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The Place of Trust in the Adoption of Express Bank by Moroccan Customers

Houmami Chayma [1], Lafraxo Younes [2]

[1,2] *Cadi Ayyad University, Faculty of Law, Economic, and Social Sciences, Marrakech, Morocco*
Department of Management Sciences

Abstract:- Global banking is changing as a result of technological advancements, and Morocco is embracing digital solutions like "Express Bank" in spite of integration difficulties. This study emphasizes the critical role that trust plays in examining the factors influencing Moroccan customers' adoption of this technology by utilizing and expanding upon the "Unified Theory of Acceptance and Use of Technology 2" (UTAUT 2). In order to test and validate the augmented model, data from the clientele of Attijariwafa Bank一including those without traditional bank accounts一was analyzed. It was discovered that performance expectancy, effort expectancy, habit, security, quality, and trust are important factors in predicting the willingness to use Express Bank. The research highlights trust's central place in predicting adoption behaviors, offering significant insights for banks to facilitate the integration of Express Bank and encourage its adoption among Moroccan consumers.

Keywords*: Adoption, Express Bank, UTAUT 2, Trust, Morocco.*

1. Introduction

In an age whereby new technology is constantly upending old ideas, the banking industry is going through a paradigm shift [51]–[12]–[45]. This transformation may be seen in Morocco with the introduction of Express Bank, a game-changing invention that completely changed how people could obtain financial services. This project marks a turning point in the development of the Moroccan banking industry and the beginning of a period of more integrated and easily available financial services (Group Attijariwafa bank, 2018).

In the world of traditional banks, Express Bank represents a cutting-edge idea by enabling customers to independently complete their financial activities while receiving individualized assistance. The omnichannel paradigm aims to provide a smooth and uninterrupted user experience on several platforms, including internet services, mobile apps, automated teller machines (ATMs), and customer relations centers (CRCs) (Group Attijariwafa Bank, 2019). Furthermore, Express Bank provides a number of services that let customers carry out different tasks, such as paying bills, topping up mobile devices, transferring money between accounts, Cash Express Automatic service, requesting checkbooks, recharging prepaid cards, printing bank account information, exchanging foreign currencies, cash deposits and check remittances, and more (Group Attijariwafa Bank, 2019).

Express Bank's innovative model is based on the smooth integration of many service channels, which promotes more customer flexibility. Despite these apparent advantages, Express Bank acceptance is trailing behind traditional methods, since Morocco's adoption rate of mobile payments is still quite low, at 1.9% according to Bank Al-Maghrib's 2022 Annual Report. Discussions concerning the Moroccan financial market's openness to and integration of these technologies are prompted by this circumstance.

One key factor in this environment is trust [70]–[56]–[6]–[42]. It serves as the cornerstone of the dynamic interaction that takes place between customers and the banks that they represent [64]. As a bridge between old methods and a digitally connected future, Express Bank emphasizes the need of trust in enabling a smooth shift to modern banking procedures [56].

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Investigating the many perspectives on trust is crucial to provide more context for this idea. There are several methods for elucidating the idea of trust. It can be viewed as being related to a person's personal qualities, which encourage trust, or as being addressed with altruistic thoughts of compassion and benevolence. Another way to look at it is from a rationalist standpoint, using reasoning and math to make trust an additional assurance of value. Additionally, trust may be seen as an entity embedded in the relationships between individuals involved in a shared action, or it can be tied to the standards set out and the regulations enforced by institutions that would enable its creation. Ultimately, the ability to trust may be traced back to an individual's cultural and psychological background [8]. In summary, there are several viewpoints. [46].

In light of Express Bank's acceptance in Morocco, our study delves deeply into the topic of trust. This investigation takes place in the context of a financial ecosystem that is fast changing and becoming more and more impacted by digitization. We explore the dynamics and causes of trust in this digital environmet [2]-[1]-[56]-[27]-[42]. Utilizing the UTAUT2 theoretical framework, our research dissects the complex relationship between clients, technology, and trust in the banking sector [56]-[58]-[6].

To gain a better grasp of how trust influences the uptake of emerging banking technologies and transforms the modern financial landscape, we carried out a thorough literature review, used a strict methodology, and carried out empirical analysis. Our research is around a creative examination of Express Bank's debut in Morocco. We are concentrating on a wide range of direct and indirect aspects that affect the use of Express Bank technology. Our study's main goal is to elucidate the important part that trust takes in the dynamic banking services sector. This is especially relevant in the case of Express Bank's establishment in the Moroccan market, as it signifies a substantial change in the paradigms around banking.

2. Literature Review

A key component of the digitalization of banks is the incorporation of new technologies, including mobile applications. The goal of these technologies is to maximize advantages for banking institutions as well as clients [44]. Nevertheless, adoption of these novel systems is not a given. A lot of IT systems are neglected or underutilized [72], frequently due to problems with user reception [69].

Notwithstanding their technological promise and financial feasibility, user resistance to information technologies is a significant obstacle that might be linked to a lack of trust [71]–[69]. It is consequently essential to comprehend the environmental, cultural, psychological, sociological, and demographic components that influence the adoption of these technologies [42].–[35]–[55]–[6]–[70]–[1]–[2].

The implementation of the Unified Theory of Acceptance and Use of Technology (UTAUT) and its successor, UTAUT 2, merits more consideration in the constantly growing field of banking technologies, especially in the context of Express Bank and omnichannel settings. This is particularly relevant to the Moroccan banking industry, as there hasn't been much research done in this field.

UTAUT provides a thorough framework for comprehending technology adoption and usage; it was first established by [65]. The Theory of Planned Behavior, the Technology Acceptance Model, and the Theory of Reasoned Action are among the eight concepts that it incorporates. It emphasizes performance expectancy, effort expectancy, social influence, and facilitating conditions as major variables.

Hedonic motivation, price value, and habit are the three additional consumer behavior predictors incorporated into UTAUT 2, an extension presented by Venkatesh, Thong, and Xu [66]. This enlarged model is extremely pertinent to contemporary banking technologies, as it has demonstrated enhanced explanatory power in consumer scenarios.

A thorough meta-analysis is required to consolidate the existing body of research and emphasize how UTAUT 2 can be modified for Express Bank and related technologies, given the complexity and quick digital transformation of the banking industry. An analysis of this kind would offer a thorough and detailed perspective of the variables affecting the adoption and application of technology in this industry.

A thorough analysis of the literature would also highlight gaps, trends, and differences in the field's existing understanding, providing important information for further research. In our work, we have focused especially on

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technologies that are similar to Express Bank but have been researched more thoroughly, like Internet banking and mobile banking. We can gain insights that could help with the successful adoption and user acceptability of new financial technologies in Morocco and elsewhere by examining and contrasting these technologies within the UTAUT & UTAUT 2 frameworks.

Previous research has found important elements such perceived risk, trust, security and privacy, and service quality [2]–[70]–[6]–[7]–[36]–[56]. Additionally, these research highlighted the significance of perceived risk, perceived trust, effort and performance expectations, social impact, and service quality in the adoption of digital banking services.

