




## Article

# Determinants of the Intention to Adopt Digital-Only Banks in Malaysia: The Extension of Environmental Concern

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**Abstract:** Digital-only banks have not achieved adoption expectations despite being one of the latest innovations in fintech. Several digital-only banks in the United States and Japan have gone bankrupt, and others continue to operate at a loss. Therefore, it is imperative to conduct this study in Malaysia to understand customers' behavior, particularly regarding the adoption of digital-only banks. With climate change, environmental-friendly behavior, which has been ignored in digital-only bank literature, is becoming increasingly pertinent. This study addresses the lack of an integrated model that investigates the effect of external factors (i.e., critical mass, number of services, and environmental concerns), customer self-determination factors (i.e., trust), and mental perceptions of technology adoption (i.e., convenience, economic efficiency, functional and security risks, as well as perceived value) on the intention to adopt digital-only banks. Data were collected through an online survey targeting Klang Valley residents in the prime age range of 25–54 years old using stratified random sampling. The data was analyzed using structural equation modeling by performing confirmatory factor analysis (CFA) and SEM path analysis in AMOS.v26 software. The results show that convenience, economic efficiency, number of services, trust, perceived value, and environmental concern all have positive significant relationships with the intention to adopt digital-only banks. Further, environmental concern is the strongest indicator of behavioral intention. In contrast, functional and security risks have a negative but non-significant relationship with the intention to adopt digital-only banks. Finally, critical mass has a positive but non-significant effect on the behavioral intention. This study is among the first to examine the influence of environmental concern on behavioral intentions in a digital-only banking context. It also contributes to an expanding body of research investigating environmental sustainability by presenting empirical results in the context of digital-only banks.

**Keywords:** customers' behavior; digital-only banks; adoption intention; environmental concern; benefits; risks; network externality; trust; perceived value; Malaysia



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## 1. Introduction

The financial services sector has undergone a tremendous transformation due to the emergence of Industry 4.0 technologies and has become more innovative and customer-centric in the process [1]. Additionally, customers' digital lifestyles that are influenced by the extensive use of mobile devices and the rapid expansion of internet access have increased customer expectations in every sector, including the financial industry. It is no longer enough for customers to have financial services that are accessible and easy to use. Instead, they are seeking financial services that are faster, more convenient, secure, entertaining, innovative, and customizable to their specific needs. Increasing customer expectations and the advancement in technology have made the financial sector more competitive, making digital transformation essential to attracting new customers and increasing

customer retention [2,3]. Therefore, the advent of digital-only banks is a way to cope with changes in customer demands and behavior, along with technological advancements and digital economies. With no physical branches, digital-only banks conduct all their business operations through the internet using gadgets such as computers or mobile devices. Unlike traditional banks, these banks offer a full range of online financial services (e.g., opening accounts, issuing debt or credit cards, lending funds, and initiating local and international money transfers) [4]. A growing number of customers are gravitating toward this type of banking due to the competitive pricing, the ease of opening an account, and the availability of instant account management [3].

Digital-only banks have been existing for more than two decades. In the late 1990s and early 2000s, the United States, Europe, and Japan were the first countries to establish digital-only banks. In Asia, such banks were also established during the 2010s and 2020s in China, South Korea, and Singapore [4,5]. Malaysia is also one of many countries where digital-only banks have emerged due to digital economic development and advances in financial technology. However, the country is still in the early stages of introducing digital-only banks. As of April 2022, five digital-only banks have been granted licenses by Malaysia's central bank, "Bank Negara Malaysia (BNM)". Before the successful applicants can start operating, BNM requires these banks to be validated for their operational readiness with BNM's audit between 12 and 24 months after this announcement [6]. In order to facilitate financial inclusion, BNM expects digital-only banks to provide affordable and convenient financing to unbanked and underbanked consumers, such as small businesses, low-income families, and minorities, particularly gig economy workers and youth students. Furthermore, by reducing the cost of transactions, providing everyday personal and professional services, and enhancing consumers' digital literacy and skills for financial services, BNM expects these banks to make financial services accessible to everyone, improve the quality of banking services, raise employment rates, and alleviate poverty [6–10]. It is pertinent to note that Malaysia's FinTech industry continues to grow. COVID-19 has accelerated the adoption of FinTech services, but the adoption rate of FinTech services hovers around 50% in 2021, (15.96 million) of the Malaysian population [10]. The slow pace of progress may impede the country's ambition of becoming a cashless nation and a leader in the digital economy in Southeast Asia by 2030 [10,11]. Therefore, it is important for the current research to improve our understanding of one of the latest and growing fintech innovations (i.e., digital-only banks) adoptions in a new context such as Malaysia.

In the extant literature, digital-only banks are a new domain that is not well understood [4,12]. There is a growing body of literature that highlights customers' potential benefits from adopting digital-only banks, such as convenience and economic efficiency [13–16]. In addition, there is uncertainty and risk associated with these banks [15–18], so existing studies such as Lee and Kim [15], Kaabachi, Ben Mrad [18], Nel and Boshoff [19], and Nel and Boshoff [20] have mentioned that functional and security risks as well as trust are factors influencing the intention to adopt such banks. Additionally, digital-only banks are recognized as networks with a large number of users, like other online platforms and services [21], thus network externality (i.e., critical mass and number of services) is an essential factor for these banks' adoption [15]. Above all, digital-only banks are encouraged to create outstanding customer perceived value in order to succeed and survive in the changing financial industry environment [22], where perceived value is a vital factor to the adoption of such banks [16]. Although the aforementioned literature attempted to broaden our knowledge about these banks, there are still gaps in having an integrated model that has better explanations for the behavior of customers toward these banks [4]. Additionally, Yue et al. [23] noted that there are gaps in investigating the pro-environmental behavior effects of digital-only banks. As such, this research suggests a comprehensive research model that integrates factors of internal technological perception and users' mental perceptions drawn from Mental Accounting Theory (MAT) [24], external social environment factors drawn from Network Externality Theory (NE) [25,26], and a self-determinant factor drawn from

the Commitment-Trust Theory (CTT) [27] to have a better understanding of customers' intention to adopt digital-only banks.

In recent years, the topic of environmental sustainability and protection has become a hot topic around the world, not only for organizations but also for consumers [28–30]. Additionally, the UN Sustainable Development Goals (SDGs) targeted for 2030 [31] encourage new business models (e.g., digital-only banks) to contribute to these goals, especially focusing on sustainability and the protection of the environment [32]. As such, environmental concern is being included as a potential factor influencing the intention to adopt digital-only banks in the current study, as it has been revealed by previous literature that environmental concern has an influence on the behavioral intention in different contexts, such as tourism industry [33]. This will close gaps in the literature regarding the limited knowledge about the effects of environmental sustainability in the field of digital-only banks [23,34]. Similarly, it aligns with the call by BNM toward a greener financial system [8], as well as the fourth strategic thrust in the financial sector blueprint 2022–2026, which is to position the Malaysian financial system to facilitate a seamless transition to a more environmental friendly economy [11]. Traditional banking business models (that primarily require clients to visit a physical branch) are being questioned as a whole. However, due to the relatively recent advent of the digital-only banking concept in Malaysia (2022), there is scant to no research in the literature on the subject from a Malaysian perspective. In light of the prior discussion in this section, this study addresses the gaps in the literature in general and in the Malaysian context in particular by investigating how convenience, economic efficiency, functional risk, security risk, critical mass, number of services, trust, perceived value, and environmental concerns influence the intention to adopt digital-only banks, and it aims to respond to the following questions:

1. What determines customers' intention to adopt digital-only banks;
2. How much does environmental concern influence the intention to adopt digital-only banks.

By answering the above research questions, the current study offers strategic guidance for digital-only banks to attract new customers. By analyzing customer behavior, practitioners can devote more resources to establishing credibility in digital-only banks by promoting their use and security and by advertising their products and services according to the factors that are most relevant to customers when adopting these banks. Further, this research will be useful to the government and policymakers (e.g., BNM). With this research addressing users' perspectives on digital-only banks, policymakers can identify appropriate strategies that enhance the shift towards a digital economy in general and in Malaysia in particular. The results will be assessed in achieving a key catalyst in their 2030 vision to make Malaysia the heart of the ASEAN digital economy. As a final point, the results of this study may be of interest to individuals, particularly those who are eager to learn about the latest fintech developments (i.e., digital-only banks). Additionally, the findings of this study may promote the trustworthiness of digital-only banks' products and services to future customers. The results from the study can also be used to educate potential customers about digital-only banks' features and raise their awareness of these banks as the newest development in the banking system that reflects their current lifestyles. This is critical since many people are often unable to distinguish between institutions that use new technologies and are called fintech, which do not guarantee any money, and digital-only banks that are regulated under banking licenses.

