indicates how well a model corresponds to its data. As demonstrated in Eq. (1),

TABLE 4: Fornell-Larcker criterion results.

	CUC	LPM	AGI	SCA	SCM	INO	COE
Customer centricity (CUC)	0.931						
Low profit margin (LPM)	0.578	0.924					
Agility (AGI)	0.489	0.621	0.897				
Scalability (SCA)	-0.513	-0.491	-0.468	0.913			
Security management (SCM)	0.557	0.679	0.835	-0.535	0.857		
Innovation (INO)	-0.451	-0.535	-0.493	0.635	0.713	0.913	
Compliant easy (COE)	0.668	0.779	0.689	0.524	-0.555	-0.557	0.891

TABLE 5: HTMT ratio.

	CUC	AGI	SCA	SCM	INO	COE	LPM
Customer centricity (CUC)							
Agility (AGI)	0.631						
Scalability (SCA)	0.681	0.525					
Security management (SCM)	0.542	0.556	0.514				
Innovation (INO)	0.587	0.588	0.556	0.591			
Compliant easy (COE)	0.482	0.359	0.524	0.792	0.685		
Low profit margin (LPM)	0.525	0.729	0.766	0.584	0.615	0.487	

TABLE 6: Testing hypothesis results.

	Hypothesis paths	Standard path coefficient (β)	t -stat.	p -value	Results
H1	Customer centricity (CUC) \rightarrow Sustainable financial technology business	0.802	2.04	***	Support
H2	Low profit margin (LPM) \rightarrow Sustainable financial technology business	0.155	5.30	0.019**	Support
H3	Agility (AGI) \rightarrow Sustainable financial technology business	0.221	6.06	0.014**	Support
H4	Scalability (SCA) \rightarrow Sustainable financial technology business	0.205	4.30	0.011**	Support
H5	Security management (SCM) \rightarrow Sustainable financial technology business	0.417	2.98	***	Support
H6	Innovation (INO) \rightarrow Sustainable financial technology business	0.206	5.11	0.013**	Support
H7	Compliant easy (COE) \rightarrow Sustainable financial technology business	0.754	2.21	***	Support

Note: ***, **, and * indicate significant at 1%, 5%, and 10% level of significance based on t -statistics.

it can be categorized as low (less than 0.10), small (between 0.10 and 0.25), moderate (between 0.25 and 0.36), or high (more than 0.36). Based on this output, it employs the same method of measurement as Mir Shahid and Ghadah [70], Narongsak and Adisorn [71], Pak-Kwong et al. [72], and Van Phuoc [50]. This outcomes in an elevated GOF level of 0.744. The score of GOF can be calculated using the following Eq. (1):

$$\text{GOF} = \sqrt{R^2 * \text{Ave}} = \sqrt{0.679 * 0.816} = \sqrt{0.554} = 0.744. \quad (1)$$

6. Discussions

This section will concentrate on the comparisons between the proposed study model and previous studies work, in addition to the findings' theoretical and practical implications.

6.1. Analyzed Result. The findings of the PLS algorithm demonstrate unequivocally that three new variables added to the

study are evaluated: innovation, scalability, customer centricity, agility, low profit margin, security management, and compliant ease. The hypothesis approved all research results and explained all links as accurate, that conformed with the number of researchers of the previously examined literature in the second section.

The relationship between the PLS algorithm's results is as follows: to begin with, customer centricity states that businesses should prioritize satisfying customer desires over selling things. As can be seen from the present, as fintech firms frequently engage in cross-border operational processes, they must conform with many levels of regulatory requirements governed by various regulatory authorities, which can be difficult to navigate. Because of the increase in laws and the need for operational transparency, enterprises, which include fintech firms and existing firms, are rapidly adopting standardized and consolidated compliance procedures. Resultantly, it further offers a perception of security management, which is a procedure used as an informal categorization, risk evaluation, and risk monitoring to identify risks, categorize assets, and assess the susceptibility of the