By adding contextual variables including initial trust, governmental regulations, and perceived risks, [36]'s work improved the UTAUT model. Moreover, the research conducted by [56] reaffirmed the significance of trust in the acceptance of mobile banking. The research by [17] concentrated on trust—both offline and online—with a particular emphasis on online trust because it significantly affects adoption intention.

Our study is to use the UTAUT 2 model and take into account the important elements suggested by previous studies in order to completely comprehend the details of Express Bank. Research by [42] also helped to clarify this by looking at how consumer trust is affected by the quality of mobile banking services.

To effectively address the unique challenges of this constantly evolving industry, the adoption of Express Bank and omnichannel banking spaces in the banking sector requires an adapted UTAUT 2 model that incorporates variables like trust, perceived risk, security, and privacy, in addition to service quality.

3. Hypotheses and the Research Model

A. UTAUT 2 application in the field of research

a. Performance Expectancy:

Based on prior research that shows performance expectations to be a critical component in technology adoption, performance expectancy was included as an independent variable in the UTAUT 2 model. This idea highlights the fact that people are more likely to accept and make use of technology that they believe will improve their performance on a variety of jobs. Thus, in the UTAUT 2 paradigm, performance expectancy is considered an independent variable and is thought to have a direct impact on the behavioral intention to utilize the technology [2], particularly in the banking industry. This prompts us to put out the subsequent hypothesis:

H1: Performance expectancy has a positive impact on the intention of customers to adopt Express Bank.

b. Effort Expectancy:

The degree to which a user anticipates that utilizing a technology will require no effort is known as effort expectancy [65]. The UTAUT 2 model views effort expectancy as an independent variable that has a direct impact on the behavioral intention to acquire and use a technology. Numerous research have supported this idea, especially in the banking industry where customers' adoption habits are greatly influenced by how easy they perceive online banking channels to be to use [53]–[4]. As a result, the hypothesis that follows is put forth:

H2: Effort expectancy positively influences the behavioral intention of customers to adopt Express Bank.

c. Social Influence:

According to the UTAUT 2 model, social influence is seen to be extremely important in determining a person's behavioral intention to embrace a technology. The extent to which people are influenced by the beliefs, knowledge, support, and actions of those in their social circle is referred to as social influence. Previous research has demonstrated the impact of social influence on consumers' likely to use online banking channels, which serves as support for the inclusion of social influence as a significant driver of behavioral intention. [4]–[75]. Hence, we propose the following hypothesis:

H3: Social influence positively impacts the behavioral intention of customers to adopt Express Bank.

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d. Hedonic motivation:

Hedonic motivation, which is defined as the enjoyment or pleasure experienced when using a certain technology, is thought to directly impact behavioral intention [66]. Furthermore, a substantial body of evidence has been presented to support the notion that hedonic incentive plays a part in customers' decisions to utilize remote banking [4]. Consequently, we put up the following hypothesis:

H4: Hedonic motivation positively influences the behavioral intention of customers to adopt Express Bank.

e. Price Value:

When it comes to client technology adoption, price is important. The perceived benefits of using technology in a consumer setting are weighed against the higher financial expenditures involved [66]. As long as perceived benefits outweigh financial costs, customers are more enthusiastic about adopting new technologies when they are offered at a high price point [66]. One important aspect influencing customers' desire to use remote services is their budget. Research has been done on the correlation between pricing and service values in the context of online banking platforms. Customers' intention to use online banking is significantly influenced by perceived value [32–41], although pricing value is a crucial factor in the adoption process of online banking. However, since it lowers clients' travel expenses to home branches and permits transactions without the customary fees connected with transactions outside of these primary branches, this could turn into a big benefit for Express Bank. Consequently, we have upward the following hypothesis:

H5: Price value positively influences customers' intention to adopt Express Bank.

f. Habit:

Habit is the extent to which a person acts instinctively or subconsciously as a result of prior experiences [66]. Experience is what forms habits, but experience is not what forms a habit on its own [66]. A habit can impede the modification of an actual behavior by fostering a cognitive commitment to that conduct [49]. It is believed that behavior intention and the use of Express Bank's technologies are significantly influenced by habit. Thus, the following hypotheses:

H6: Habit positively influences the behavioral intention of customers to adopt Express Bank.

H7: Habit positively influences customers' adoption of Express Bank.

g. Facilitating Conditions:

The user's perception that infrastructure and institutional support are available to help them use the targeted technology is referred to as a facilitator [66]. In general, facilitating conditions refer to the infrastructure and technological assistance that make a system easier to operate. Encouraging circumstances affect both the intention to use and the actual usage [65, 66]. Thus, the subsequent hypotheses:

H8: Facilitating conditions positively influence the behavioral intention of customers to adopt Express Bank.

H9: Facilitating conditions positively influence the adoption of Express Bank by customers.

h. Perceived Risk:

Risk is defined as the result of combining the unknown nature of an occurrence with the possibility of unfavorable outcomes [9]. Additionally, research by [61] looked at perceived risk as a major factor influencing the uptake of mobile banking services, and [43] included a variety of risks, including social, performance, financial, temporal, and security risks, under the umbrella of perceived risk. There is a certain amount of danger associated with Express Banks, which are locations with online, remote, and automated technology. This risk is especially present when it comes to incomplete operations, uncashed checks, or suspended money deposits. As a result, we develop the following hypotheses:

H10: Perceived risk negatively influences customers' behavioral intention to adopt Express Banks.

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i. Perceived Security:

Features like encryption, authentication, verification, and protection are all part of the perceived security that needs to be protected. talk about these components, stressing how crucial they are to maintaining the security and concentrating in particular on how they affect the confidence that customers have in online transactions. Users are more likely to think that technology guarantees their safety while they are making online transactions when they perceive these security features in it. Prior research in the banking industry has unequivocally demonstrated a connection between trust and perceived security [6]–[56]. According to the findings of these research, banks must actively work to win over customers' trust by putting strict security measures in place and providing clear information regarding data protection. As such, we develop the following hypothesis:

H11: Perceived security has a positive influence on customer trust towards the adoption of Express Bank.

j. Perceived Quality:

One independent variable that has a big influence on consumers' faith in a technology is perceived quality. Put another way, buyers are more likely to trust technology that they consider to be of a better caliber. According to the research done by [42], which significantly advanced our knowledge of trust as a key variable. The impact of client trust on the quality of mobile banking services is an intriguing aspect of this study. As was already said, this study showed that trust is significantly impacted by three quality aspects. Therefore, the accuracy and stability of the associated mobile banking system, the availability of correct information for completing financial operations, and an appropriate information presentation are the components that allow clients to trust mobile banking. Hence, the following hypothesis is proposed:

H12: Perceived quality positively influences customer trust towards the adoption of Express Bank.

k. Trust: The Mediating Variable

According to [25], consumer trust in Express Bank can be defined as the culmination of the client's perceptions of the honesty, kindness, and capacity of these omnichannel venues to conduct financial transactions. Many research have been conducted in the literature to examine trust, which has shown to be important in predicting customers' perceptions and intentions about mobile banking [47]–[50]–[25]–[37]–[73]–[74]. For example, research by [73], which examined the predictive variables of early customer trust in mobile banking, demonstrated that trust is a significant element in determining whether or not customers will use mobile banking. To enhance this comprehension, [31] offer a methodical analysis of the adoption of Internet banking, emphasizing trust as an essential mediating element. Similar to this, [57] carried out a thorough analysis of the literature on the adoption of mobile banking and found that trust acted as a key mediator in this process.

