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How Access, Trust, and Service Design Shape Internet Banking Usage: Insights from a Developing Banking Context

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Abstract

In today's competitive environment, banks must prioritize customer feedback and complaints regarding banking services, recognizing that the customer's voice should form the foundation of banking policies. This study employs Structural Equation Modeling (SEM) using Partial Least Squares (PLS) software to examine five determinants of internet banking motivations website characteristics, trust, ease of use, lifestyle compatibility, and online services—through the lens of social cognitive theory. The findings indicate that the informational features of electronic banking websites play a crucial role in fostering customer satisfaction, which, in turn, significantly enhances loyalty. Based on these results, three practical implications emerge: 1) banks should identify the specific needs of their customers, 2) website design should enable access to timely, accurate, and reliable information at all times, and 3) banks should invest in technologies that provide customers with speed and precision in financial service delivery.

Keywords: Internet banking, Technology acceptance, Online customer services, STC, Structural equation modeling.

1 | Introduction

The expansion of competition, alongside extensive developments in commerce, business, banking, and globalization, has transformed many traditional methods of operation and established a competitive landscape on a global scale. In such an environment, only organizations that possess a distinct competitive advantage and are equipped with the most advanced information technologies and operational techniques can adapt to rapid environmental changes and ensure their survival. The banking system is no exception. With the emergence of modern banking concepts, the methods of delivering services to customers worldwide have undergone profound transformations. Given the traditional practices in domestic banks and the inadequacy of these methods to provide modern services, establishing appropriate infrastructure through comprehensive automation has been incorporated into the national banking reform agenda. Currently, domestic banks,

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recognizing that improving existing services and offering innovative electronic and internet-based services can fundamentally accelerate the development of the banking system, have begun competing to establish this infrastructure and adopt modern banking practices, laying the foundation for electronic banking services, albeit in a limited and incomplete form [1].

Electronic banking refers to financial activities conducted using electronic technology. It provides banks with the opportunity to simultaneously address the diverse needs of customers across different locations. Internet banking, a branch of electronic banking, enables customers to access a wide range of banking services—such as fund transfers, bill payments, account information, investment services, and check management—via the internet through bank-designed websites [2]. Internet banking offers numerous advantages over traditional banking, including 24-hour availability, accessibility of services, ease of use, elimination of queues, and reduced branch operating hours. Consequently, internet banking contributes to retaining existing customers, enhancing customer satisfaction, increasing banks' market share, reducing administrative and operational costs, and improving competitive positioning [3], [4].

Banks have recognized that if customers do not adopt new banking technologies and services or fail to fully utilize their capabilities, the returns on investments in these innovations will be minimal [5]. Since internet banking services are delivered via the internet, consumers must be familiar with a range of related technologies, such as computers and web browsers [6]. Despite the emergence of these technological systems in banking—and given that internet banking allows customers to conduct extensive electronic transactions more quickly, at lower cost, and without temporal or spatial limitations compared to traditional branches—customer adoption of these technologies has lagged, and the growth rate of users remains below expectations [7]. As noted, academic researchers have identified various factors influencing internet banking adoption, though these theories have faced criticism for different reasons. The aim of the present study is not to engage in these debates but rather to identify the determinants of internet banking motivations. Given that most existing studies rely primarily on technology acceptance models and behavioral theories, which do not fully account for changes in human behavior, this study adopts a social cognitive theory perspective, which focuses on human behavioral changes, to examine this issue.

2 | Literature Review and Theoretical Framework

2.1 | Definition of Internet Banking

Internet banking is a remote and virtual channel for the delivery of banking services, allowing customers to access their bank and account information and perform financial transactions via the internet. At a basic level, internet banking involves a bank creating a web page to provide information about its products and services. At a more advanced level, it encompasses account access, fund transfers, and the online purchase of financial products or services [8]. By leveraging web and internet technologies, internet banking enables customers to conduct financial activities in a virtual environment. The key distinction between internet banking and home banking lies in accessibility: accessing banking services through the internet does not require the installation of dedicated software, as services are available via the public internet, allowing customers to connect directly to their bank accounts online. Internet banking can be considered a subset of web banking, with the primary difference being that web banking initially focused on introducing the bank and its services. As web applications have developed, internet banking has expanded accordingly. With the increasing number of internet users, the provision of such services continues to grow.

Internet banking expands the geographical reach of banks, enhances convenience for customers, and reduces transaction costs. While similar to traditional payment methods, its primary distinction lies in enabling customers to access their financial information directly and perform banking operations independently of location, without visiting a branch, using personal computers and remote communication networks. This approach provides banks with a novel method of interacting with their customers [9]. The internet allows banks to deliver a range of services—such as bill payments and money management—around the clock,

directly to customers' homes. For example, customers can access information on deposit and loan accounts, transfer funds between accounts, and communicate with other banks via email. Internet banking also facilitates the purchase and sale of stocks and bonds, access to loan programs, issuance of electronic statements, international payments, and electronic payroll services. It serves as a tool for reducing costs, improving operational efficiency, and creating added value for customers [8]. In today's competitive environment, banks must pay close attention to customer feedback and complaints regarding banking services, recognizing that in banking, the customer's voice should form the foundation of policy decisions [10]. Accordingly, in this section, we focus on five key motivations for internet banking from the perspective of social cognitive theory and discuss the associated hypotheses.

2.2 | Social Features of the Website

To enhance system accessibility and operational efficiency, electronic banking service platforms must possess specific features. These include continuous access to the bank's internet banking website and other electronic service delivery tools, such as ATMs and POS terminals, particularly during business hours. The internet banking website and associated electronic systems should be properly launched and maintained, ensuring they remain operational during financial transactions. System failures, especially during payment processing, are among the most significant sources of customer concern and can substantially influence trust in the internet banking website and the likelihood of repeat use. The website should not block or terminate pages after entering financial transaction information. Each customer request must be accurately received and processed, and all financial operations should be executed without errors.