In this paper, there are eight sections, which are arranged in the following order: The Section 2 of the paper focuses on the theoretical background and the formulation of hypotheses. A discussion of research design and measurement methods is presented in Section 3. Section 4 performs a two-stage data analysis: a confirmatory factor analysis followed by an SEM path analysis for testing hypotheses. Section 5 summarizes the current research findings and compares them with previous literature findings. In Section 6, concluding remarks are presented. Section 7 discusses the theoretical and practical implications of the

study. Section 8 concludes with a discussion of research limitations and future research directions.

## 2. Theoretical Background and Hypotheses Development

### 2.1. Determinants of the Intention to Adopt Digital-Only Banks

Behavioral intentions are acknowledged as the likelihood of customers engaging in a certain behavior, and these intentions are considered very significant indicators of future decision-making behaviors. Behavior that leads to positive intentions, such as adopting a service, can influence customers to have a deep thought of commitment to repurchasing or patronizing the same service in the future [35]. By definition, behavioral intentions are indicators that help in identifying whether customers are willing to continue to use a company's services or switch to another provider. By understanding customers' behavior, marketers and managers will be able to create effective marketing strategies and adapt their product and service offerings based on customer behavior. In this way, they can retain their existing customers and attract new ones [36,37].

Recently, the advent of industry 4.0 and the emergence of fintech have led to a dramatic change in customers' behavior. Meanwhile, the outbreak of COVID-19 in 2020 has further accelerated the adoption of digital behavior by customers in order to meet the demands of their new lifestyles caused by the pandemic (i.e., lockdowns and working from home) [38–40]. Furthermore, consumers' intention to use technology-based financial services has been influenced by their awareness of fintech's benefits, such as lower transaction fees and more effective financial solutions [41]. Digital-only banks are one of the most significant components of fourth-generation banking resulting from IR 4.0, which extends financial services beyond traditional electronic banking. Initially, e-banking reduced the need for customers to visit branches, but digital-only banks eliminate banks' branches in their traditional form. Therefore, it is imperative to investigate the new behaviors of customers caused by these changes, which can vary based on environmental and cultural aspects of individuals [42,43]. It appears that the COVID-19 pandemic has provided an opportunity to accept and accelerate the adoption of innovative digital business models, especially in fintech. In light of the fundamental changes in customers' behavior and the emergence of digital-only banks, banking business models need to be restructured. Therefore, banking business models are now utilizing the latest technologies in IR 4.0 to come up with effective business models that suit such changes in customers' behavior [43].

Customer behavior has been rapidly changing as a result of the digital revolution. A more convenient and integrated banking experience is what customers are looking for—one that offers greater transparency, trust, and interaction. Customers are seeking financial solutions tailored to their explicit requirements and that provide a high perceived value [3]. It is therefore imperative that digital-only banks use IR 4.0 technologies to deliver more personalized financial services to their customers, since poorly designed digital channels are likely to increase distrust and lower customer confidence. By offering customized financial management tools, digital-only banks can encourage responsible financial behaviors, improve consumers' financial management, and help them keep track of their spending and savings. With the help of innovative technologies, banks can provide customized services based on customers' needs, including tailored loan schemes and interest rates, as well as investment portfolios suited to their individual financial goals and risk profiles. Furthermore, new technologies allow digital-only banks to improve the efficiency of financial services, reduce costs, and control risks [13,44,45]. Indeed, the aforementioned factors mentioned above (i.e., convenience, economic efficiency, risks, trust, and perceived value) are declared in the literature as determinants of customers' intention to accept digital-only banks [15,16].

#### 2.1.1. The Effect of Benefits on the Intention to Adopt Digital-Only Banks

The internet has been used as a distribution channel by banks to augment or replace physical branches. Since the internet revolution and the diffusion of IT solutions, banks'

practices and behaviors have changed drastically. The number of banking channels that offer 24/7 remote access to customers is on the rise, and customers increasingly want secure and direct channels to access their banks. It has become the norm for individuals to handle their financial services online instead of visiting a branch [13–16]. Moreover, in comparison to incumbent banks, digital-only banks are more economical and efficient due to their online settings that enable them to reduce operational and administrative costs [13,15]. The price attractiveness of these digital banks makes them a preferable option for a large number of customers [3].

Many previous studies have shown that consumers' attitudes and behavior are positively affected by the perceived benefits of internet banking, mobile banking, and mobile payments [40,46–50]. Several recent studies have shown that benefit factors such as perceived convenience, usefulness, economic efficiency, performance expectancy, and ease of use of digital-only banks have a significant positive influence on customers' intention, as well as actual behavior to adopt digital-only banks [14–16,51–53]. In this regard, the current study suggests that customers' intention to adopt digital-only banks is positively influenced by their perception of convenience and economic efficiency. Accordingly, the following hypotheses are proposed:

**Hypothesis (H1).** *Perceived convenience has a positive effect on consumers' intention to adopt digital-only banks.*

**Hypothesis (H2).** *Perceived economic efficiency has a positive effect on consumers' intention to adopt digital-only banks.*

#### 2.1.2. The Effect of Risks on the Intention to Adopt Digital-Only Banks

Researchers have been studying perceived risk as a factor influencing consumer behavior and have verified its influence on consumer behavior. It is common for consumers to avoid transactions that they perceive to be riskier [37,48,54]. Financial services and innovative technologies adoption studies suggest that perceived risk has a negative influence on adoption behavior, as it raises uncertainty about customers' decision-making and hinders adoption behavior [15,49,55,56]. The adoption of e-banking is more complex and involves greater risks than other technology adoptions (e.g., online shopping), because it establishes a long-term relationship between customers and their banks [57]. Since digital-only banks lack a physical presence, customers may perceive a higher level of functional risk [19,56]. Unlike traditional banks, digital banks are unable to be replaced in the event of a network or system failure. Customers may be concerned about how digital-only banks will respond in situations whereby they are experiencing functional problems with their services. The reason for this is that financial services can result in significant financial losses that customers are unable to tolerate [15,53,58].

The lack of sufficient security measures also poses a risk to customers in digital-only banks. Hacking and the leakage of personal information are two examples of possible threats presented by digital-only banks [15,17,22,37,53]. Therefore, those who perceive information security risk are less likely to accept and use online services [40,59]. A higher perceived risk in internet banking has been shown to discourage consumers from using it (i.e., a negative impact) [37,60]. Security perception in M-payments also appears to have a significant impact on a user's decision to adopt M-payments [61]. Several studies have shown that the greater the perceived risk, the lower the intent to use digital-only banks [15,53]. It is therefore plausible to hypothesize that customers may be less likely to adopt digital-only banks when they perceive higher levels of functional and security risks. Therefore, the current research proposes the following hypotheses:

**Hypothesis (H3).** *Perceived functional risk has a negative effect on consumers' intention to adopt digital-only banks.*



**Hypothesis (H4).** *Perceived security risk has a negative effect on consumers' intention to adopt digital-only banks.*

### 2.1.3. The Effect of Network Externalities on the Intention to Adopt Digital-Only Banks

A network externality is formed when a group of people who are interested in the same product or service are mutually influenced. By taking into account a large network of people using or planning to use the same product or service, individuals are unavoidably exposed to the influence of others when making a usage decision [21]. Network externality is described as the increased benefits that customers obtain from using a service as a result of the increased number of people in the network who are using the same service [62].

Prior literature on Internet-based services, including internet-based sharing economy service platforms [63], mobile games [64], mobile app store [65], cloud services [66], Internet of Things (IoT) [67], and mobile payment as well as mobile banking [68,69], mentioned that network externalities have been found to positively influence consumers' behavioral intentions. As the network of customers adopting digital-only banks increases, network externalities (i.e., critical mass and number of services) offer more benefits, such as preferential rates, a sense of belonging, a higher sense of status (i.e., the status of individuals who use the latest banking technologies), perceived pleasure and enjoyment, along with the resolution of uncertainty [4,14,15]. It is therefore conceivable to hypothesize that critical mass and number of services have a positive external influence on the intention to adopt digital-only banks. Therefore, the current research proposes the following hypotheses:

**Hypothesis (H5).** *Perceived critical mass has a positive influence on customers' intention to adopt digital-only banks.*

**Hypothesis (H6).** *Perceived number of services has a positive influence on customers' intention to adopt digital-only banks.*

### 2.1.4. The Effect of Trust on the Intention to Adopt Digital-Only Banks

When operating in risky environments such as the Internet, trust plays a crucial role in the provision of services. Transactional exchanges trigger trust, which is linked to the degree of confidence, credibility, and integrity one party has in the other [27,70–72]. When it comes to banking, trust means believing that the bank will keep its promises, follow the procedures, and achieve the objectives it has promised to its customers [18,73].