[48] Add to the conversation by incorporating trust as a crucial mediating component in the adoption of mobile banking apps into the conventional Technology Acceptance Model (TAM). [4] Examine how consumers' acceptance of Internet banking is influenced by a variety of characteristics, including trust. Furthermore, [39] forecast that young consumers will use mobile banking services, underscoring the significance of trust in this group. Finally, [74] investigates how trust influences users' adoption of mobile banking, highlighting the importance of this factor. These studies highlight the significance of trust and how it affects the intention of actions.The research of [56] and [61], who both concentrate on this topic, further supports this. More specifically, research by [56] shows that, when it comes to mobile banking, trust has a big impact on behavioral intention. Parallel to this, the research by [17] emphasizes how important trust is as a mediator in the uptake of online banking services. Together, these investigations support the following hypothesis:

H13: Trust positively influences the behavioral intention of customers to adopt Express Bank.

4. Behavioral Intention and Adoption:

Customers' inclination and willingness to accept new technologies is referred to as behavioral intention [20]. Behavioral intention has been widely addressed and is seen to be the most important component influencing an individual's behavior towards new technology in earlier research on information systems and technology acceptance [66]. Similarly, the adoption of digital banking channels has been directly influenced by behavioral

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intention, which has been extensively verified in pertinent research [4]. Therefore, we make the assumption in this study that customers' propensity to adopt such a service can predict the effective adoption of Express Bank to a great extent. Numerous research on internet banking, including those by [37]-[66]-[74] and others, have also amply confirmed this association. As a result, we develop the subsequent hypothesis:

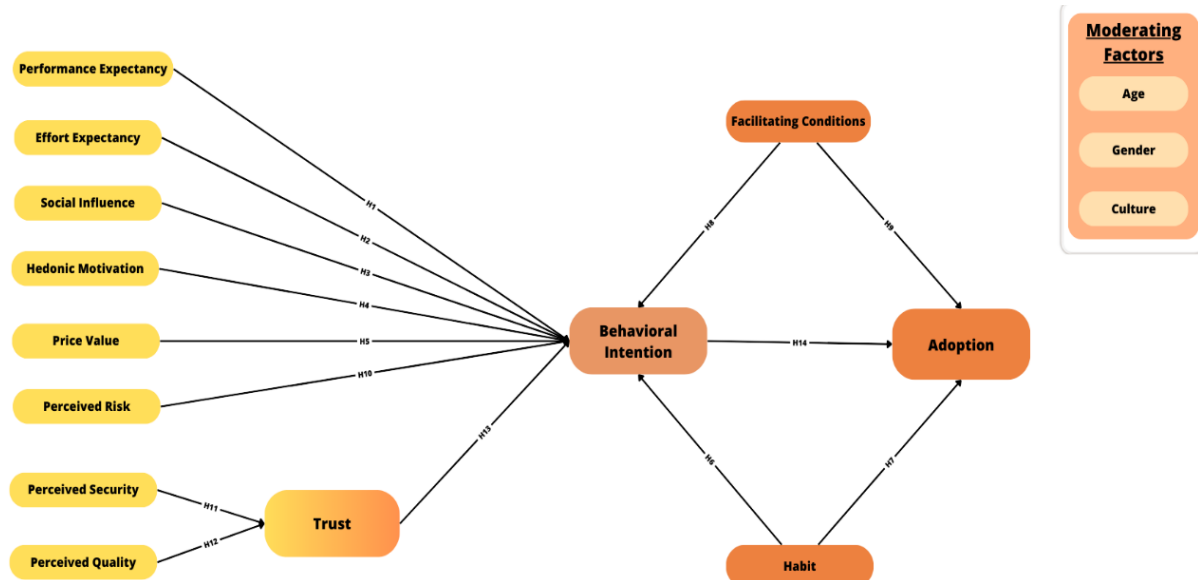**H14:** Behavioral intention positively influences the adoption of Express Bank by customers.

Fig 1: Research Model

l.   Moderating Variables:

Three moderating factors—age, gender, and culture—suggested in the model are taken into account in this study. The theories put forth in relation to these moderating factors are founded on earlier investigations [73]–[66]–[28]–[15]–[68]–[56]. The aforementioned factors possess the ability to regulate the degree and orientation of the association between the independent variables in the UTAUT 2 model and the other variables that were previously discussed, specifically the mediating variable and additional dependent variables.

i.   Age:

Based on two divergent viewpoints, the results of multiple studies emphasize the moderating effect of age as a crucial component. The first viewpoint holds that aging is linked to a decline in vision, mobility, and comprehension of digital channels, all of which have a negative impact on the uptake of these platforms. From another viewpoint, though, elderly clients can take use of neighborhood banking branches that provide Express Bank services, saving them the trouble of having to visit their main branch, as aging frequently results in decreased mobility. A number of studies have looked at age as a moderating factor, particularly those by [66] and [15]. In light of this, the following hypothesishas been put out:

H15: Age has a significant moderating effect on the relationship between the determinants that influence behavioral intention and the adoption of Express Bank services by clients.

ii.   Gender:

Another moderating element this study looks at is gender. It has been examined as a moderator in the research efforts of [56] and [28] and is proposed in the UTAUT model. Following the original UTAUT 2 model suggestions given by [66], researchers attempted to investigate the impact of gender on the link between independent factors, behavioral intention, and adoption in accordance with the demographics of the population investigated. Consequently, we propose the following hypothesis:

H16: Gender has a significant moderating effect on the relationship between the determinants that influence behavioral intention and the adoption of Express Bank services by clients.

iii. Culture:

This moderating variable has been the subject of numerous research, of which education level is a basic component. Education level influences behavioral intentions, the relationship, strength, and direction of independent variables, as well as the general adoption of digital channels. This moderating factor is important in the adoption of mobile banking, as [40] emphasizes. People's acceptance of contemporary technologies is influenced by their educational attainment. Indeed, a more sophisticated grasp of the matter is probably possessed by people with greater educational backgrounds. Additionally, by taking into account people's domiciliation in various cities, we included the cultural variable in our study, which complemented the influence of education level, which is also influenced by culture. As a result, we develop the subsequent hypothesis:

H17: Culture has a significant moderating effect on the relationship between determinants that influence behavioral intention and the adoption of Express Bank services by clients.

5. Methodology

A. Data collection

Numerous research studies state that it is critical to use a method that is appropriate for the goals and hypotheses of the investigation [33]. We want to know how the dependent variables (behavioral intention and adoption) relate to the moderating (sociodemographic), mediating (trust), and explanatory (individual, societal) variables. We used a quantitative technique, collecting data through a questionnaire, in order to test the proposed model.