Banks are expected to deliver services as promised and promptly resolve any issues encountered in using online services [11]. Furthermore, internet banking websites should incorporate robust security mechanisms, such as digital signatures and Secure Socket Layer (SSL) protocols, to protect financial transaction data and prevent misuse. Measures should also include obtaining electronic trust certificates to enhance customer confidence, avoiding unnecessary data collection that may raise concerns, and refraining from sharing customer information with third-party sites. Ensuring the completeness, accuracy, and reliability of information on the bank's website is critical. Providing precise and trustworthy information helps customers conduct transactions more easily, and offering content tailored to individual customer needs further supports user satisfaction. By delivering high-quality electronic services through their internet banking platforms, banks can build trust and customer satisfaction, thereby positively influencing repeat website visits and transaction behavior. Website design should allow customers to access up-to-date, accurate, and reliable information at any time, and banks should invest in technologies that enhance the speed and accuracy of financial service delivery.

Hypothesis 1. The social features of the website will have a positive effect on the use of internet banking.

Hypothesis 2. The social features of the website will have a positive effect on average internet/device accessibility.

Hypothesis 3. The social features of the website will have a positive effect on trust.

Hypothesis 4. The social features of the website will have a positive effect on lifestyle compatibility.

Hypothesis 5. The social features of the website will have a positive effect on ease of use.

2.2.1 | Trust

Trust is a facilitating factor in human interactions, enabling individuals to engage in commercial transactions and contributing to the smooth functioning of the economy. Conversely, distrust is itself a useful mental state, allowing individuals to avoid unreliable or harmful systems, organizations, or people [12]. Conceptually, there are numerous definitions of trust, many of which are considered inconsistent or confusing. Some scholars argue that defining trust is inherently problematic, while others prefer not to define it at all. These challenges are equally present in the context of internet banking research. Researchers who define trust as a willingness

to believe, as well as those who conceptualize it as a set of beliefs regarding the characteristics of another party—such as fairness, benevolence, competence, honesty, and predictability—face similar definitional issues. Mayer [13] defines trust as an individual's willingness to be vulnerable to the actions of another party, based on the expectation that the other party will perform the anticipated actions without direct control or supervision [14]. Discrepancies in trust definitions and its multidimensional nature can be attributed to two main factors: first, trust is an abstract concept; and second, trust is multifaceted, encompassing both affective and behavioral dimensions.

Today, security and trust are the primary concerns of users in electronic and internet banking. For internet banking users accessing services via the internet, trust is of paramount importance. In financial and electronic contexts, trust can be defined as the degree of confidence that customers have in online transactions or in the channels through which these transactions are conducted [15]. Trust serves as a critical catalyst in many transactional relationships. When conceptualized as a dimension of technology acceptance, it can significantly influence users' willingness to engage in online financial transactions and share sensitive personal information. Trust is one of the most effective mechanisms for reducing customer-perceived risk. The issue of trust is even more critical in the context of internet banking than in offline banking environments, as the establishment and maintenance of trust become particularly important under conditions of pervasive uncertainty and risk [16].

Hypothesis 6. Trust will have a positive effect on the intention to continue using internet banking.

Hypothesis 7. Trust will have a positive effect on ease of use.

2.2.2 | Ease of use

In simple terms, ease of use in electronic banking refers to the simplicity and convenience of utilizing banks' electronic services, such as internet banking, telephone banking, ATMs, and other digital channels [15].

Ease of use is defined as the degree to which an individual believes that using a particular system requires minimal effort. Consequently, if one task is perceived as easier than another, it is more likely to be accepted by users. Similarly, innovative technologies that are perceived as easier to learn and operate are more likely to be adopted and utilized by users [17]. It has also been noted that customers value technology-based products and services for their entertainment and novelty aspects, and they tend to choose self-service systems that effectively meet their needs [18].

When individuals can access electronic banking services at any time and from any suitably equipped location, the dimensions of timeliness, convenience, and accessibility likely represent the most significant distinctions from traditional banking. Since quality attributes such as accuracy, network speed, ease of use, and convenience contribute to customer experience, perceived usefulness, and willingness to adopt to varying degrees, the development and enhancement of these features enable financial institutions to more effectively engage electronic banking customers and reduce the time required for innovations to achieve market acceptance [18]. Perceived ease of use of a website is a critical determinant of customer satisfaction with electronic banking and, consequently, exerts an indirect effect on customer loyalty and positive word-of-mouth. Therefore, it can be regarded in most organizations as a key mediating variable for enhancing customer satisfaction and fostering loyalty.

Higher perceived ease of use provides a better understanding of website content and functionality, which can play an important and influential role in promoting effective customer behaviors, including satisfaction, loyalty, and positive word-of-mouth in electronic banking. Perceived usefulness refers to the degree to which an individual believes that using a particular technology will enhance job performance within an organization [19]. Perceptions of ease of use refer to the extent to which an individual believes that learning to operate and interact with a specific system requires minimal mental effort. Research indicates that perceived ease of use significantly affects usage behavior, either directly or indirectly through its influence on perceived usefulness. Information technologies that are easier to use are generally perceived as less threatening by individuals [20].

Numerous studies in the technology acceptance literature demonstrate that both perceived usefulness and perceived ease of use play vital and determining roles in predicting user behavior and technology adoption.

Hypothesis 8. Ease of use will have a positive effect on the use of internet banking.

2.2.3 | Compatibility with lifestyle

Compatibility is a longstanding and significant factor in shaping customer attitudes toward electronic banking services and their subsequent usage [21]. It is also one of the primary constructs in Rogers' (1962) Diffusion of Innovation theory [22]. Within this theoretical framework, compatibility is defined as the degree to which banking services align with customers' lifestyles and needs. Research on mobile transactional services indicates that more than two-thirds of financial transaction services designed to meet customer needs have failed [23], largely because traditional communication channels lack the capability to provide anytime, anywhere access comparable to mobile banking services [24]. When a company's or organization's communication channel does not align with customers' lifestyles and needs, the likelihood of successful service delivery diminishes, and customers may refrain from using the service; in other words, they are unable to establish a meaningful connection with it. Slyke et al. [25] examined the impact of compatibility on usage intention and concluded that there is a significant positive relationship between compatibility and intention to use [26]. Therefore, a high degree of alignment between a technology and individuals' needs and preferences increases the likelihood of its adoption.