Considering that digital-only banks only offer services via a virtual interface and do not engage in face-to-face communication with their customers, trust can be a vital component for customer acceptance of these banks [15]. Previous studies found that trust influences consumer adoption of online financial services such as internet banking, M-payments, mobile banking, and digital-only banks [14,15,18,37,40,53,74–79]. Therefore, the current research proposes the following hypothesis:

**Hypothesis (H7).** *Trust has a positive effect on consumers' intention to adopt digital-only banks.*

### 2.1.5. The Effect of Perceived Value on the Intention to Adopt Digital-Only Banks

In marketing, perceived value refers to how customers perceive differences in a company's benefits and costs in comparison to competitors [80]. A study on digital-only banks' acceptance by Ahn and Lee [16] reported that all constructs of perceived value (i.e., economic, convenience, and emotional) impacted usage intentions, with convenience being the most influential factor. This finding implies that perceived value is fundamental to the acceptance of digital-only banks. In fact, this result demonstrates that establishing and developing perceived value is an effective marketing method to promote the adoption of digital-only banks. Many studies investigating the influence of perceived value on the intention to adopt/purchase products and services in different contexts, including digital-

only banks, have shown that perceived value positively influences customers' intentional behavior [16,23,41,81–84]. Accordingly, the current study poses the following hypothesis:

**Hypothesis (H8).** *Perceived value has a positive influence on customers' intention to adopt digital-only banks.*

## 2.2. The Effect of Environmental Concern on Intention to Adopt Digital-Only Banks

Environmental concern is related to customer knowledge and concern about the impact of human behavior on the climate and environment [85,86]. Drawing on the viewpoints of Hopwood, Mellor [87] and Dunlap and Jones [88], environmental concern is a complex phenomenon that encompasses cognition, perception, anxiety, and sensibility about environmental issues, as well as ideas and attitudes about how to prevent and manage environmental challenges in order to improve the quality of the environment. In previous literature, environmental concern has been cited as an influential determinant for individuals to change their present behavior to more environmentally friendly behavior [85,86,89,90]. Despite banks' minimal direct environmental impact, it is argued that indirect environmental impacts are caused by their excessive use of paper, high energy consumption, and the unsustainable behavior of their customers [91,92]. Moreover, IT-enabled banking services instead of traditional banking are critical to promoting sustainable banking.

Environmentally conscious customers are more concerned with the environmental risks of their behavior, and this concern influences their decisions to choose sustainable products and services [93,94]. There are many antecedents to eco-friendly behavioral intentions, but the most defining one is concern for the environment [94–96]. Utility theory argues that the intention of sustainable behavior is also influenced by green products and services, which are alleged to be safe for health and the environment [97]. Furthermore, intentions towards accepting green products and services are influenced by customers' lifestyle values, which include their knowledge, personalities, attitudes, social values, and fashion values [98]. In this regard, digital-only banks are considered green initiatives of the banking industry that facilitate the economy and reduce environmental risks [99,100]. In addition to eliminating or reducing paperwork and physical human labor, these banks save energy, fuel, transportation, space, and other resources that are normally required to develop and operate physical banking branches [43,99]. From the discussion above, it can be deduced that adoption of digital-only banks is a sustainable choice over traditional banks [22,34]. As a result, customers with a high level of environmental concern are likely to utilize digital-only banks' services.

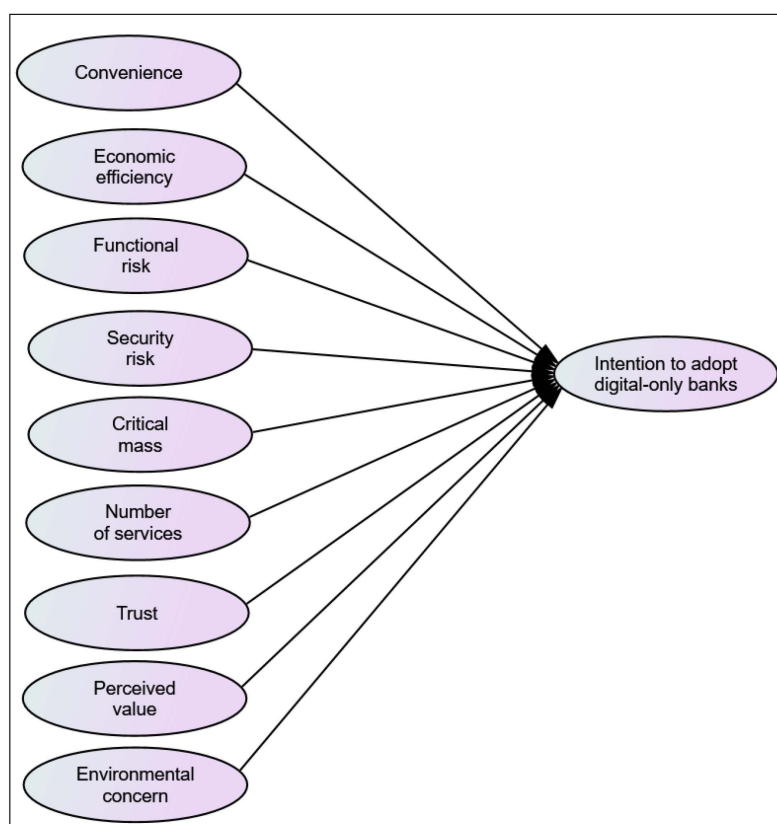
Numerous studies have demonstrated that environmentally conscious individuals prefer to take environmentally friendly actions [85,93,94,101–104]. Several researchers, including Wang et al. [105], have found that environmentalists are more likely to use energy-efficient transport innovations such as electric vehicles. This action is seen by environmentalists as an effective tool for reducing greenhouse gas emissions, as well as part of their responsibility to address climate change concerns. In the hospitality industry, environmental concern is found to be a significant influencing factor that determines Indian customers' behavior to patronize green hotels [106]. Similarly, empirical results show that perceptions of customers' effectiveness and environmental concern affect their attitude and the intention to stay at green hotels [33]. In the banking context, customers who have a positive attitude towards sustainability and perceive that it is easier to adopt sustainable banking services would be more willing to adopt sustainable behavior [34,107,108]. However, in the context of digital-only banks, studies focusing on the effect of environmental concern on customers' intention to adopt such banks are lacking. To this end, the current research hypothesizes, based on the above discussion, that:

**Hypothesis (H9).** *Environmental concern has a positive effect on consumers' intention to adopt digital-only banks.*

### 2.3. The Conceptual Framework

In this research framework, Mental Accounting Theory (MAT) [24] is integrated with Network Externalities Theory (NE) [25,26], as well as Commitment-Trust Theory (CTT) [27]. Thaler [109,110] indicated that the adoption decision is represented by a value function. In this study, the value function is shaped by positive (e.g., benefits, higher perceived value, and contribution to environmental protection) and negative (e.g., risks) outcomes of adopting digital-only banks [15,23,111,112]. Moreover, Katz and Shapiro [25] described network externality as “the ability of a product or service to add value to consumers with the addition of more users, complementary products or services.” In other words, the benefits of some products and services are contingent on the number of existing users and complementary goods. Thus, the expansion of network users and services causes external benefits to emerge, which attract new users and retain existing ones [113]. Finally, based on Morgan and Hunt [27], companies in an online setting rely heavily on the trust factor when providing services due to customers’ perception of higher uncertainty and risks associated with online business models. In this research, the CTT conceptualizes trust as a key determinant of consumer intention to use digital-only banks, which are perceived to be riskier and more uncertain than incumbent banks [15–18].

The aforementioned theoretical and empirical arguments presented in previous sections justify the development of the current research model, which enhances the understanding of customers’ intention to adopt digital-only banks. As shown in Figure 1, the theoretical framework of the current study contains nine independent variables, namely convenience, economic efficiency, functional risk, security risk, critical mass, number of services, trust, perceived value, and environmental concern, and one dependent variable, namely the intention to adopt digital-only banks.