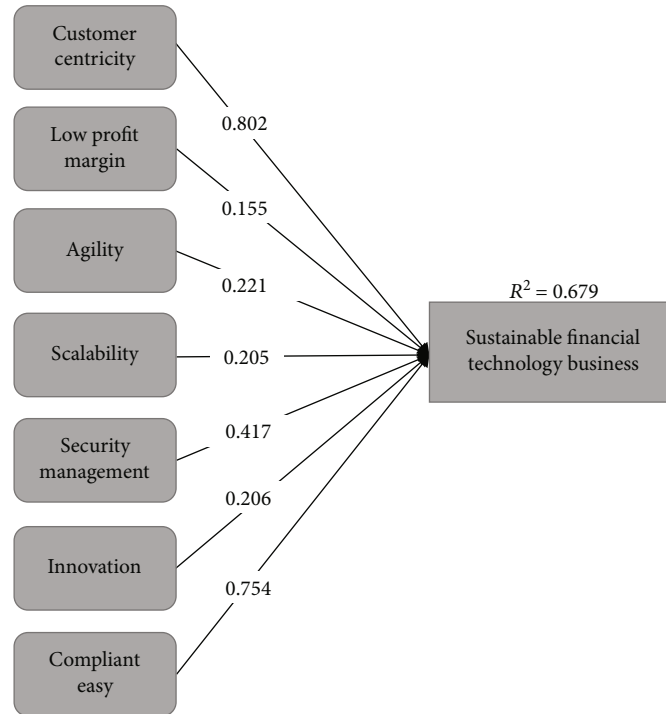


FIGURE 3: PLS algorithm results.

company's systems to adopt the most sensible policies. In addition, the factor of agility, which is mentioned in marginal costs that are quite low, is present. Examples include adding to a system that is rapidly depreciating and offering an alternative revenue source with relatively low costs. By utilizing the existing infrastructure, fixed costs and initial setup costs can be eliminated. Regarding the innovation factor, it is essential to take into account all numerous components and potential new opportunity sources. Most of them have to be interconnected and consistent, and they need to attempt to transcend past conceptions due to their discipline-specific bias and acknowledge whether a comprehensive innovation definition must cover a variety of characteristics and possibilities as the essence of innovation. Fintech firms can begin small, but they have to be scalable to maximize network effects. The deployed technology must be easily scalable without significant expense increases or technology compromises. Finally, it is crucial that fintech projects utilize the principle of customer lifetime value as opposed to a short-term one.

6.2. Theoretical Implications. The present study provides the relevance of CSFs, which was essential to recognize and identify seven CSFs for fintech firms, including some variability in their degree of explanatory power. Given the numerous of decision-making business must consider making to continue pursuing expansion and reach success, it is essential to get the theory right and eliminate the interference involving CSFs in relation to fintech to identify future sustainable fintech enterprises. The second objective of this study was to maintain and update the CLASSIC to adapt to the changing environment. The development of these var-

iables followed a review of directly relevant literature and theories. This study examines the experimentations that will be investigated to substantiate the assertions and prove the importance of the study for comprehending sustainable fintech. This study aims to generate existing insights and findings by implementing theoretically correlated variables which are likely to be encouraged to evaluate the CLASSIC expertise from a theoretical background. It also contributes to a better understanding of the conceptual framework for sustainability fintech business engagement with any other country by defining and illustrating the impact of the CSFs on sustainable fintech using internationally accepted advanced statistical methodologies.

6.3. Practical Implication. An Importance Performance Map Analysis (IPMA) has been conducted to investigate the significance and performance of the variables on the CSFs of sustainability fintech businesses as the target variable. Through explicating the variation of the endogenous target construct, the IPMA results reveal which exogenous variable's total effects are crucial [59, 66]. Figure 4 illustrates the obtained results. The findings indicate that agility, scalability, security, management, compliance, ease, and innovation are of greatest importance, as both the significance and performance of these variables are crucial in determining the sustainability of fintech businesses. Furthermore, the focus should be placed on customer centricity and a low profit margin, because it is a performance-based variable that has not been adequately demonstrated. Based on IPMA results, we recommend that the strategists and fintech services providers keep on improving customer centricity. To succeed, enterprises need to concentrate their attention on what their