B. Measurement scale

Building on the foundational work in prior research, this study uses a set of validated scales to assess key factors related to the use of Express Bank. Based on the seminal work of [66], the methodology includes modifications to standard measures for Performance Expectancy (PE) and Effort Expectancy (EE). In a similar vein, the Social Influence (SI) construct fits the guidelines provided in the same research. Hedonic Motivation (HM), Price Value (PV), Habit (HB), Facilitating Conditions (FC), Perceived Risk (PR), Perceived Security (PS), Perceived Quality (PQ), Trust (TR), Behavioral Intention (BI), and Adoption of Express Bank (AEB) are among the constructs that are included in the investigation. In order to ensure a thorough approach, these structures have been modified by incorporating concepts from [59]–[62] and others. From "totally disagree" (1) to "totally agree" (7), a seven-point Likert scale is used to objectively measure each concept in this study. This measure is essential for gathering complex information about respondents' views, convictions, and impressions about Express Bank. The goal of its application is to produce a solid dataset that can be thoroughly analyzed and interpreted statistically, so improving our comprehension of the dynamics involved in the uptake and utilization of digital financial services.

Table 1: Measurement Items

Constructs	Items	Source
Performance Expectancy	PE1: I find the use of Express Bank useful in my daily life	**[66]**
	PE2: I believe that using Express Bank increases my productivity.	
	PE3: Using Express Bank helps me accomplish things more quickly.	
	PE4: Using Express Bank enhances my chances of achieving things that are important to me.	
Effort Expectancy	EE1: I easily learn how to use Express Bank.	**[66]**
	EE2: My interaction with Express Bank is clear and understandable.	
	EE3: I find using Express Bank easy.	
	EE4: It is easy for me to become skilled in using Express Bank.	

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Constructs	Items	Source
Social Influence	SI1: People who are important to me think that I should use Express Bank.	[66]
	SI2: People who influence my behavior think that I should use Express Bank	
	SI3: People whose opinions I value prefer that I use Express Bank.	
Hedonic motivation	HM1: Using Express Bank is fun.	[66]
	HM2: Using Express Bank is enjoyable.	
	HM3: Using Express Bank is entertaining.	
Price Value	PV1: Express Bank offers good value for money.	[59]
	PV2: Express Bank is priced reasonably compared to other banking services.	
	PV3: At the current price, Express Bank offers good value.	
	PV4: The service of Express Bank is economical to use.	
Habit	HB1: Using Express Bank has become a habit for me.	[66]
	HB2: I am addicted to using Express Bank.	
	HB3: I must use Express Bank.	
	HB4: Using Express Bank has become natural for me.	
Facilitating Conditions	FC1: I have the necessary resources to use Express Bank.	[66]
	FC2: I have the necessary knowledge to use Express Bank.	
	FC3: Express Bank is compatible with other technologies I use.	
	FC4: I can get help from others when I have difficulties using Express Bank.	
Perceived Risk	PR1: Using Express Bank's services exposes my bank account to the risk of fraud.	[62]
	PR2: Using Express Bank's services puts my bank account at risk.	
	PR3: I believe that using Express Bank's services compromises my privacy.	
	PR4: If I use Express Bank's services, hackers might access my bank account.	
Perceived Security	PS1: In general, I consider that Express Bank has secure channels for conducting transactions.	[23]-[3]
	PS2: In general, I believe that Express Bank ensures on its channels, during the transaction process, that operations will not be interrupted or lost, allowing them to be successfully completed.	
	PS3: In general, I believe that Express Bank securely stores and processes my personal information.	
Perceived Quality	PQ1: Express Bank's services are of consistent quality.	[59]
	PQ2: Express Bank's service has an acceptable level of quality.	
	PQ3: Express Bank's service would perform consistently.	
	PQ4: Express Bank's service would not last long.	
Trust	TR1: I believe that using Express Bank to carry out transactions is always safe.	[62]
	TR2: I believe that Express Bank is a safe way to conduct transactions.	
	TR3: My bank immediately alerts me if something goes wrong with any of my transactions.	

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Constructs	Items	Source
	TR4: Based on my experience, I believe that using Express Bank to carry out transactions is safe.	
Behavioral Intention	BI1: I intend to use Express Bank in the future.	**[66]**
	BI2: I will always try to use Express Bank in my daily life.	
	BI3: I plan to use Express Bank in the future.	
	BI4: I predict that I will use Express Bank in the future.	
Adoption Express Bank	AEB1: I intend to continue using Express Bank in the future.	**[52]-[76]**
	AEB2: I will encourage my friends and family to use Express Bank.	
	AEB3: I often use Express Bank to manage my account.	
	AEB4: I often use Express Bank to make payments.	

C. Pretesting the initial questionnaire with the Delphi method

A thorough scientific approach was started for gathering data from bank customers, and a crucial first step was the questionnaire's pre-test. In accordance with the guidelines provided by [14], this stage was crucial to the design and validation of the data collection instrument since it guaranteed the questions' relevancy and clarity. We decided to use the Delphi approach, which is based on the suggestions of [22] and has an iterative cycle structure with a 75% consensus criteria. The competence and dedication of the specialists engaging in the Delphi process— who are chosen based on their deep experience and understanding of the banking industry—are critical to the method's efficacy, as supported by [34]. Professionals from the banking industry made up the expert panel, which was essential in improving the caliber of responses.

A minimum of five years of experience in the banking industry served as the basis for the expert selection criteria. Early in July 2023, data was gathered in three stages using a combination of in-person interviews and online questionnaires. Experts assessed and discussed every question on the first round of the questionnaire. In the third phase, the questionnaire was revised with the goal of reaching a 75% consensus. The second stage permitted a reevaluation of the results. Twelve experts from the banking industry participated in this Delphi survey, and every stage of the study saw an amazing 100% participation rate. The findings showed that several items, such HM1 and PQ4, were eliminated by a 75% consensus because of problems with relevance and semantics. This emphasizes the significance of critical analysis in the creation of questionnaires. Early in July 2023, the methodical use of the Delphi process was essential in examining a variety of viewpoints, so endowing our research with greater credibility and validity. The changes made to the survey meant that it better suited the particulars of the banking environment, ensuring that it was both pertinent to the area and in line with the particular objectives of the study.

D. Method - Survey Questionnaire

Using a quantitative methodology, this study collected numerical data for statistical analysis by utilizing the flexibility of questionnaires. This methodology enabled the methodical and accurate measurement of several participant characteristics, such as beliefs, attitudes and actions. Because questionnaires are naturally good at gathering huge amounts of data, it is possible to extrapolate the results to a larger population. This is a major time and resource saver compared to individual interview methods. Additionally, a tripartite style of questionnaire delivery was implemented, using online, phone-assisted, and in-person approaches with online recording, to improve the reliability of data collection and expedite processing. Developed with Google Forms, the survey instrument was disseminated in Arabic and French through a variety of digital channels, such as Facebook and WhatsApp, in addition to direct interactions with clientele. Convenience sampling, selected for its usefulness and effectiveness, was the method used in this study.