**Figure 1.** Conceptual framework of the present study.



### 3. Research Method

In this section, survey instruments, the methods of analyzing data, data collection, and sampling are presented. Additionally, the data preparation and screening are done to make sure that the data meets the requirements of SEM. During this stage, SPSS.v26 was used to identify missing data, cases outside of the sampling frame, or suspicious responses. Additionally, tests of normality and multicollinearity were performed during this phase of analysis.

#### 3.1. Designing the Survey Instrument

The instruments for this survey were developed based on constructs and items from previous studies on digital-only banks, acceptance of banking services, and technology innovation usage. Table A1 (Appendix A) provides details about these constructs, their items, and their respective sources. The intention to adopt digital-only banks' instruments is based on the Mental Accounting theory, which ensures that both positive and negative determinants, including benefits, risks, perceived value, and environmental concern, are taken into account when determining adoption intentions. On the basis of Network Externality Theory, the model also included instruments representing social factors (i.e., critical mass and number of services). Additionally, trust instruments have been incorporated into the model based on Commitment-Trust Theory to represent the personal feelings of potential adopters when adopting digital-only banks. A 5-point Likert scale was used to score the item statements, with 1 being strongly disagree and 5 being strongly agree. As Allen and Seaman [114] pointed out, a 5-point rating scale is just as good as any other rating scale, and adding 7 or 9 points to the scale does not make the ratings more reliable. Moreover, the 5-point Likert scale in this study is consistent with previous studies on digital-only banks' adoption and loyalty [3,15,18,51].

Based on the extant literature, convenience in this study refers to perceptions that digital-only banks are easier to access and use than traditional banks. Convenience is measured by four items adapted from [15,115]. Economic efficiency is defined as customers' perceptions that they can save time, effort, and financial resources by using Digital-only banks' services. Economic efficiency is measured by four items adapted from [15,61]. Functional risk refers to the likelihood of customers encountering problems as a result of the instability of systems and services of digital-only banks. Functional risk is measured by five items adapted from [15,17]. Security risk refers to the possibility that personal and financial data provided to digital-only banks will be misused or leaked. Security risk is measured by five items adapted from [15,52]. Critical mass refers to the perception that the number of users on digital-only banks' platform is sufficient. Critical mass is measured by five items adapted from [4,15]. Number of services is defined as the perception that digital-only banks offer a wide range of both primary and complementary services. Number of services is measured by four items adapted from [15,116]. Trust is defined as the confidence that digital-only banks offer reliable and authentic services. Trust is measured by five items adapted from [117]. Perceived value refers to customers' value that is perceived from the personal comparison of the benefits obtained and the sacrifices made to adopt digital-only banks. Perceived value is measured by five items adapted from [112,118]. Environmental concern refers to individuals' knowledge and awareness of environmental issues as well as individuals' expression of the concern associated with their adoption of digital-only banks. Environmental concern is measured by four items adapted from [34]. Finally, the intention to adopt digital-only banks is viewed as the willingness and determination of customers to accept, try, and plan to use or patronize digital-only banks in the future. The intention to adopt digital-only banks is measured by five items adapted from [117].

Several procedures were followed before administering the instrument for data collection in order to ensure the clarity of the survey's questions for respondents and the appropriateness of items in representing the constructs in the research model [119]. Initially, the instrument's content was validated by experts to ensure that elements and dimensions were accurate and easy to understand. Minor refinements were made to the questionnaire

based on feedback from four judges, who at least hold a PhD degree in the field of this study. Second, 50 respondents from the research target population were selected at random for a pilot test using the refined questionnaire. The respondents are from Klang Valley in Malaysia, and they belong to the prime age range of 25–54 years old [120–123]. In the final data analysis, these 50 datasets were excluded since they were only used for the pilot study. A reliability test was conducted using SPSS v.26 on the 50 responses collected for the pilot test to determine internal consistency and reliability (Cronbach’s alpha) of the items.

### 3.2. Study Population

The target population consists of Klang Valley residents in the prime age range of 25–54 years old, who are considered potential customers for digital-only banks. In 2021, the prime population accounted for about 40% of Klang Valley residents (i.e., 40% of 8,420,700; equal to around 5,052,420) [124,125], as presented in Table 1.

**Table 1.** Klang Valley’s population and prime age of 25–54 years old as in 2021.

State or Federal Territory Name	Population	Number of People in the Prime Age Range of 25–54 Years Old (40% of the Total Population)
Selangor	6,558,200	3,934,920
W.P. Kuala Lumpur	1,746,300	1,047,780
W.P. Putrajaya	116,200	69,720
Sum	8,420,700	5,052,420

The Klang Valley area consists of the state of Selangor, and the federal territories of W.P. Kuala Lumpur, and W.P. Putrajaya. The location was chosen because it is more vibrant as it includes the capital, the country’s administrative center, the economic center, and is surrounded by metropolitan areas. Additionally, the Klang Valley is a dynamic hub for domestic, regional, and international markets. Among the many advantages of the Klang Valley are its diverse multicultural society (i.e., Malay, Chinese, and Indian), skilled workforce, efficient and competitive markets, and readiness to adopt cutting-edge technologies. Moreover, Klang Valley residents come from a variety of states in Malaysia, representing various age groups, income levels, and educational levels [126–129].

Since this research is focusing on the potential customers of digital-only banks, the prime-age population of 25–54 years old has been chosen. This is justified by Moody’s analyst Tengfu Li, who argued that Malaysia has a growing population of prime-age people (25–54 years old) who require more financial services [130]. The choice of targeting customers in their 20s, 30s, and 40s is also justified by previous literature on digital-only banks, which reported that adoption and acceptance of this service is growing among customers in their 20s and 30s [15,22]. Furthermore, young customers in particular are more likely to have advanced computer skills, be extensive internet users and have a greater willingness to adopt innovative technologies, such as digital-only banks [74]. Moreover, Nel and Boshoff [20] asserted that at least 20 years old is the minimum age for respondents. This is because Gen Z consumers typically use banks on their parents’ recommendations and only switch banks after reaching their 20s. Thus, banking customers aged 20 years old and above should be more independent in making their bank selection.

### 3.3. Sampling Size and Technique

Based on Krejcie and Morgan [131], the sample size of the target population in the present research (5,052,420) is 384. However, the researchers distributed questionnaires to a sample size of 420 respondents. This increase in sample size is intended to improve the response rate and reduce potential biases, ensuring that the study meets the sample size requirement for representing the target population. In light of the literature on digital-only banks, a sample size of 420 is adequate for this study [3,15,53,132]. Additionally, Wolf et al. [133] suggest that a sample of 30 to 460 cases is acceptable for SEM analysis.

The study used probability sampling to ensure a representative sample and minimize selection bias [134]. In particular, this research used the stratified method of probability sampling. Stratified sampling can be viewed as a modified method of random sampling, in which the target population of the research is divided into two or more pertinent and significant strata based on certain attributes [119]. In this research, stratified random sampling is applied as it is more likely to ensure the representation of the research population more appropriately. In other words, each relevant and defined stratum ensures a proportional representation of the research population [119,135]. According to academic experts, stratified sampling is an effective and viable option in a research context like the current research [136]. This is the researchers' attempt to represent the whole potential digital-only banking client population in the Klang Valley proportionally. To achieve such representation, the state of Selangor and the federal territories of W.P. Kuala Lumpur and W.P. Putrajaya are defined as the strata or subgroups for this study. Then, a proportional stratified random sampling technique is employed, in which a representative sample size is selected from each stratum, as shown in Table 2. With the consideration of this research target sample's size needed (i.e., 420 respondents), the minimum number of respondents needed from each state or federal territory is calculated and shown in Table 2. The minimum number of respondents needed from each area is calculated based on the proportional number of respondents in the prime age of the state or the federal territory to the total number of respondents in the prime age of the whole Klang Valley, then multiplied by the number of sample size needed.

**Table 2.** Sample size based on stratified random sampling.

State or Federal Territory Name	Number of People in the Prime Age Range from 25–54 (40% of the Total Population)	Sample Size	Percentage
Selangor	3,934,920	327	78%
W.P. Kuala Lumpur	1,047,780	87	21%
W.P. Putrajaya	69,720	6	1%
Sum	5,052,420	420	100%

### 3.4. Data Collection Procedures

Based on the primary objective, the study questionnaire was prepared and customized to measure the fundamental aspects of the research. Researchers in this study used an online survey questionnaire in order to reach the research sample, which is geographically dispersed throughout the Klang Valley. Sekaran and Bougie [119] mentioned that electronic questionnaires are preferable for collecting data from a geographically dispersed group of respondents. Furthermore, online survey research has become much easier and more widely accessible since survey development software packages and online survey services have become much more available and accessible. Moreover, online questionnaires are now becoming a common method of gaining a deep understanding of consumers' views and preferences. Apart from that, online survey research provides access to populations that might be difficult or impossible to reach through other means [119]. Similar to Kim and Bae's [51] research on the adoption of digital-only banks among Koreans, this study used an online questionnaire to survey Malaysians who do not have a digital-only bank account. The survey was conducted via Google Forms for six weeks in May and June 2022. Researchers managed to obtain 420 responses by the end of the sixth week of data collection.