Hypothesis 9. Compatibility with lifestyle will have a positive effect on the continued use of internet banking.

Hypothesis 10. Compatibility with lifestyle will have a positive effect on perceived ease of use.

2.3 | Online Customer Services

The expansion of online banks has created opportunities for direct marketing, enhanced operational efficiency, and increased security and reliability. However, it should be noted that establishing an internet branch is as challenging as opening a physical branch in a city center and meeting all its associated requirements. In-depth study of business brochures, participation in banking technology conferences, awareness of various business plans, and the selection of suitable contractors for branch development represent only a portion of these challenges and complexities [27].

Electronic banking has enabled domestic banks not only to strengthen interbank relationships within the country but also to establish close connections with banks abroad, providing customers with faster and more convenient services. Consequently, this capability inherently attracts a greater number of customers to banks offering these services [28].

Moreover, given that the survival and economic cycle of all financial institutions depend on public participation and investment, customer-centricity must be a primary consideration when implementing electronic banking systems. In today's globally competitive business environment, an institution will succeed in attracting customers only if it offers the most comprehensive and high-quality services. The accessibility of electronic banking systems can also be regarded as a dimension of service quality in this sector. Customer access to ATMs, fast and readily available banking websites, and electronic and telecommunications infrastructure necessary to reach online banking platforms are all aspects of service accessibility that simultaneously ensure service quality and customer satisfaction. Accordingly, recognizing the role of the customer in the development of economic activities should be a fundamental principle, and electronic banking programs should be designed and implemented with this principle as a foundation.

Hypothesis 11. Online services positively influence the use of internet banking.

Hypothesis 12. Online services positively influence average access to the internet/devices.

Hypothesis 13. Online services positively influence lifestyle compatibility.

Hypothesis 14. Online services positively influence trust.

Hypothesis 15. Online services positively influence perceived ease of use.

2.4 | Average Access to Internet/Devices

Various elements such as infrastructure, industrial and occupational structures, labor markets, and social and economic processes can be identified within an individual's social environment [29]. Collectively, these factors are associated with the social environment and human behavior [30]. From this perspective, it can be argued that the device or medium through which users access Internet banking is linked to individuals' motivations to adopt such services. Several studies have demonstrated that the choice of medium, by influencing access to electronic services, affects users' adoption motivations.

For instance, Nielsen [31] noted that "a larger display screen enhances usage compared to a smaller screen, and a graphical user interface further improves usability." This research considers the environment as a critical factor that can moderate the relationship between cognitive dimensions and behavioral outcomes. Accordingly, we expect the usage environment to function as a boundary condition shaping the effects of cognitive variables on the intention to adopt Internet banking.

Chong et al. [32] argue that with the proliferation of secure, asynchronous electronic transaction technologies, more banks are increasingly providing online banking services. Electronic devices such as mobile phones, PDAs (smartphones), laptops, and others have enabled individuals to perform specific Internet banking transactions—including fund transfers, bill payments, statement printing, and balance inquiries [32], [33]. Even though Internet banking operates similarly to traditional banking [32], the adoption of mobile technologies (PDAs, smartphones), laptops, and other devices provides a highly effective solution to financial access challenges for customers in emerging economies such as Iran. Mobile phones also serve as crucial mechanisms through which youth communicate with others and enhance their self-esteem [34], [35]. Furthermore, in most developing countries, including Iran, Internet users primarily access the Internet via mobile devices.

According to Social Cognitive Theory [30], an individual's behavior results from the interaction of cognitive factors with other personal and environmental factors. Thus, we argue that the type of device a customer uses to access the Internet, in interaction with the social features of banking websites, alongside trust, perceived ease of use, lifestyle compatibility, and online customer services, contributes to explaining variance in Internet banking adoption. Based on this rationale, we propose the following hypotheses:

Hypothesis 16. Average access to the Internet and devices will have a positive effect on the use of Internet banking.

Hypothesis 17. Average access to the Internet and devices will have a positive effect on lifestyle compatibility.

Hypothesis 18. Average access to the Internet and devices will have a positive effect on perceived ease of use.

Hypothesis 19. Average access to the Internet and devices will have a positive effect on trust.

Fig. 1 illustrates the elements and relationships of the proposed research model.

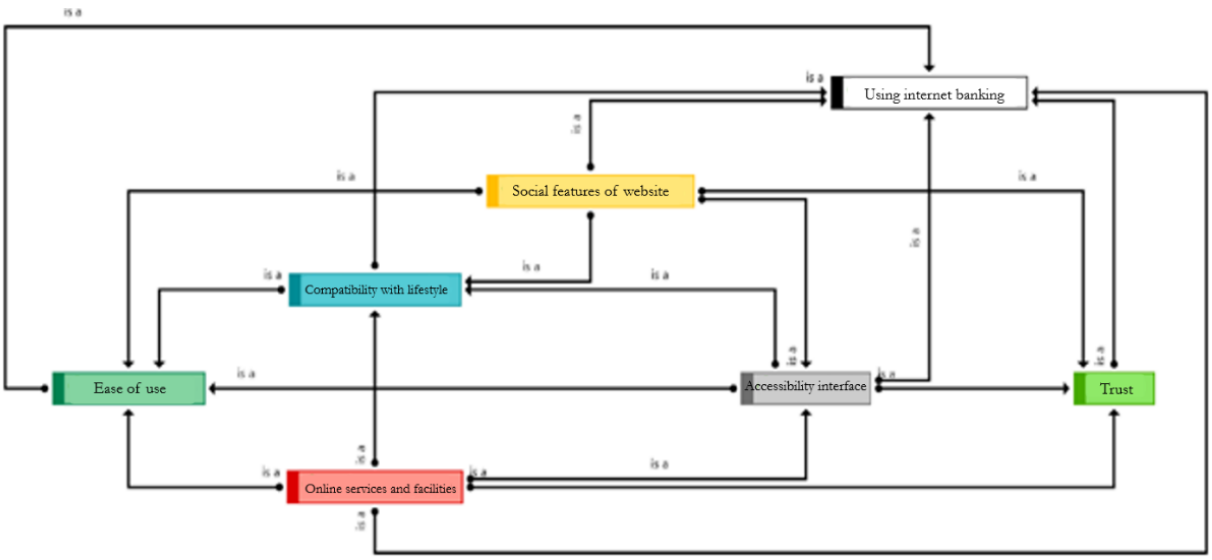

Fig. 1. Elements and relationships of the proposed research model.