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Table 2: Construct Reliability

Constructs	Cronbach's Alpha (α)	CR	AVE	Discriminant validity												
				1	2	3	4	5	6	7	8	9	10	11	12	13
AEB	0.9	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.7	0.9	0.7	0.8	0.7	0.2	0.7	0.7
FC	0.9	0.9	0.7		0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.7	0.2	0.7	0.9
TR	0.9	0.9	0.7			0.8	0.7	0.7	0.6	0.8	0.7	0.7	0.9	0.3	0.9	0.7
EE	0.9	0.9	0.7				0.9	0.7	0.8	0.7	0.8	0.9	0.6	0.2	0.6	0.8
HB	0.9	0.9	0.7					0.8	0.8	0.7	0.9	0.7	0.7	0.3	0.6	0.9
SI	0.9	0.9	0.7						0.9	0.7	0.8	0.8	0.6	0.3	0.5	0.8
BI	0.9	0.9	0.7							0.9	0.7	0.8	0.7	0.2	0.7	0.7
HM	0.8	0.8	0.7								0.8	0.8	0.7	0.3	0.7	0.9
PE	0.9	0.9	0.7									0.8	0.7	0.2	0.6	0.8
PQ	0.9	0.9	0.7										0.8	0.3	0.9	0.7
PR	0.9	0.9	0.8											0.9	0.3	0.3
PS	0.9	0.9	0.7												0.8	0.7
PV	0.9	0.9	0.7													0.9

The utilization of a non-probabilistic strategy facilitated the swift acquisition of data from a conveniently accessible segment of the populace, encompassing not simply customary bank clients but also a wider range of persons. We purposefully included a range of customer types outside of traditional banking relationships, including people who exchange foreign currencies and make cash withdrawals, irrespective of whether they had an account, a bank card, or were connected to any other peer banks. Understanding the various applications and viewpoints of the Express Bank service required this addition, which was essential. The study focused on both large and small cities throughout a wide geographic area in Morocco. Following the guidelines of [13]–[67] and adhering to Structural Equation Modeling (SEM) norms, a minimum sample size of 500 was deemed necessary to reduce bias.

In the end, more than 800 questionnaires were distributed in July and August of 2023; after excluding non-participants, 765 valid responses were obtained. Using SmartPLS 4, the data from these answers were methodically cataloged for further examination. The analysis process comprised evaluating the respondents' distribution, the measurement model's validity and reliability, and a thorough analysis of the structural model, with a focus on the mediation and moderation effects.

6. Presentation and Analysis of the Results

Notable participant characteristics are revealed by the demographic analysis. The sample shows a little female predominance in terms of gender distribution, with 52.5% of participants being women and 47.5% being men. The age group that comprises 32% of the sample, or those between the ages of 25 and 34, is the most common. The age group between 35 and 44 (29.7%), 18 to 24 (21.8%), 45 to 54 (11.2%), and over 55 (5.2%) are the next age groups in close succession.

Geographically speaking, 40% of the sample consists of around half of the respondents who are from the Casablanca region. The percentages in other large cities, which range from 13.3% to 17.1%, are comparable. These include Rabat, Tangier, Agadir, and Marrakech.

Higher education degrees are held by a sizable fraction of the participants; 46.9% of them have a bachelor's degree, and 22.6% have a master's or doctoral degree. The percentages of the sample with secondary education and less are 22% and 8.5%, respectively.

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The respondents' employment is distributed differently: 20.7% are unemployed and 35.7% work in the private sector. 19.6% of participants work for the government, 16.3% are working on personal projects, and 7.7% are independent contractors. The variety of sectors and vocations represented in the sample can be seen in this professional distribution, which reflects the complex structure of the labor market in the locations under study.

A. Assessment of Measurement Models

The measurement model was thoroughly evaluated to ensure its reliability and validity, focusing on internal reliability (IR), convergent validity (CV), and discriminant validity (DV). The approach was based on the methodologies outlined by [11]. Internal reliability (IR), convergent validity (CV), and discriminant validity (DV) were the main areas of focus during the extensive evaluation of the measurement model to guarantee its validity and reliability. The methods described by [11] served as the foundation for the strategy.

a. Internal Reliability

Two statistical measures were used to evaluate IR: composite reliability (CR) and Cronbach's alpha. Cronbach's alpha, which measures the homogeneity of items within a scale, is a frequently used scale reliability indicator. Generally speaking, internal consistency is deemed good when the criterion is over 0.7. Cronbach's alpha values in the assessed model varied from 0.69 to 0.87. The entire range shows strong internal dependability for the constructs, even though the lower end is marginally below the conventional acceptance level. Additionally, the internal consistency of the measurement scales was confirmed by the CR values, which take changing item loadings into consideration.

b. Item Validity

Convergent and discriminant validity are two important elements that were used in this study to investigate the validity of the questions. The average variance extracted (AVE) was used to evaluate the strong correlation between measurements of similar or comparable structures in order to determine convergent validity, a key idea in construct validity [11]. The results showed that every variable under study surpassed the AVE's minimal cutoff point of 0.5, demonstrating a strong convergence between them. AVE values, for example, were 0.7 for other variables and 0.8 for (AEB) and (PR). The [24] criterion was used in relation to discriminant validity, which is concerned with the distinct differences between several variables
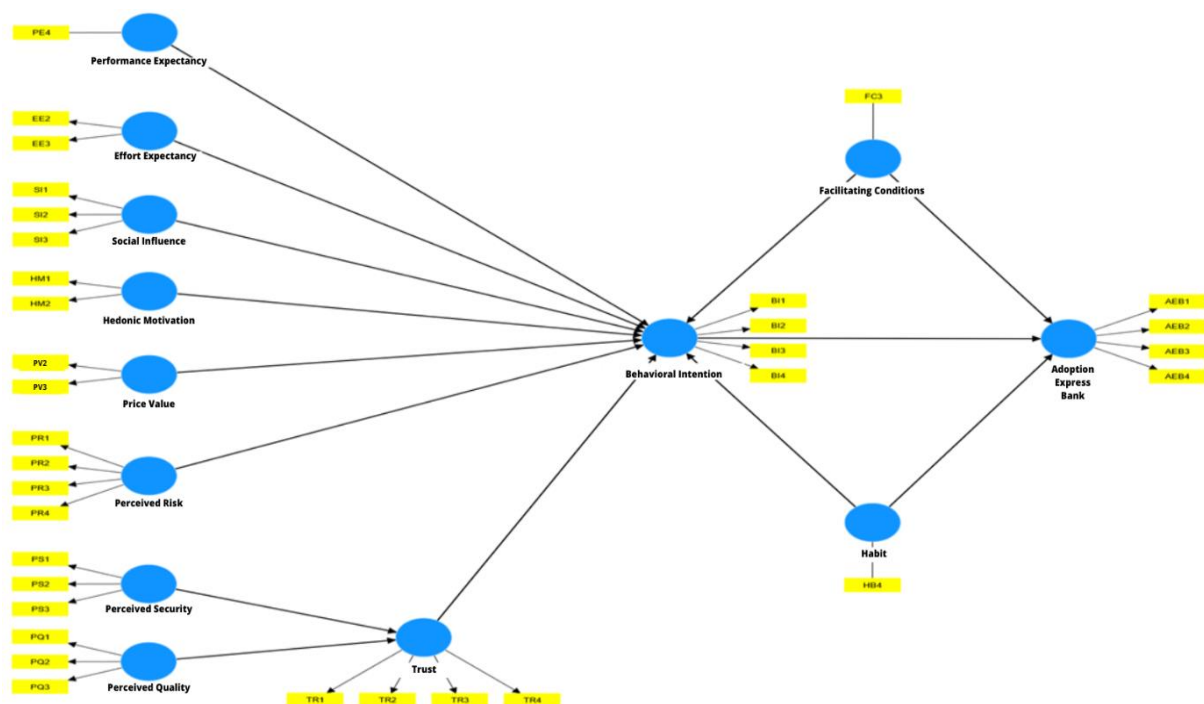