A QR code of the Google form survey link was created to collect the data. Only genuine respondents who agreed to complete the questionnaire were given the QR code to scan, so that they could access the survey questionnaire. The QR code was created for respondents' convenience, as they can simply scan it with their smartphone camera. Also, using a QR code ensures the privacy and confidentiality of respondents. It is also

a more environmentally friendly method of collecting data than physical questionnaire distribution. To reach the target response rate, 420 questionnaires were distributed digitally to individuals in Klang Valley. In most cases, respondents were politely approached and asked if they were keen and had 15 min of their participation to complete the survey's questionnaire. Those who agreed were briefly informed about the purpose of the research (i.e., data collection), assured of confidentiality, and reminded of their voluntary participation. In some cases, social media (i.e., WhatsApp) has been used to send the questionnaire only to the respondents who agreed to complete the survey. Thus, 420 respondents who agreed to complete the survey were given the QR code that gives them access to the survey questionnaire link.

### 3.5. Response Rate and Data Cleaning

Like much survey research, the current study started with a few screening questions. The screening questions are designed to ensure that only those who meet the prescribed criteria (i.e., those who are Malaysian, of prime age, and knowledgeable about digital-only banks) complete the survey [137]. A total of 420 questionnaires were collected, but 17 questionnaires were excluded due to suspicious responses, unengaged responses, and missing data. Thus, only 403 responses were suitable for the analysis, as presented in Table 3. Initially, 420 datasets were collected from Malaysians in the Klang Valley. From the 420 datasets, the extent of the missing data was examined via SPSS, so eight cases were detected as cases with missing values. Six of them had missing values that exceeded 15 percent, so they were excluded from the dataset. The remaining two cases contained missing values of less than 5%, so they were handled by replacing the missing values with the series mean [119,137]. This leaves the dataset of 414 usable responses to be screened in the next step.

**Table 3.** The response rate of the data collected.

Description	No. of Questions	Percentage
Total number of questionnaires distributed	420	100%
Completed questionnaires received	420	100%
Missing data or suspicious response patterns	17	4%
Usable questionnaires	403	96%

In order to ensure that participants are the right respondents, the survey includes questions that correspond to the sample size qualifier list. There were seven cases of respondents who did not meet the requirements for participation in the survey. There were two respondents who did not belong to the target age group of the research sample (i.e., prime-age citizens between 25 and 54 years old). Another respondent had selected an option stating that he was already a user of digital-only banks. Finally, four respondents had no experience using internet banking from bricks-and-mortar banks. Accordingly, these seven cases were not included in the final data analysis since they did not fit within the sampling frame of this research. Thus, 407 useable cases were ready for further screening.

Straight lining or suspicious responses occur when respondents mark the same answer for a large number of questions. It is generally recommended to delete a respondent from a data set if the respondent has only selected '4' (the middle response) on a 7-point scale. In similar fashion, if a respondent selects only '1' or '7', it is usually best to remove that respondent from the data [137]. Accordingly, four of the 407 remaining cases were withdrawn because of suspicious responses; one respondent selected only '5', two respondents selected only '4', and one respondent selected only '1' for all items in the survey. As a result, the final dataset consists of 403 cleaned data points that are suitable for this research data analysis.

### 3.6. Data Analytical Methods

A normality test was conducted, since it is generally assumed that variables in a multivariate analysis as well as in SEM are normally distributed [138]. Data is assumed to be normal when the obtained skewness value is within  $\pm 2.0$  cut-off point as set by George and Mallery [139], and kurtosis is less than the acceptable cut-off point of 7 as set by Byrne [140]. A multicollinearity test was also performed to ensure no problem of multicollinearity existed, which can negatively impact R squared and regression interpretation. Tolerance values and variance inflation factors (VIF) are the most common measures used to determine multicollinearity. They measure the extent to which one independent variable is explained by another independent variable. A cutoff value to determine multicollinearity is 0.10 for tolerance and a VIF of 10 [119,135,138].

One of the main requirements for SEM is fulfilling the measurement model (CFA) properties [137]. A measurement model indicates how and to what extent observed variables are related to the latent variables. Assessment of the CFA model was performed using AMOS.v26. Before hypothesis testing in SEM path analysis, an assessment of the overall fit of the model must be fulfilled by reporting: absolute fit, RMSEA < 0.08; incremental, CFI > 0.9, parsimonious fit, and chi-square/df < 5.0 [137,140–143].

Moreover, the measures in this study were validated in terms of reliability and validity. A total of forty-six items were used to measure the current research variables. Several tests were run to ensure construct reliability and convergent validity of the measurement model, including composite reliability > 0.7, Cronbach's alpha > 0.7, Average Variance Extracted (AVE) > 0.5, and maximal reliability (MaxR(H)) > 0.7 [137,138,144].

As a final step, the structural equation modeling (SEM) is analyzed to provide results for the study hypotheses. A latent SEM analysis with maximum likelihood estimation was conducted in this study to test the relationships between the constructs. An alpha level of 0.05 is considered significant for each standardized path estimate in this study [137].

## 4. Analysis and Results

This section presents the results of the respondents' profiles. It also provides results of the study's factors analysis (CFA). Finally, the section provides results for the structural equation modeling (SEM) to determine the findings of the study hypotheses.

### 4.1. Profile of Respondents

The respondents of this research are Malaysians who are interested in digital-only banking services but have not yet used any. Table 4 presents a summary of respondents' characteristics. Approximately 52.1 percent of respondents are female, 46.2 percent are male, and the remaining 1.7 percent are participants who chose not to state their gender. The largest age group of respondents consisted of those aged 25–35 years old (69%). The respondents' ethnicity varied greatly, with 50.4% Malay, 32.5% Chinese, 16.1% Indian, and 1% mixed race. Regarding the educational level of participants, the majority of them have a bachelor's degree (70%). In terms of respondents' location in Klang Valley, most of them are located in the state of Selangor (77.7%) while the rest are located in the federal states of W.P. Kuala Lumpur (20.8%), and W.P. Putrajaya (1.5%). Regarding monthly income, the majority of respondents (49.9%) receive 4001–6000 MYR, followed by participants who receive between 2001–4000 MYR (37%). For computer literacy, the majority of respondents considered themselves experts (49.1%) and advanced (46.7%) in computer literacy, while the rest (4.2%) considered themselves to have an intermediate level of computer literacy. In terms of the preferred method of banking, the majority of the respondents prefer online (48.1%) and mobile (39.7%) banking. Finally, all participants (403 respondents) have knowledge of digital-only banks, and they were non-users at the time of this research data collection.



**Table 4.** Demographic characteristics of the respondents.

Demographic Variables Category	Research Sample (n = 403)		Demographic Variables Category	Research Sample (n = 403)	
	Frequency	Percent		Frequency	Percent
<b>Gender</b>			<b>Monthly income</b>		
Male	186	46.2	Between 2001–4000 MYR	149	37.0
Female	210	52.1	Between 4001–6000 MYR	201	49.9
Prefer not to say	7	1.7	More than 6000 MYR	53	13.2
<b>Age</b>			<b>Computer literacy</b>		
25–35 years old	278	69.0	Expert	198	49.1
36–45 years old	117	29.0	Advanced	188	46.7
45–54 years old	8	2.0	Intermediate	17	4.2
<b>Ethnicity</b>			<b>Preferred methods of banking</b>		
Malay	203	50.4	ATMs	33	8.2
Chinese	131	32.5	Visit bank	16	4.0
Indian	65	16.1	Mobile banking	160	39.7
Others	4	1.0	Internet banking	194	48.1
<b>Education</b>			<b>Knowledge of digital-only banks</b>		
Diploma	14	3.5	Yes	403	100.0
Degree	283	70.2	No	0.0	0.0
Master's	95	23.6	<b>Owning a digital-only bank account</b>		
Doctorate	11	2.7	Yes	0.0	0.0
<b>Location</b>			No	403	100.0
Selangor	313	77.7			
W.P. Kuala Lumpur	84	20.8			
W.P. Putrajaya	6	1.5			

#### 4.2. Assessment of Measurement Model

Prior to CFA and data collection, results in Table A2 (Appendix A) show the reliability coefficients (Cronbach's alpha) for all constructs used in the pilot study. The obtained results of Cronbach's alpha indicate that the items of each variable are positively interconnected and internally consistent. Overall, all items showed reliability above 0.80, which is considered fairly high by [145]. According to the pilot test results, the instruments were reliable, so the final questionnaire was administered without further changes.