2.5 | Previous Research

Numerous studies have been conducted on electronic banking (e-banking) using various approaches. Most existing research in this field has focused primarily on barriers to adoption, assessing the impact of information technology on cost reduction, profitability enhancement, efficiency or productivity improvement, or technology acceptance in banks. For instance, among international studies, Onay et al. [36] concluded that investment in electronic banking is a gradual process, and e-banking activities positively affected the performance of the Turkish banking system (return on equity) with a two-year lag. Similarly, Malhotra and Singh [37] reported that as of June 2007, approximately 57% of commercial banks in India were providing transactional e-banking services. Their study also highlighted significant differences between banks offering e-banking services and those that did not. Overall, e-banks were found to be more profitable, larger, and operationally more efficient compared to non-electronic banks. E-banks exhibited higher service quality and managed construction and equipment costs more effectively. In another study, Ayo and Adewoye [38] found that high security, ease of service, and organizational reputation increased customer loyalty to e-banking. This, in turn, enhanced the credibility and reputation of the organization, which then reinforced efforts to maintain service security, creating a continuous cyclical process. Aboobucker and Bao [39] highlighted that perceived trust and website usability are critical factors considered by e-banking customers. El Talla et al. [40] reported several notable findings, particularly regarding the average efficiency of e-banking services from the perspective of customers in Palestinian banks. The overall score of e-banking services received a relative weight of 64.37%. Their ranking of e-banking channels was as follows: internet banking services ranked first with a relative weight of 66.68%, ATMs ranked second with 64.30%, and mobile banking applications ranked third with 62.12%. Additionally, the study indicated that there were statistically significant differences between banks in Palestine based on banking variables from the stakeholders' perspective, whereas no significant differences were found concerning the number of years of customer engagement with the bank.

Domestic studies have likewise produced significant findings. Goudarzi and Zobeidi [41] concluded that increased market concentration leads to higher bank profitability. They further demonstrated that growth in total bank deposits, with a one-year lag, contributes to increased profitability, and that a higher number of ATMs per bank is associated with greater profitability. Overall, they concluded that despite existing challenges, barriers, and limitations, the expansion of electronic banking enhances the profitability of commercial banks. Mousakhani and Gharakhani [42] found that perceived usefulness, awareness of benefits, perceived ease of use, security, and the quality of internet connectivity significantly influence the adoption of electronic banking. Teymouri and Goodarzvand Chegini [43] demonstrated that selected individual and organizational factors—except perceived ease of use and organizational solutions—lead to the development of e-commitment, which in turn positively affects customers' e-loyalty. Nazari et al. [44], based on their

research model, showed that achieving competitive advantage in electronic banking is not solely dependent on the development of electronic service tools and delivery channels. Rather, while technological development constitutes one component of the process, other factors also play a fundamental role. Therefore, the simultaneous development of both soft and hard dimensions of the model can enhance synergy among its components.

3 | Research Methodology and Findings

Based on the procedure employed for data collection, the present study is classified as descriptive research. Because the required data were obtained through sampling from the target population in order to examine the distribution of characteristics within the statistical population, the study falls within the survey research paradigm and was conducted using a cross-sectional design. The statistical population comprises customers aged 18 years and above (due to their familiarity with technology) of Mehr Eghtesad Bank branches in the city of Kermanshah. Given the absence of prior records or accessible data regarding these customers, a screening (intercept) approach was adopted to identify and recruit an appropriate sample for the purposes of this study. The data were analyzed using Structural Equation Modeling (SEM) with estimation performed via Partial Least Squares (PLS) software. Model evaluation was carried out in three stages: assessment of the measurement model, assessment of the structural model, and evaluation of overall model fit. A detailed analysis of each of these stages is presented in the following sections.

4 | Assessment of the Measurement Model

The measurement model evaluates the extent to which latent variables are represented and explained by their corresponding observed indicators. In essence, the measurement model constitutes a component of the overall structural model, encompassing each latent construct along with its associated measurement items. To assess the adequacy of the measurement model, four statistical criteria are employed: factor loadings, indicator reliability, convergent validity, and discriminant validity.

Factor loadings are calculated by estimating the correlation between each indicator and its corresponding latent construct. A loading value equal to or greater than 0.40 indicates that the variance shared between the construct and its indicators exceeds the variance attributable to measurement error, thereby supporting acceptable reliability for the construct. In SmartPLS 2, these coefficients are obtained by executing the PLS Algorithm procedure. As illustrated in *Fig. 2* and *Tables 1* and *2*, all factor loadings exceed the threshold of 0.40. This finding indicates an adequate fit of the measurement model and confirms that the indicators associated with each latent variable have been appropriately specified.