Fig 1 : Adjusted structural model

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This criterion compares a variable's AVE to the squares of the correlations it has with other variables in the model. Effective discriminant validity was confirmed by the data, which demonstrated that the AVE for each variable exceeded the squares of all relevant correlations. For instance, the values of trust (0.7) and effort expectation (0.9) were greater than the shared variances with other variables. The validity of the conceptual connections made in the study is reinforced by this analysis, which also emphasizes the substantial differences between the variables.

B. Structural Model Assessment

a. Collinearity

Regression analysis is significantly hampered by the phenomenon known as "collinearity," which is the strong connection between two or more independent variables in a model. This circumstance may make it more difficult to understand how each variable affects the dependent variable, making regression coefficients less clear and possibly impairing the accuracy of the model's predictions.

Analysis of the Variance Inflation Factor (VIF) is frequently used to determine collinearity. A VIF larger than 3.3 may suggest high collinearity, which could add bias into the model, according to study by [38]. The variables FC, EE, HB, PE, and PV had high VIFs according to our analysis; their corresponding values were 3.8, 4.2, 3.8, 3.7, and 3.7, exceeding the crucial threshold of 3.3.

A detailed examination of the correlation matrix was done in order to reduce this collinearity, and 13 problematic parts were found (FC1, FC2, FC4, EE1, EE4, PE1, PE2, PE3, PV1, PV4, HB1, HB2, and HB3). The original model was revised to an adjusted model once these components were eliminated, and the recalculated VIFs are all less than 3.3. The collinearity problems in our modified model were successfully fixed by this adjustment.

b. The Structural Model's Quality

The study assesses the quality of a structural model by confirming the significance of structural coefficients created through bootstrap methods and measuring the variance explained by endogenous variables using the squared correlation coefficient R^2. Good model quality is indicated by a high R^2 value, as described by [19]. The Stone-Geisser Q^2 test for predictive performance is another tool used to assess the robustness of the model. With a R^2 of 0.67, the structural model has a high degree of explanatory power. But after [29], the model's predictive power was also evaluated by the Blindfolding technique, and the results showed that the model had significant predictive relevance (Q^2 different from 0). These results, which are shown in Table 3, support the model's resilience in forecasting Express Bank client adoption.

Table 3 : R-square & Q² predict

Endogenous Variables	R-square	Q² predict
Adoption	0.8	0.6
Trust	0.7	0.7
Behavioral Intention	0.6	0.6

c. Hypothesis Testing

In this work, we used a bootstrap approach with 5,000 resamplings to analyze path coefficients, t-values, and p-values in order to evaluate the significance of direct impacts on our structural model. Table 4 presents the comprehensive findings. Seven of the examined hypotheses were confirmed, and the remaining ones were disproved.

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Table 4 : Results of Hypothesis Testing

Hypothesis	Path (β)	t-Value	p-Value	Results
H1	0.1	3.5	0.0	Retained
H2	0.2	3.3	0.0	Retained
H3	0.0	0.4	0.7	Rejected
H4	0.1	1.8	0.1	Rejected
H5	0.1	1.6	0.1	Rejected
H6	0.1	1.3	0.2	Rejected
H7	0.1	4.2	0.0	Retained
H8	0.0	1.3	0.2	Rejected
H9	0.0	1.5	0.1	Rejected
H10	-0.0	1.4	0.2	Rejected
H11	0.3	6.8	0.0	Retained
H12	0.6	12.4	0.0	Retained
H13	0.4	9.3	0.0	Retained
H14	0.8	27.2	0.0	Retained

Important conclusions include the demonstration that the intention to use Express Bank services is significantly positively impacted by performance expectancy (Hypothesis 1, $\beta = 0.1$; t = 3.5) and effort expectancy (Hypothesis 2, $\beta = 0.2$; t = 3.3). On the other hand, there was no evidence to support the hypotheses that claimed behavioral intention was influenced by hedonic motivation (Hypothesis 4) and social influences (Hypothesis 3). In a similar vein, price value (Hypothesis 5) and habit (Hypothesis 6) did not significantly influence the intention to adopt.

A substantial positive influence on consumer trust was demonstrated by factors including perceived security (Hypothesis 11, $\beta = 0.3$; t = 6.8) and perceived quality (Hypothesis 12, $\beta = 0.6$; t = 12.4), highlighting their significance in the adoption of Express Bank services. Ultimately, consistent with earlier research, behavioral intention demonstrated strong predictive value for the actual use of services (Hypothesis 14, $\beta = 0.8$; t = 27.2). [60]-[6]-[54].

d. Mediation Effect

The bootstrap method, a novel methodological technique, was found to be quite helpful in this study for examining the nuances of the mediation effect inside the created conceptual framework. That's the same bootstrap technique that was used, with its distinctive lack of reliance on any previous hypotheses regarding the sample distribution [29].

By using this analytical lens, a major magnitude—the variance accounted for, or VAF—was computed using the formula below:

VAF = Indirect effect / Total effect

The works of [29] shed further light on the subject, indicating that "mediation is absent if the VAF value is confined below 0.2; partial mediation is manifested if it flourishes equally or more between 0.2 and 0.8; full mediation takes place beyond 0.8."

The implications of this mediation were clearly shown in Table 5, where the findings demonstrate the nuanced interactions between the various factors at work.