Furthermore, results of normality as presented in Table A3 (Appendix A) suggest that no item is substantially skewed or kurtosis based on the previously mentioned values of within  $\pm 2.0$  for skewness and less than 7 for kurtosis. As a result, all variables in this study are normally distributed. Moreover, Table A4 (Appendix A) indicates no evidence of significant multicollinearity among the research variables. All tolerances and VIF values are within the cutoff points. Our results revealed that the tolerance values are greater than 0.10 (between 0.651 and 0.951) and the VIF values are less than 10 (between 1.052 and 1.535). Consequently, there is no evidence of significant multicollinearity among the research variables.

The current research model has ten reflective variables, namely convenience, economic efficiency, functional risk, security risk, critical mass, number of services, trust, perceived value, environmental concern, and the intention to adopt digital-only banks. Results indicated that the model and data have an adequate fit (CMIN = 1555.126, DF = 944, CMIN/DF = 1555.126/944 = 1.647,  $p < 0.000$ , CFI = 0.919, TLI = 0.912, and RMSEA = 0.040). The overall fit indices for the CFA model are acceptable according to [137,140–143].

#### Reliability and Validity of the Scales

Results in this research revealed that Cronbach's alpha (range 0.779 to 0.860) indicated that all constructs showed high levels of internal consistency. Additionally, construct reliability and convergent validity were established since maximal reliability (MaxR(H)), ranging from 0.782 to 0.873, and composite reliability (CR), varying from 0.779 to 0.860, were

both greater than 0.7 for all constructs [138,144]. Overall, the average variance extracted (AVE) was greater than 0.5, ranging from 0.500 to 0.569, with the exception of functional risk and critical mass (0.468 and 0.416, respectively). Thus, AVE estimates for functional risk and critical mass are slightly lower than threshold. However, AVE is too conservative a measure to rely on for convergent validity. As such, CR greater than 0.7 alone is a sufficient measure to establish convergent validity [146–149]. Based on the above discussion, it can be concluded that construct reliability and convergent validity of all constructs have been met, as presented in Table 5. Overall, the above discussion provides support for reliability and validity of measurements, which indicates that the model is ready for SEM analysis.

**Table 5.** Measurement properties of total model.

Factor	Cronbach's $\alpha$	CR	AVE	MaxR(H)
Intention to adopt digital-only banks	0.860	0.861	0.553	0.862
Perceived value	0.825	0.829	0.500	0.842
Convenience	0.840	0.840	0.569	0.847
Economic efficiency	0.805	0.807	0.513	0.815
Functional risk	0.808	0.812	0.468	0.831
Security risk	0.842	0.843	0.519	0.848
Critical mass	0.779	0.780	0.416	0.782
Number of services	0.826	0.834	0.562	0.873
Trust	0.830	0.835	0.506	0.846
Environmental concern	0.828	0.833	0.556	0.844

Source: SPSS data analysis, and Gaskin's (2020) plugin in AMOS software. Note: CR = Composite Reliability; AVE = Average Variance Extracted; MaxR(H) = maximal reliability.

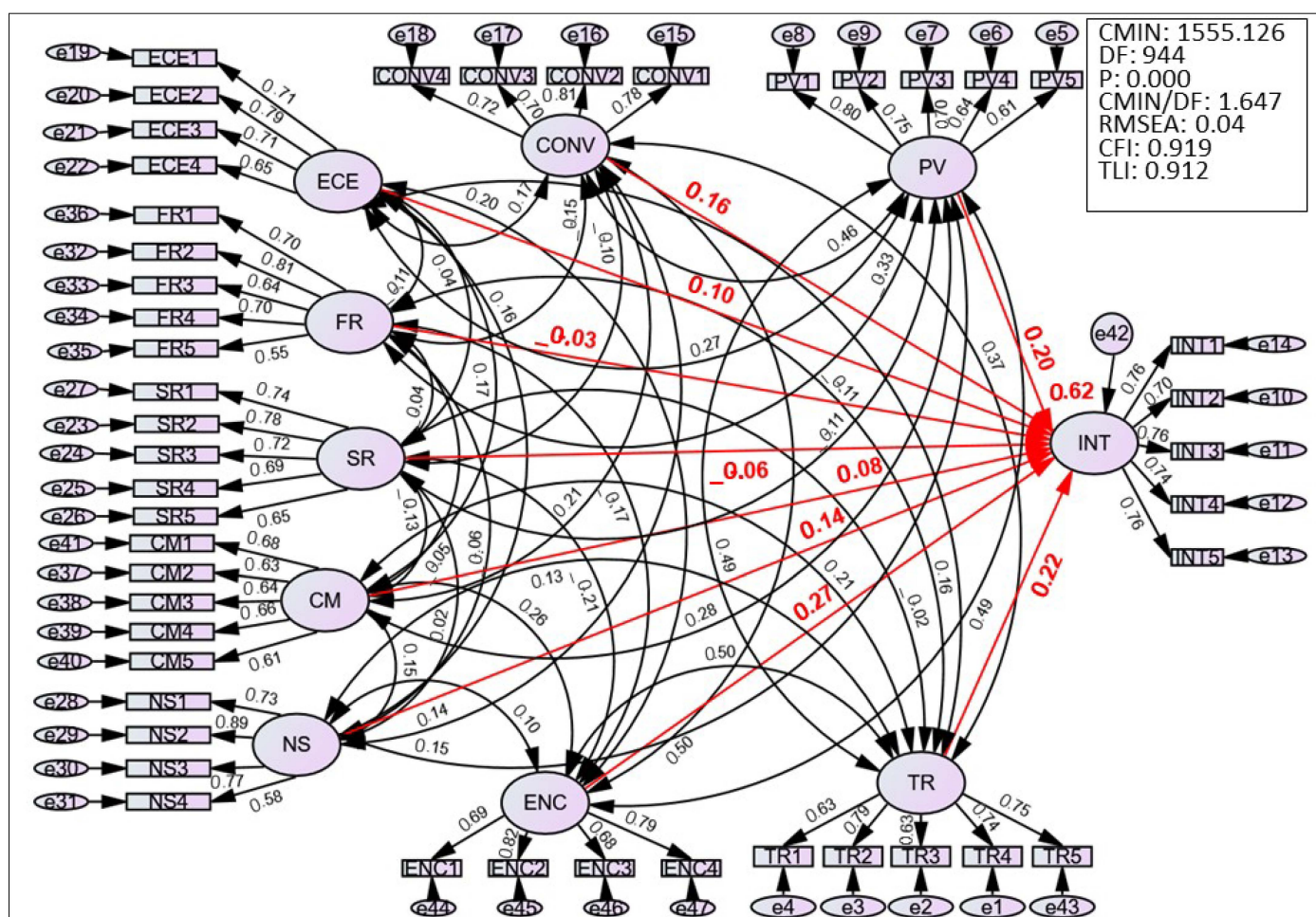
#### 4.3. Assessment of Structural Equation Modeling

In the current study, only direct effects were considered. The model was based on the hypothesized relationship between nine independent variables (consisting of convenience, economic efficiency, functional risk, security risk, critical mass, number of services, trust, environmental concern, and perceived value) and one dependent variable (i.e., the intention to adopt digital-only banks), as presented in Figure 2. Further, the structural model path analysis presented in Table 6 indicates the hypotheses' results. As stated earlier, the fit of the structural model was excellent (CMIN = 1555.126, DF = 944, CMIN/DF = 1.647, CFI = 0.919, TLI = 0.912, and RMSEA = 0.040). Based on the analysis, all hypotheses were supported except H3, H4, and H5 as shown in Table 6.