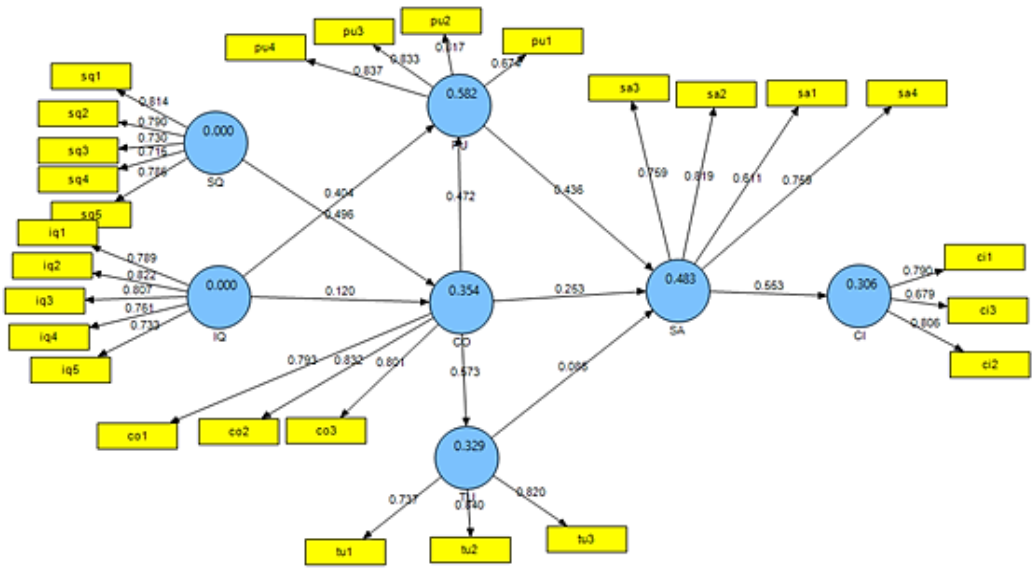

Fig. 2. Factor loadings of the study constructs.

Table 1. Factor loadings of the constructs.

SQ					PU				SA				Variable
Sq5	Sq4	Sq3	Sq2	Sq1	Pu4	Pu3	Pu2	Pu1	Sa4	Sa3	Sa2	Sa1	Construct
0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.6	0.7	0.7	0.8	0.6	Factor loading

Source: research findings.

Table 2. Factor loadings of the constructs.

IQ					CO			CI			TU			Variable
Iq5	Iq4	Iq3	Iq2	Iq1	Co3	Co2	Co1	Ci3	Ci2	Ci1	Tu3	Tu2	Tu1	Construct
0.7	0.7	0.8	0.8	0.7	0.8	0.8	0.7	0.6	0.8	0.7	0.8	0.8	0.7	Factor loading

Source: research findings.

According to the data analysis procedure in the PLS method, after evaluating the factor loadings of the items, the next step involves calculating and reporting Cronbach's alpha and composite reliability for the constructs. As shown in *Table 3*, the Cronbach's alpha values for the constructs fall around 0.8, while the composite reliability values range between 0.6 and 0.8, with an average of approximately 0.7. These results indicate that the model demonstrates satisfactory reliability.

Table 3. Assessment of composite reliability of the constructs.

Cronbach's Alpha Coefficient	Composite Reliability Coefficient	Title in the Model
0.637820	0.803663	CI
0.735325	0.849983	CO
0.842121	0.887856	IQ
0.800238	0.870640	PU
0.721386	0.828251	SA
0.825677	0.877398	SQ
0.717985	0.841752	TU

Source: research findings.

The third criterion for assessing the fit of measurement models is convergent validity, which examines the degree of correlation between each construct and its corresponding indicators. The Average Variance Extracted (AVE) is employed in PLS software to evaluate this criterion. Fornell and Larcker [45] suggested that an AVE value of 0.50 or higher indicates adequate convergent validity. Based on *Table 4*, the AVE values for all constructs in this study exceed 0.50, demonstrating that the measurement model possesses satisfactory convergent validity.

Table 4. Convergent validity coefficients of the model.

Cronbach's Alpha (α)	Composite Reliability (CR)	AVE>0.5	Construct Name in the Model
0.637820	0.803663	0.578413	CI
0.735325	0.849983	0.653913	CO
0.842121	0.887856	0.613311	IQ
0.800238	0.870640	0.628912	PU
0.721386	0.828251	0.549287	SA
0.825677	0.877398	0.589278	SQ
0.717985	0.841752	0.640099	TU

To assess discriminant validity, the Fornell–Larcker matrix is employed. As shown in *Table 5*, the diagonal elements, representing the square root of the AVE for each construct, are greater than the corresponding off-diagonal values in their respective columns. This indicates that each latent variable shares more variance with

its own indicators than with other latent variables, confirming that the model exhibits adequate discriminant validity.

Table 5. Discriminant validity results of the model.

TU	SQ	SA	PU	IQ	CO	CI	
						0.7605	CI
					0.808648	0.584645	CO
				0.783141	0.512833	0.509964	IQ
			0.793039	0.646154	0.679218	0.623901	PU
		0.741138	0.661537	0.553383	0.598586	0.552741	SA
	0.767644	0.558635	0.619700	0.792617	0.590906	0.550221	SQ
0.80061	0.793540	0.501827	0.621139	0.673150	0.573197	0.501991	TU

Structural model

According to the data analysis procedure in the PLS method, after evaluating the fit of the measurement models, the next step is to assess the fit of the study's structural model. Unlike measurement models, the structural model does not consider the observed indicators; it focuses solely on the latent variables and the relationships among them. The structural model examines the connections between the different dimensions present in the model [46].

Path Coefficient or t-Value

According to the analysis algorithm, several criteria are employed to assess the fit of the study's structural model, with the primary criterion being the significance of the t-values. In SmartPLS software, these values are calculated using the Bootstrapping (BT) procedure. Resampling techniques such as BT are used to establish confidence intervals for the path coefficients and to perform statistical inference. The evaluation of the structural model using t-values requires that these values exceed 1.96, thereby confirming their significance at the 95% confidence level.