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Table 2 : Result of the Mediation Effect

Path	Indirect Effect	Total Effect	VAF	Mediation Effect
HM -> BI -> AEB	0.1	0.1	1	**Complete Mediation**
TR -> BI -> AEB	0.3	0.3	1	**Complete Mediation**
PR -> BI -> AEB	-0.0	-0.0	NA	**No Mediation**
PS -> TR -> BI	0.1	0.1	1	**Complete Mediation**
SI -> BI -> AEB	0.0	0.0	NA	**No Mediation**
FC -> BI -> AEB	0.0	0.1	0	**No Mediation**
PQ -> TR -> BI -> AEB	0.2	0.2	1	**Complete Mediation**
PS -> TR -> BI -> AEB	0.1	0.1	1	**Complete Mediation**
PE -> BI -> AEB	0.1	0.1	1	**Complete Mediation**
PQ -> TR -> BI	0.2	0.2	1	**Complete Mediation**
EE -> BI -> AEB	0.1	0.1	1	**Complete Mediation**
HB -> BI -> AEB	0.0	0.2	0	**No Mediation**
PV -> BI -> AEB	0.0	0.0	NA	**No Mediation**

In the sequence PS→TR→BI, the explained variance (VAF) is established at 1, indicating indisputably that trust is an absolute mediator in the relationship between the behavioral intention and the experience of security. The VAF likewise stays at value 1, indicating a fully complete mediation, when analyzing the mediating place of trust in the relationship between perceived quality and behavioral intention. As a result, these elegant findings fully support the idea that customers' adoption of Express Bank's services is mediated in large part by trust.

e. Analysis of Moderating Effects

Based on gender, age, and culture, the hypotheses H15, H16, and H17 proposed significant differences in the behavioral intention and adoption of Express Bank services among participants. The purpose of these theories was to ascertain whether these variables had a substantial impact on how people view and utilize Express Bank's services.

Two prerequisites have to be met for these hypotheses to be validated: First, there is a moderating link between behavioral intention and important characteristics (gender, age, and culture) that is statistically significant. Secondly, these factors need to exert an active influence on the relationship, either strengthening or weakening it.

The impacts of the moderating variables were examined using the PLS-SEM algorithm and the bootstrap method with 5000 resamplings. Hypothesis H15 was rejected when it was shown that the Age variable did not significantly affect the link between behavioral intention and service adoption. This suggests that the degree to which customers' goals influence their use of Express Bank's services is not greatly influenced by their age.

After a careful examination of the moderating variable Gender's significance level, it becomes clear that it is significant only in the following interactions: The independent impact of gender on behavioral intention; the interplay of gender with performance expectation on behavioral intention; and the relationship of gender with habit on behavioral intention. After establishing the validity of the first significance condition for certain relationships influenced by the moderating variable Gender, we embarked on examining their effects by exclusively reinforcing or attenuating the aforementioned significant relationships The illustrations depict the association between performance Expectancy and behavioral intention. We observe that when taking the variable Gender into account, no discernible effect is observed on the relationship . However, when not considering this variable, we observe a positive impact that amplifies this relationship.
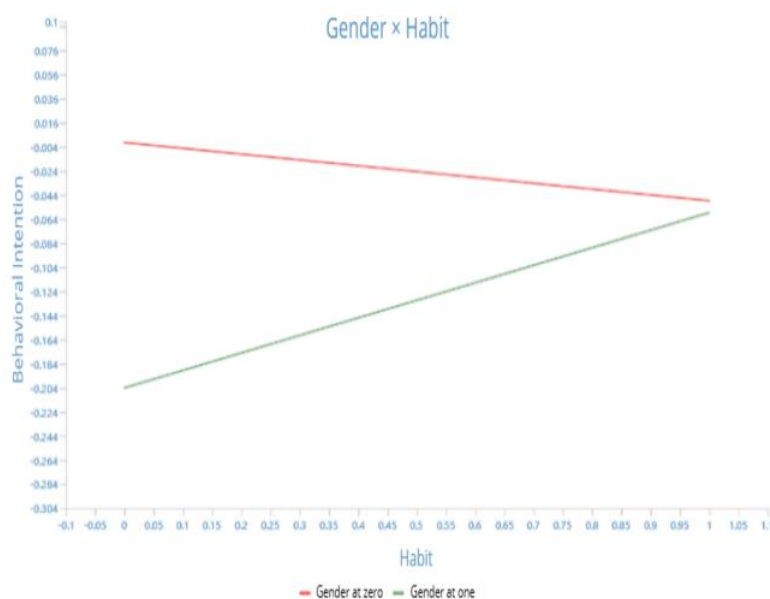
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Fig 2 : Slope Analysis - Gender x Habit

The interesting thing about Fig. 3 is that the association between Habit and Behavioral Intention is stronger when the variable Gender is included, and less strong when it is not. Based on these results, we confirm Hypothesis 16.

Finally, we tested the relevance of the place of residence variable as the first step in our approach by investigating hypothesis H17 and examining the final moderating variable, culture, which includes three sub-variables for measuring the participants' culture (place of residence, level of education, and occupation). According to our findings, only the following associations are significantly impacted by this variable: City -> Behavioral Intention and City x Habit -> Behavioral Intention. After confirming the first requirement of significance for the associations affected by the moderating variable City, we looked at how it might specifically strengthen or decrease the previously described significant link. We found that this association is negatively impacted when the city variable is considered. On the other hand, if this variable is ignored, a favorable effect appears, strengthening this relationship.

When it came to the variable Level of Education, we started our investigation by determining its applicability. The variable in question was eliminated since it was found to have no significant influence as a moderating variable, hence disproving the first criterion. As a result, it is clear that the relationship between the determining elements that influence customers' behavioral intention and their adoption of Express Bank is not significantly moderated by their level of education. It's important to note that, upon closer inspection, the final sub-variable in the cultural dimension—occupation—also failed to demonstrate any discernible moderating effect in cases where the first condition was disproved, hence justifying its deletion. Consequently, it is evident that the relationship between the factors influencing consumers' behavioral intentions and their adoption of Express Bank is not significantly moderated by occupation. Based on our analysis, it seems that the two sub-variables "Gender" and "Residence" are the only ones that appear to have a moderating influence on the relationship between the variables influencing consumers' behavioral intention and their adoption of Express Bank. Thus, hypothesis 17 is validated by this finding.

7. Elucidation of the findings' theoretical and practical implications

The adoption of Express Bank, a Moroccan banking innovation built on cutting-edge technology, is examined in this research within the framework of the industry's digital transformation. Based on a review of the literature and the application of the UTAUT 2 model, the study created an integrative model that highlights important variables impacting Moroccan consumers' propensity to use Express Bank and has an explanatory value of 80%. These variables include aspects of the UTAUT 2 model as well as perceived security, perceived quality, and trust.

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According to the UTAUT2 theory, the study demonstrated the importance of Performance Expectancy and Effort Expectancy in encouraging clients to use the bank. The results of the analysis showed that the impact of social influence on behavioral intention was not supported, indicating that individual experiences rather than peer opinions are more likely to drive Express Bank adoption in Morocco. This suggests that clients may be moving toward individualism, a trend that should be further investigated in future studies. This new information broadens our understanding of the elements that support Express Bank's integration and increase Moroccan consumers' adoption of the bank.

Furthermore, contrary to the results of previous studies such as [6], the study finds that hedonic incentive has no discernible impact on behavioral intention in the Moroccan environment. This discrepancy may be due to Morocco's persistently low "gaming spirit" in industries like banking. Potential impacting factors include disparities in knowledge and education levels, familiarity with current financial services, and traditional preferences. Furthermore, it was shown that price value had very little influence on Moroccan consumers' decisions to use Express Bank, indicating that financial factors do not always take precedence in the banking industry, where security is seen as being more important.