**Table 6.** Structural path analysis results.

Hypothesis	Independent Variables		Dependent Variable	Estimate	S.E.	t-Value	p-Value	Results
H1	CONV	→	INT	0.159	0.048	2.958	0.003 **	H1 is supported
H2	ECE	→	INT	0.096	0.045	2.087	0.037 *	H2 is supported
H3	FR	→	INT	−0.035	0.059	−0.753	0.452	H3 is not supported
H4	SR	→	INT	−0.060	0.035	−1.359	0.174	H4 is not supported
H5	CM	→	INT	0.081	0.043	1.703	0.089	H5 is not supported
H6	NS	→	INT	0.140	0.045	3.224	0.001 ***	H6 is supported
H7	TR	→	INT	0.223	0.046	3.948	0.000 ***	H7 is supported
H8	PV	→	INT	0.202	0.050	3.257	0.001 ***	H8 is supported
H9	ENC	→	INT	0.270	0.065	4.347	0.000 ***	H9 is supported

Source: Survey. Notes: \*  $p < 0.050$ ; \*\*  $p < 0.010$ ; \*\*\*  $p < 0.001$ ; S.E. = Standard Error. Key: INT: Intention to adopt digital-only banks; PV: Perceived Value; CONV: Convenience; ECE: Economic Efficiency; FR: Functional Risk; SR: Security Risk; CM: Critical Mass; NS: Number of Services; TR: Trust; ENC: Environmental Concern.



**Figure 2.** Assessment of structural equation modeling. Key: INT: Intention to adopt digital-only banks; PV: Perceived Value; CONV: Convenience; ECE: Economic Efficiency; FR: Functional Risk; SR: Security Risk; CM: Critical Mass; NS: Number of Services; TR: Trust; ENC: Environmental Concern.

All hypothesized paths are listed in Table 6 along with their standardized path coefficients, observed t-statistics, and significance levels. The results revealed that perceived convenience ( $\beta = 0.159, p < 0.01$ ) and perceived economic efficiency ( $\beta = 0.096, p < 0.05$ ) have a significant positive effect on the intention to adopt digital-only banks, indicating that perceived convenience and economic efficiency affect customers' intentions to adopt digital-only banks, thus, H1 and H2 are supported. However, the negative effect of perceived risk was not significant for both functional risk ( $\beta = -0.035, p > 0.10$ ) and security risk ( $\beta = -0.060, p > 0.10$ ), indicating that perceived functional risk and security risk do not affect the intention of customers to adopt digital-only banks. Thus H3, and H4 are not supported. Furthermore, results indicate a positive non-significant effect of perceived critical mass ( $\beta = 0.097, p > 0.05$ ) on the intention to adopt digital-only banks, indicating that perceived critical mass does not influence the intention of customers to adopt digital-only banks, thus H5 is not supported. Furthermore, the results revealed that the number of services ( $\beta = 0.140, p < 0.001$ ), trust ( $\beta = 0.223, p < 0.001$ ), and perceived value ( $\beta = 0.202, p < 0.001$ ) have a significant positive influence on the intention to adopt digital-only banks, suggesting that number of services, trust, and perceived value affect the intention of customers to adopt digital-only banks. Thus, H6, H7, and H8 are supported. Finally, results in Table 6 show a positive significant effect of perceived environmental concern on the intention to adopt digital-only banks ( $\beta = 0.270, p < 0.001$ ), suggesting that perceived environmental concern affects the intention of customers to adopt digital-only banks, thus H9 is supported.

## 5. Discussion

This study extends the current body of knowledge by incorporating environmental concern into the determinants of the intention to adopt digital-only banks. Although environmental concern has been extensively explored in the domain of customers' social psychology, this study is among the first to consider its effects on intention to adopt digital-only banks within the domain of customer marketing and the context of digital-only banks. Establishing the link between environmental concern and adoption intention is crucial for two reasons. First, in marketing systems, adoption intention has been extensively used as an indicator of rejection or adoption behavior [17,35,36]. Second, perceived environmental concern has a high degree of explanation in explaining customers' adoption intentions [34].

Current research findings regarding the positive significant influence of benefits (i.e., convenience and economic efficiency) on the intention to adopt digital-only banks are in agreement with previous studies [14,15,52]. Fintech technologies have enabled digital-only banks to make financial services seamless, accessible, and easy. This is evident in the case of opening digital-only bank accounts. Users of these banks can open accounts in 10 min or less. After downloading an app on their smartphones, customers provide their personal information, which is automatically approved using digital identity and biometrics. Then, they receive their bank accounts without ever having to leave their homes [16]. Additionally, customers have the convenience of performing their financial transactions online without time and geographical restrictions. Another benefit of digital-only banks is the reduction of overhead. This is evident since they operate virtually without any physical branches. These banks save substantial amounts of money through virtual operations, allowing them to offer more free services as well as pay a higher interest rate [13,15].

The finding of this study regarding the non-significant negative influence of perceived security risk is inconsistent with previous studies [15,37,150]. Users may perceive some risk (i.e., security risk) related to misuse of their personal and financial data or leakage of such data to cybersecurity attacks, which can create negative feelings toward digital-only banks and their technology-based services [15,37,150]. Security risks prevent not only the adoption of digital-only banks but also the use of their services after adoption. However, in Malaysia, data from the Malaysian Communications and Multimedia Commission MCMC [151] report showed that 47% of internet users feel secure, 23% feel neutral, and 17% do not feel secure when using the internet. The report further mentioned that other cybercrimes have shown a steep decrease since 2016, with the exception of online fraud. Therefore, the above-mentioned data could indicate that Malaysians have less security concerns. Less security concern could also be a result of the initiatives taken by digital-only banks that emphasize a transparent banking process and stronger security measures. Due to the absence of direct human interaction, some digital-only banks have implemented the use of video conferencing and online chat to offer a virtual advisor on their websites. Virtual advisory mechanisms are an effective means of assuaging consumer concerns about security and increasing perceived trust [13].

Similarly, the non-significant negative impact of perceived functional risk on the intention to adopt digital-only banks is in line with Lee and Kim [15], but not with most of the previous literature [19,56]. Previous literature has confirmed that functional risk is especially relevant for the adoption of digital-only banks because it is related to customers' perceptions about digital-only banks' system stability, the speed of use, transmission, application installation, and the overall systems' performance [22]. Functional risk creates negative perceptions of the ability of digital-only banks to manage personal finances effectively, which can lead to negative behavior towards these banks [19,20].

Contrary to expectations, functional risk and security risk did not have a significant effect on the intention to adopt digital-only banks. It is evident from this finding that Malaysia's internet environment has reached an adequate level of maturity. As of April 2022, the internet banking penetration rate among the population showed an increasing trend. When compared to before the COVID-19 lockdown period, BNM's data shows that the penetration rate of internet banking has accelerated. The penetration rate has



increased from 97.6% in 2019 to 112.5% in 2020; then increased to 122.4% in 2021; and reached a penetration rate of 126.2% in April 2022. Additionally, mobile banking has reached a 76.4% penetration rate among the population in April 2022, as various financial services like stock trading, e-wallets, and mobile payments were available online [152]. The aforementioned data implies that customers do not perceive the lack of banks' physical branches as a hindrance. Thus, customers' concerns regarding the functionality of digital banking may have been alleviated by the daily usage of internet financial services, or their sensitivity to functional risks may have been diminished by the digital-only banks' safety measures created by AI and other fintech technologies [15,153]. Regardless of the reason, this research indicates that the Malaysian market is ready for the expansion of digital-only banks' innovative model, given that functional and security risks are not significant to the customers' behavioral intentions.

The network externality components showed mixed results in the current research. Critical mass (CM) showed a non-significant positive effect that is inconsistent with previous literature [66,68], while the number of services (NS) showed a positive significant influence on the intention to adopt digital-only banks, which is aligned with previous study findings in digital-only banks [15]. Similarly, (CM result was inconsistent, while NS was consistent) with those in prior studies on Internet services [63–69], which indicated a positive influence of network externalities on customers' behavioral intentions.

Contrary to expectations, findings revealed that critical mass has a non-significant positive impact on the intention to adopt digital-only banks. This implies that the bandwagon effect among potential users is not applicable to digital-only banks' customers, indicating that they are not influenced by the increased network size and are not concerned about being alienated from the network [15,116,154]. In contrast, the number of services significantly impacted the intention to adopt digital-only banks. This implies the externality effect of offering complementary services that are designed to meet customers' needs arising from the expansion of the network [15,67,116]. As a platform of fintech services, digital-only banks are designed to support not only financial services but also various types of other services, including messaging and shopping. In other words, they are expected to offer a number of complementary services (e.g., communication tools such as messenger) and more personalized financial services (e.g., financial and wealth planning) through the use of IR 4.0 technologies (i.e., cloud computing, artificial intelligence, and big-data based systems) [4]. The aforementioned findings support the argument of Lee and Kim [15] that the use and adoption of digital-only banks are facilitated by the availability of comprehensive services that are in line with the financial technology industry. Therefore, digital-only banks' practitioners can gain a competitive advantage by positioning these banks as leaders in financial technology services by offering services beyond regular banking services.