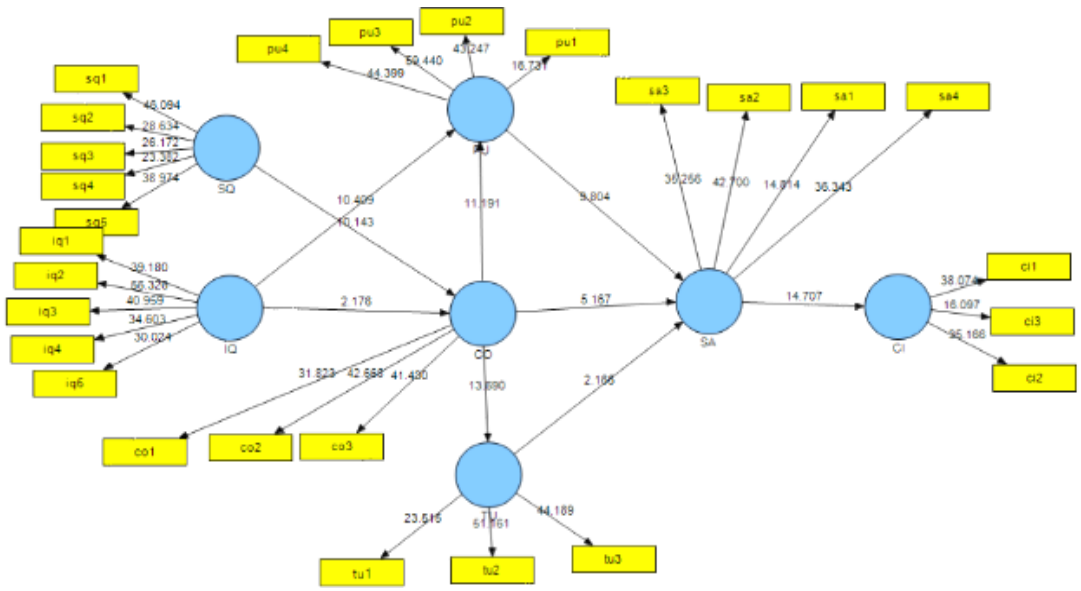

Fig. 3. t-Value Significance of the Model's Path Coefficients.

Based on the above model, all path coefficients exceed the threshold value of 1.96, indicating that the model demonstrates adequate statistical significance.

Coefficient of Determination (R^2)

The second criterion for evaluating the fit of the structural model involves the R^2 values of the endogenous latent variables. The coefficient of determination (R^2) indicates the extent to which an exogenous variable explains variance in an endogenous variable. Specifically, R^2 measures the proportion of the total variance in a latent variable that is accounted for by the model. According to Chin and Marcoulides [47], R^2 values of 0.19, 0.33, and 0.67 are considered indicative of weak, moderate, and strong explanatory power, respectively. R^2 values are calculated using the PLS Algorithm in SmartPLS.

Table 6. R^2 Values of the variables.

R^2 Values	Variables
0.582	PU
0.483	SA
0.354	CO
0.329	TU
0.306	CI
0.000	SQ
0.000	IQ

Based on the values presented in *Table 6*, it can be concluded that the constructs included in the model explain the endogenous variables at a moderate to high level.

Overall model fit

In PLS-SEM, there is no single criterion for assessing the fit of the entire model. However, a global Goodness-of-Fit (GOF) index does exist. The overall model comprises both the measurement and structural components, and confirming its fit allows for the evaluation of the model as a complete system. To assess the fit of the overall model, a single indicator called the GOF is used. This index pertains to the overall evaluation of PLS-SEM models, enabling researchers to verify the fit of the entire model after separately assessing the measurement and structural components. The GOF is calculated using the following formula.

$$\mathrm{GOF} = \sqrt{\overline{\mathrm{Communality}} \times \overline{R^2}}.$$

$\overline{\mathrm{Communality}}$ = Communalities of Each Endogenous Latent Variable in the Model.

$\overline{R^2}$ = Mean Values R Squares Endogenous Variables of the Model Wetzels et al. [48] proposed threshold values of 0.01, 0.25, and 0.36 to represent weak, moderate, and strong levels of the model, respectively.

Table 7. Construct R^2 and communality values, model fit assessment.

Communality Values	R^2 Values	Variables
0.628	0.582	PU
0.549	0.483	SA
0.653	0.354	CO
0.640	0.329	TU
0.578	0.306	CI
0.589	0.000	SQ
0.613	0.000	IQ
0.85	0.41	Mean

$$\mathrm{GOF}=\sqrt{0/85 * 0/41} = 0.59$$

By calculating the GOF according to the aforementioned formula, its value in this study was determined to be 0.59, indicating a strong overall fit of the model.

Hypothesis testing

The significance of the model's path coefficients indicates whether the research hypotheses are supported. If the t-value exceeds 1.64, 1.96, or 2.57, the corresponding hypothesis is confirmed at the 90%, 95%, or 99% confidence level, respectively, which corresponds to significance levels of $p < 0.10$, $p < 0.05$, and $p < 0.01$.

Table 8. Assessment of standardized factor loadings for the paths corresponding to each hypothesis.

Test Result	Confidence Level	t-Statistic	Path Coefficient	Path	Hypothesis
Hypothesis accepted	P<0/01	7.74	0.28	CO->CI	Average internet/Device access is positively related to the intention to continue using Internet banking.
Hypothesis accepted	P<0/01	11.19	0.47	CO->PU	Average internet/Device access is positively related to lifestyle compatibility.
Hypothesis accepted	P<0/01	12.68	0.50	CO->SA	Average internet/Device access is positively related to perceived ease of use.
Hypothesis accepted	P<0/01	13.68	0.57	CO->TU	Average internet/Device access is positively related to trust.
Hypothesis accepted	P<0/01	4.78	0.13	IQ->CI	The social features of websites are positively related to the intention to continue using Internet banking.
Hypothesis accepted	P<0/01	2.17	0.11	IQ->CO	The social features of websites are positively related to average internet/Device access.
Hypothesis accepted	P<0/01	2.04	0.46	IQ->TU	The social features of websites are positively related to trust.
Hypothesis accepted	P<0/01	10.41	0.23	IQ->PU	The social features of websites are positively related to lifestyle compatibility.
Hypothesis accepted	P<0/01	5.78	0.06	IQ->SA	The social features of websites are positively related to perceived ease of use.
Hypothesis accepted	P<0/01	7.43	0.24	PU->CI	Lifestyle compatibility is positively related to the intention to continue using Internet banking.
Hypothesis accepted	P<0/01	9.80	0.43	PU->SA	Lifestyle compatibility is positively related to perceived ease of use.
Hypothesis accepted	P<0/01	14.70	0.55	SA->CI	Perceived ease of use is positively related to the intention to continue using Internet banking.
Hypothesis accepted	P<0/01	5.91	0.13	SQ->CI	Online services and offerings are positively related to the intention to continue using Internet banking.
Hypothesis accepted	P<0/01	10.14	0.49	SQ->CO	Online services and offerings are positively related to the moderating variable of average internet/Device access.
Hypothesis accepted	P<0/01	7.73	0.23	SQ->PU	Online services and offerings are positively related to lifestyle compatibility.
Hypothesis accepted	P<0/01	6.89	0.28	SQ->TU	Online Services and Offerings Are Positively Related to Trust.
Hypothesis accepted	P<0/01	7.67	0.25	SQ->SA	Online Services and Offerings Are Positively Related to Perceived Ease of Use.
Hypothesis accepted	P<0/01	2.10	0.04	TU->CI	Trust Is Positively Related to the Intention to Continue Using Internet Banking.
Hypothesis accepted	P<0/01	2.16	0.08	TU->SA	Trust Is Positively Related to Perceived Ease of Use.