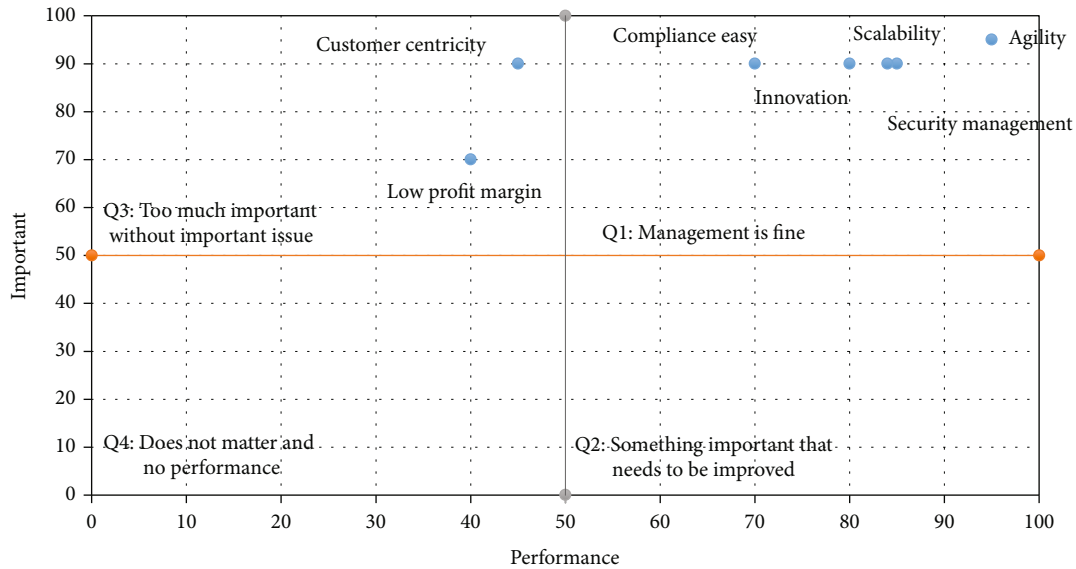


FIGURE 4: Importance performance map analysis.

customers feedback and demands. They should be more concerned with the low profit margin factor. The initial phase of the sustainability of a fintech business is characterized by a mass concentration of customers that may be depicted by some type of low-friction acquiring model. It is essential that the network effect is operating here, although, because of such a strategy, achieving profitability can take a considerable period of time, making additional financing essential. With a larger customer base and users, the volume of data is sufficient for monetization, whether internally or via third parties.

7. Conclusion and Limitations

In an ever-changing environment, Vietnam's financial industry cannot grow without information technology. People's usage of digital finance is crucial to the progress of the nation since it not only facilitates simple access to financial data but also contributes to the gross domestic product. This research intends to investigate the fintech factors for the continued expansion and growth of the Vietnamese fintech industry. Based on the relevant literature, the success criteria were assessed via a survey. Seven metrics from the existing fintech evaluation literature are used in this regard. 253 managers in the field of fintech provide information for evaluating sustainable fintech. The investigation revealed that customer centricity, agility, and security management were affected first, followed by scalability, innovation, low profit margin, and compliance simplicity.

To continue and grow in the Vietnam economy, the fintech industry must comprehend and cultivate a risk-free transactional environment. Therefore, they should develop methods that will ensure the continued viability of the fintech industry, boost consumer self-belief, and persuade prospective adopters to utilize the new related technology. The research already provides financial managers with informa-

tion on which elements must be emphasized or prevented when providing fintech services to intended users. This will further assist the management in allocating appropriate resources, such as facilities, time and money, and labor, to enhance their services and build customer relationships. The organizations that provide fintech services must improve their security management, and they have consistently updated their service offerings with innovative and novel solutions, equipment, goods, and/or services, which have become advanced in response to consumer feedback and expectations. In furthermore to becoming re-programmable and self-referencing, solutions, tools, products, and services are driven directly by the exploitation of data and outstanding core tech and are custom-tailored to the specific targeted segment.

This study began by evaluating the fintech success indicators for an emerging nation. Accordingly, there can be sampling bias. This method could be applied to the financial and non-financial industries of other developing and developed nations through continued study. Future investigations could also evaluate fintech success indicators based on a variety of performance measures.

This research employed a quantitative methodology to assess indicators of sustainable fintech success. Additionally, the inclusion of qualitative and quantitative research methods will improve the study's capability to clarify the implications of the most important success factors on achieved sustainable business development. Thirdly, this study evaluates fintech factors at the organizational level; moreover, future research may also evaluate fintech at the national level.

Data Availability

The data underlying the results presented in the study are available from Mendeley Data at doi:10.17632/yhw32s399f.2, reference number yhw32s399f.1.

Conflicts of Interest

The author has declared that no competing interests exist. Van P. Nguyen is a main lecturer at Posts and Telecommunications Institute of Technology.

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