Moreover, Express Bank adoption is heavily influenced by habit rather than behavioral intention. The ease of established habits, prior pleasant experiences, and familiarity are all considered contributing reasons to this association. Consumers who have previously used digital banking services are more likely to use Express Bank without second-guessing their initial goals, indicating that habit can occasionally take the place of a strong behavioral intention when it comes to using new banking technology.

Now let's look at the rejected hypotheses (H8) and (H9), which proposed that Express Bank's facilitating conditions would have a beneficial impact on behavioral intention and adoption. It seems that security concerns exceed the perceived benefits of Facilitating conditions, and the customers' experience with such technology reduces the influence of the circumstances. Furthermore, There may also be a role for reluctance to change in the banking industry, where stability and trust are crucial.

Perceived risk (H10) did not statistically significantly affect behavioral intention. This can be the result of Moroccan consumers' comparatively low risk perception. Client confidence appears to be strengthened by prior positive experiences with digital banking services and the security measures put in place by Express Bank, which lessens the influence of perceived risk on their behavioral intention.

The research delves deeper into the validation of hypothesis H11, which posits that perceived security levels play a crucial role in influencing trust. This emphasizes how important it is for banks to give priority to improving security features in order to cultivate and greatly increase customer confidence. In a similar vein, hypothesis H12 emphasizes the critical importance of quality in relation to the technology, information, or services it provides.

The aforementioned discovery highlights the critical role that these components have in influencing the uptake of Express Bank, indicating that financial institutions ought to concentrate on enhancing these features to foster customer confidence. The confirmation of Hypothesis H13, which is likewise related to trust, shows that trust plays a critical mediating place in the Express Bank adoption process. Moroccan consumers simplify the existence of adoption intention by basing their technological ties on trust. This study not only confirms the vital place that trust takes in the adoption of new technologies, as evidenced by other studies like [17], but it also emphasizes how important perceived security and quality are in building trust. These findings provide banks with a clear guideline on how to prioritize security and quality in order to increase consumer trust and, in turn, adoption rates.

Additionally, the research carried out a thorough analysis of the variables impacting Express Bank acceptance, beginning with a crucial emphasis on behavioral intention. It was shown to support hypothesis (H14) that behavioral intention is important in this process, which is consistent with findings from related studies reported in the literature, such as those by [4]–[12]. This important finding highlights the role that behavioral intention plays in Moroccan customers' use of banking technology and is indicative of the continuous shift to more modern banking practices.

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The study explored the subtleties of several moderating factors, going beyond the fundamental importance of behavioral intention. Hypotheses (H16) and (H17) were confirmed as a result of this investigation, while hypothesis (H15) was not. This result implies that age, gender, and culture all have different effects in the Moroccan setting. Interestingly, age did not turn out to be a major effect. This may be explained by Morocco's general familiarity with digital technology among various age groups, which has reduced generational differences in the use of these devices.

However, it was shown that the roles of gender and culture had a greater influence. These elements clearly had an impact on the uptake of technical solutions, with gender dynamics and sociocultural norms having the most effects. This section of the study emphasizes the intricate relationships that exist between cultural norms, social values, and the adoption of technology, highlighting the necessity of taking these larger sociocultural factors into account while analyzing Moroccan technology adoption trends.

8.   Limitations of the Study and Recommendations for Further Research

Time limitations proved to be a beginning point for the many difficulties we faced while performing this research and the subsequent study. In fact, most of the people who were contacted to take part in the survey indicated that they were rushed for time, which made it more difficult to find clients who could complete the survey. In addition, the limitation against providing customer information to third parties imposed by privacy protection rules on banks made it challenging to get statistical data regarding Express Bank's adoption.

Furthermore, like other research projects, this one has some limits. These restrictions are a result of the basic features of the recently developed "Express Bank" technology. Express Bank's usage in banking and financial operations is relatively new in Morocco. The majority of clients, both banked and unbanked, recognize the fundamentals of this new technology, but they are usually unaware of its full potential. Express Bank usage is anticipated to increase with time, which presents the possibility of further longitudinal studies to better understand this technology's uptake.

In the context of future research, it would be beneficial to focus more on the user experiences with the services offered by this digital space, such as payments, remittances, and deposits, given the lack of studies on the adoption of Express Bank. Additionally, it would be relevant to expand the sample by including cities that were not covered in this study, particularly cities in southern Morocco such as Laayoune and Dakhla. These cities could provide specific and relevant information, but their inclusion was limited by time and access constraints.

Moreover, other factors should be taken into account in subsequent studies. Although they were not included in this survey, several ideas like income level and frequency of travel may be important in understanding how customers are using Express Bank. It could be worthwhile to do a comprehensive investigation to better understand the variables affecting this adoption.

9.   Conclusion

In this study, we have created and implemented a thorough methodology for a thorough empirical analysis of Moroccan clients' adoption of Express Bank. With great care and attention to detail, we developed a methodological framework that made it easier to gather primary data thoroughly, particularly when using questionnaires that had been verified by Delphi. The results analysis showed how important it was for aspects like habit, perceived security and quality, performance and effort expectations, and, most importantly, trust to take a mediating place in the Express Bank adoption process. Understanding the complex dynamics of technology adoption in the banking industry requires a thorough examination of security, quality, hedonic motivation, and pricing value. As a top priority, security has a big impact on consumer trust and inclination to use digital financial services. The results highlight how crucial it is to have strong security measures in place to protect user information and transactions, which in turn boosts consumer trust in digital services.

Another important factor that comes into play is quality, which includes both the technical performance and the user experience of financial systems. Customers are more inclined to accept dependable, efficient, and ease of use

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digital banking services, which highlights the necessity for banks to make investments in cutting-edge technology and service design.

Even though it was shown to have less of an impact on the particular Moroccan banking environment, hedonic motivation—the enjoyment and contentment gained from using technology—highlights the possibility for banks to investigate novel approaches to interact with their clientele. Including features that make banking more entertaining and engaging could draw in a certain kind of user base that values these kinds of interactions.

Even if it isn't the key aspect in the Moroccan context, price value or the cost-benefit analysis performed by potential users is nevertheless important. This suggests that the choice to use digital banking services is driven more by perceived value—such as ease, security, and overall service quality—than by financial cost.

The requirement for a more comprehensive knowledge of technology adoption is highlighted by the inclusion of these sociocultural moderators. It emphasizes how crucial it is that politicians and banks create and put into practice policies that take these gender and cultural subtleties into consideration. This might entail modifying marketing and communication tactics to specifically target the needs and preferences of various demographic groups, which would increase the perceived worth and general trustworthiness of banking technology.

This approach also result in the creation of more inclusive banking options that serve a wider range of consumers, which would eventually encourage a greater uptake of digital banking services in Morocco. Banks may better position themselves to satisfy the varied demands of their customers by acknowledging and addressing these sociocultural factors, which will increase customer trust and loyalty to digital banking systems. This deliberate emphasis on intercultural inclusion improves the adoption framework and the relationship between banks and their clients, opening the door for a more adaptable and resilient banking industry in Morocco.

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