Hypothesis 1. The social features of websites are positively related to the use of Internet banking.

The analysis results indicate that the social features of websites ($\beta = 0.13$, $t = 4.78$, $p < 0.001$) have a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, the social features of websites are significantly associated with the use of Internet banking.

Hypothesis 2. The social features of websites are positively related to average internet/Device access.

The analysis results indicate that the social features of websites ($\beta = 0.11$, $t = 2.17$, $p < 0.001$) have a positive effect on average Internet/device access. Therefore, the research hypothesis is supported at a 99.9% confidence level. In other words, the social features of websites are significantly associated with average Internet/device access.

Hypothesis 3. The social features of websites are positively related to trust.

The analysis results indicate that the social features of websites ($\beta = 0.46$, $t = 2.04$, $p < 0.001$) have a positive effect on trust. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, the social features of websites are significantly associated with trust.

Hypothesis 4. The social features of websites are positively related to lifestyle compatibility.

The analysis results indicate that the social features of websites ($\beta = 0.23$, $t = 10.41$, $p < 0.001$) have a positive effect on lifestyle compatibility. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, the social features of websites are significantly associated with lifestyle compatibility.

Hypothesis 5. The social features of websites are positively related to perceived ease of use.

The analysis results indicate that the social features of websites ($\beta = 0.06$, $t = 5.78$, $p < 0.001$) have a positive effect on perceived ease of use. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, the social features of websites are significantly associated with perceived ease of use.

Hypothesis 6. Trust is positively related to the intention to continue using Internet banking.

The analysis results indicate that trust ($\beta = 0.04$, $t = 2.10$, $p < 0.001$) has a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, trust is significantly associated with the use of Internet banking.

Hypothesis 7. Trust is positively related to perceived ease of use.

The analysis results indicate that trust ($\beta = 0.08$, $t = 2.16$, $p < 0.001$) has a positive effect on perceived ease of use. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, trust is significantly associated with perceived ease of use.

Hypothesis 8. Perceived ease of use is positively related to the use of Internet banking.

The analysis results indicate that perceived ease of use ($\beta = 0.55$, $t = 14.70$, $p < 0.001$) has a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, perceived ease of use is significantly associated with the use of Internet banking.

Hypothesis 9. Lifestyle compatibility is positively related to the use of Internet banking.

The analysis results indicate that lifestyle compatibility ($\beta = 0.24$, $t = 7.43$, $p < 0.001$) has a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, lifestyle compatibility is significantly associated with the use of Internet banking.

Hypothesis 10. Lifestyle compatibility is positively related to perceived ease of use.

The analysis results indicate that lifestyle compatibility ($\beta = 0.43$, $t = 9.80$, $p < 0.001$) has a positive effect on perceived ease of use. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, lifestyle compatibility is significantly associated with perceived ease of use.

Hypothesis 11. Online services and offerings are positively related to the use of Internet banking.

The analysis results indicate that online services and offerings ($\beta = 0.13$, $t = 5.91$, $p < 0.001$) have a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, online services and offerings are significantly associated with the use of Internet banking.

Hypothesis 12. Online services and offerings are positively related to average internet/Device access.

The analysis results indicate that online services and offerings ($\beta = 0.49$, $t = 10.14$, $p < 0.001$) have a positive effect on average Internet/device access. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, online services and offerings are significantly associated with average Internet/device access.

Hypothesis 13. Online services and offerings are positively related to lifestyle compatibility.

The analysis results indicate that online services and offerings ($\beta = 0.23$, $t = 7.73$, $p < 0.001$) have a positive effect on lifestyle compatibility. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, online services and offerings are significantly associated with lifestyle compatibility.

Hypothesis 14. Online services and offerings are positively related to trust.

The analysis results indicate that online services and offerings ($\beta = 0.28$, $t = 6.89$, $p < 0.001$) have a positive effect on trust. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, online services and offerings are significantly associated with trust.

Hypothesis 15. Online services and offerings are positively related to perceived ease of use.

The analysis results indicate that online services and offerings ($\beta = 0.25$, $t = 7.67$, $p < 0.001$) have a positive effect on perceived ease of use. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, online services and offerings are significantly associated with perceived ease of use.

Hypothesis 16. Average internet/device access is positively related to the use of Internet banking.

The analysis results indicate that average Internet/device access ($\beta = 0.28$, $t = 7.74$, $p < 0.001$) has a positive effect on the use of Internet banking. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, average Internet/device access is significantly associated with the use of Internet banking.

Hypothesis 17. Average internet/device access is positively related to lifestyle compatibility.

The analysis results indicate that average Internet/device access ($\beta = 0.47$, $t = 11.19$, $p < 0.001$) has a positive effect on lifestyle compatibility. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, average Internet/device access is significantly associated with lifestyle compatibility.

Hypothesis 18. Average internet/device access is positively related to perceived ease of use.

The analysis results indicate that average Internet/device access ($\beta = 0.50$, $t = 12.68$, $p < 0.001$) has a positive effect on perceived ease of use. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, average Internet/device access is significantly associated with perceived ease of use.

Hypothesis 19. Average internet/device access is positively related to trust.

The analysis results indicate that average Internet/device access ($\beta = 0.57$, $t = 13.68$, $p < 0.001$) has a positive effect on trust. Accordingly, the research hypothesis is supported at a 99.9% confidence level. In other words, average Internet/device access is significantly associated with trust.

6 | Conclusion

In the case study of Mellat Bank of Mehr Eghtesad in Kermanshah, the social features of websites, online services and offerings, and average Internet/device access were found to have a positive effect on trust. These factors together explain 32% of the variance in trust in Internet banking. The social features of websites, lifestyle compatibility, online services and offerings, average Internet/device access, and trust were found to have a positive effect on perceived ease of use, accounting for 48% of the variance in ease of use in Internet banking. The social features of websites, online services and offerings, and average Internet/device access positively influenced lifestyle compatibility, explaining 58% of the variance in lifestyle compatibility in Internet

banking. Additionally, the social features of websites and online services and offerings positively affected average Internet/device access, accounting for 35% of the variance in this construct. The findings of this case study at Mehr Eghtesad Bank in Kermanshah align with the results obtained from statistical samples of other Iranian banks and corroborate the determinants of Internet banking adoption motivations reported in the study by Boateng et al. [49]. This consistency reinforces the validity of the observed relationships in the context of Internet banking usage.

Based on the findings of this study, the identified limitations, and the insights gained, the following recommendations are proposed for bank managers as well as future researchers:

Enhancing accessibility and efficiency of electronic banking services: to improve and strengthen system accessibility and operational efficiency, the bank's electronic service platforms should incorporate the following features: continuous access to the electronic banking website and other electronic service channels, such as POS terminals, ATMs, and similar tools, particularly during business hours. Proper deployment and operation of the electronic banking website and other service platforms, ensuring that systems are correctly loaded and functional. The electronic banking website and other service platforms must remain fully operational during financial transactions. Service interruptions, especially during payment processes, are a major source of customer concern and can significantly affect trust in the bank's website and willingness to use it again. Pages on the electronic banking website must not become unresponsive or locked after entering transaction-related information. The website must accurately receive and process each customer request. All financial transactions on the electronic banking website must be executed without errors. The bank should deliver services exactly as promised and, in the event of any issues with online services, promptly resolve them to ensure customer satisfaction. These measures collectively enhance customer trust, improve the user experience, and promote repeated use of the bank's electronic services.

Strengthening privacy protection and the implementation of electronic service systems to enhance customer trust: since dimensions of electronic service quality are directly related to trust, it is recommended that electronic banking managers adopt measures to improve customer confidence in online transactions, including the following: the electronic banking website should be equipped with robust security mechanisms, such as digital signatures and SSL. Ensure the protection of customers' financial transaction information and prevent any misuse of this data. Obtain official electronic trust certifications (e.g., e-trust symbols) to increase customers' sense of security. Avoid collecting unnecessary information that may raise concerns for customers. Do not share customers' personal information with third-party websites. Ensure the completeness and accuracy of information provided on the electronic banking website. Provide precise, correct, and reliable information to assist customers in conducting financial transactions more easily. Tailor information to the personal needs of each customer to facilitate smoother interactions and enhance user satisfaction. By implementing these measures, banks can significantly strengthen customer trust, reduce perceived risks, and improve the overall user experience of their electronic service platforms.

Enhancing customer loyalty through improvements in trust and satisfaction: any improvement in customer trust and satisfaction directly contributes to greater customer loyalty. Banks can leverage high-quality electronic services via their electronic banking websites to build customer trust and satisfaction, which in turn positively influences customers' intentions to revisit the website and repeat financial transactions. According to Gounaris et al. [50], one of the strongest outcomes of high electronic service quality and customer satisfaction is word-of-mouth promotion. Banks should recognize that satisfied customers naturally advocate for and support the bank, promoting its products and services. This effect is particularly powerful when satisfied customers serve as credible sources of information for potential and existing clients, as their recommendations can significantly enhance customer acquisition and retention. By prioritizing service quality, trust, and satisfaction in online banking platforms, banks can strengthen customer loyalty and foster long-term engagement.

Customer satisfaction and retention are achieved through a clear understanding of customer expectations regarding banking services and by prioritizing these expectations in service delivery. Bank management should recognize that retaining existing customers is less costly than acquiring new ones. Consequently, one effective strategy for customer retention is the continuous improvement of service quality, particularly for services delivered online. It is noteworthy that the impact of enhancing customer satisfaction with electronic services on customer loyalty is several times greater than the impact of building customer trust alone. In other words, by investing in strategies that increase customer satisfaction and improve the online banking experience, banks can achieve customer loyalty more efficiently and rapidly. Prioritizing satisfaction-driven improvements in electronic services allows banks to foster long-term loyalty while optimizing both operational efficiency and customer engagement.

In today's technology-driven environment, due to customer concerns regarding privacy, banks must seek ways to overcome these apprehensions and encourage customers to share information that can enable better, more personalized services. Heightened privacy concerns can significantly influence a customer's choice between two banks offering otherwise equivalent services. When no physical presence is required, any bank capable of providing electronic services may compete for the customer's attention. Therefore, establishing customer trust—through a strong emphasis on privacy protection, security, and reliability—becomes critical. Customers who are sufficiently concerned about their privacy are more likely to select a bank that demonstrates high capability in safeguarding and effectively utilizing their information to deliver personalized services. This, in turn, directly impacts the bank's profitability. By prioritizing privacy and security in electronic service delivery, banks can enhance customer trust, encourage data sharing, and ultimately strengthen both customer loyalty and financial performance.

Author Contributions

Morteza Sahab Khodamoradi formulated the research problem, developed the conceptual model based on social cognitive theory, and supervised the overall research process. Soha Gholami was responsible for data collection, questionnaire design, and implementation of the PLS-SEM analysis. Kiomars Soheili contributed to the interpretation of structural model results, validation of findings, and refinement of the manuscript. All authors collaborated in writing and revising the paper and approved the final version.

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Data Availability

The dataset analyzed in this research was obtained through survey responses and processed using PLS-based structural equation modeling techniques. Access to the dataset may be granted upon reasonable request to the corresponding author.

Conflicts of Interest

The authors report no competing interests that could have influenced the outcomes of this research.

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