According to the results of the current study, trust has a significant positive effect on the intention to adopt digital-only banks, which is consistent with those of extant literature on innovation adoption [14,15,18,37,40,53,74–79]. It is argued that both initial and ongoing trust have a significant impact on customers' intention to adopt digital-only banks [15,19]. Consequently, enhancing trust between customers and digital-only banks is imperative throughout the innovation diffusion process in order to establish sustainable and lasting relationships [15]. Numerous studies have highlighted the relevance of trust in relationships over the long run, at the very least in financial markets, irrespective of their nature [155].

According to the current study, perceived value plays a positive significant role in the intention to adopt digital-only banks, which is in accordance with previous literature [16,41]. As expected, perceived value has one of the highest influences on the intention to adopt digital-only banks. This result could be explained by the argument of Oriade and Schofield [156], who mentioned that customer behavior can be better elucidated and understood when analyzed through perceived value. Recent technological innovations and lifestyle changes have altered customers' perception of value, especially with IR 4.0 and Now Economy (i.e., Now Economy is service-driven as well as based on speed and



is continuously open 24/7) [157]. In today's fintech environment, customers expect to be surprised by interesting experiences and will not accept yesterday's ordinary banking services [158]. Customers' perceived value is about value for money, time, effort, and risk [112], which can be achieved by using the integrated and smart technologies of IR 4.0. Fintech, for example, offers low-cost transaction fees and highly effective solutions, encouraging customers to use technology-based financial services [41].

Finally, this research reveals that the intention to adopt digital-only banks is most significantly influenced by environmental concern, which has been confirmed by findings of previous literature [34,107,108]. Extant literature confirms that environmental consciousness influences pro-environmental behavior, such as adopting green transportation [105]. It is evident from this research finding that Malaysians' experience of negative climate change could have shifted customers' behavior towards adopting more sustainable behavior [159]. Malaysia has been negatively affected by climate change, which has resulted in losses for society, the economy, and the financial system [160]. In a recent report, Al-Idid [161] pointed out that the climate disasters in Malaysia in late December 2021 and early January 2022 had resulted in deaths as well as economic losses of USD 1.4 billion. Thus, failure to identify and manage climate and environmental risks may have significant consequences for businesses and households, as well as for the financial system as a whole [160]. Prior literature mentioned strong positive relationships between climate change beliefs and environmentally conscious behavior. Climate change beliefs play a more significant role in environmentally conscious behavior than environmental identity [159,162,163]. Haltinner and Sarathchandra [159] argued that negative environmental events lead climate skeptics to adopt more pro-environmental behavior. As discussed earlier, the negative climate change experienced by Malaysians could have improved the awareness of people towards environmentally friendly behavior. Consequently, the above discussion could explain the finding of this research, which found that environmental concern is the most influential factor in determining the intention to adopt digital-only banks.

## 6. Conclusions

Although digital-only banks have been around for a while, they have recently taken center stage in the fintech industry [164]. These banks are expected to lead the future of finance and have a significant impact on financial consumers, but research into their viability has been sparse. Specifically, despite the fact that digital-only banks are displacing traditional banks' internet banking, little is known about them [14,19,20]. This research therefore closes the gap in previous literature by applying a theoretical model that incorporates few cognitive behavior leading theories, including MAT, NE, and CTT. In order to increase the practicality of the study, prime age respondents have been selected since it has been reported that this age group is growing in Malaysia and therefore may represent a potential customer base for financial services [130].

Respondents in the current study were both males and females, with close to equal representation. The majority of respondents were 25–35 years old and represented the ethnic diversity of Malaysian society, particularly Malay, Chinese, and Indian. Most of the respondents hold a bachelor's degree, have computer literacy, and have knowledge of digital-only banks. Overall, in response to the first research question, current research has found that convenience, economic efficiency, number of services, trust, and perceived value are the determinants of intention to adopt digital-only banks. Additionally, environmental concern has been found to have the strongest influence on the intention to adopt digital-only banks, which answers the second research question.

Digital-only banks can use the current study findings to prepare a unique and effective marketing proposition that focuses on the qualities that their customers most demand and value. In order to compete effectively in the digital economy, digital-only banks must reconsider how they market and advertise their technology-based financial business model and create distinct offerings that are more personalized and intended to meet customer expectations through leveraging industry 4.0 technologies. These banks need to further

focus on the quality of customer experience, particularly how valuable customers perceive the experience to be for users of digital-only banks. All bank offerings must be simple and easily accessible, secure and transparent, and relevant to customers' digital lifestyles. In addition to being efficient, more innovative, as well as fun, financial services are expected to provide more benefits to their customers beyond the primary banking services. Indeed, customers demand an extraordinary banking experience. At the same time, they are paying more attention to sustainability and environmental protection by adopting behaviors consistent with green business models.

## 7. Theoretical and Practical Contributions

Among the most recent developments in Malaysia is the emergence of digital-only banks in 2022. In light of this, there is a lack of research examining Malaysian customers' intention to adopt digital-only banks. For a country-level study, it is essential to develop a theoretical model of Malaysian digital-only banks' customers' intentional behavior and empirically validate the model. In general, it is equally important to investigate digital-only banks' adoption intentions to close the gaps in their literature that lack a comprehensive understanding of their customers' behavior [4]. Researchers and practitioners alike can benefit from the results of this study. In addition to providing a Malaysian perspective on early trends in customers' behavior towards digital-only banks, this study provides a basis for supporting further development of these banks in Malaysia, perhaps even globally.

This study contributes to the body of knowledge regarding digital-only banks by developing a model that incorporates several leading behavioral, economic, and cognitive theories, such as Mental Accounting Theory (MAT) [24]; Network Externalities Theory (NE) [25,26]; and The Commitment-Trust Theory (CTT) [27]. Based on the model of this research, it becomes easier to understand the motivations and challenges of adopting digital-only banks since it captures positive and negative factors, as well as social and self-determination factors. Most of the digital-only banks' studies have focused on enhancing technology or improving user experiences by promoting consumer perceptions about ease of use and usefulness of services [132]. Traditional adoption models have emerged as the most popular models to investigate customer behavior towards digital-only banks in the existing literature [4,17,18,20,43,51,53,74,165–169]. These studies' theoretical frameworks were mostly drawn from the technology acceptance model (TAM) of Davis [170], the theory of reasoned action (TRA) of Fishbein and Ajzen [171], the theory of planned behavior (TPB) of Ajzen [172], the unified theory of acceptance and use of technology (UTAUT) of Venkatesh et al. [173], diffusion of innovation (DOI) of Rogers [174], innovation resistance theory (IRT) of Ram and Sheth [175], the trust transfer theory of Stewart [176], and finally, the push-pull-mooring model (PPM), which is a migration theory that includes the mooring effect suggested by Moon [177] and the push-pull model by Ravenstein [178]. Using these models, users' intentions are evaluated based on technological perceptions with an apparent limitation of influence from users' mental perceptions [40]. Due to the increasing popularity of digital-only banks in recent years, it is believed that acceptance should be expanded to other value-added services and potential risks as well [15,17]. As an example of a common and robust theoretical foundation on which to base a study of multichannel preferences, the technology acceptance model (TAM) is considered to be useful. However, this model only considers the benefits of using a specific technology; in TAM, the loss and resistance factors are not taken into consideration, nor can a gain-loss analysis be conducted. With the previously mentioned limitations, this research closes the gaps by developing a model drawn from Mental Accounting Theory (MAT) [24,109,110], which is more suitable for explaining the dual role of technology users and service consumers, and it allows for a gain-loss analysis [40,111,179]. In addition, introducing Network Externality (NE) into the MAT model extends our limited knowledge regarding NE influence on intentional adoption in a digital-only bank context [15].

Furthermore, the research argues that environmental concern is important for a positive behavioral response towards digital-only banks, and therefore MAT has been extended

by the incorporation of an environmental concern factor. By extending MAT, this research closes the gaps in previous literature mentioned by Yue et al. [23] on the limited knowledge of sustainability influence on digital-only banks' adoption. In fact, current research has evidence that environmental concern has a higher influence on customers' intentional adoption in situations whereby negative climate change exists, as their behavior changes to a more eco-conscious one [159]. Regardless of the research industry, this study suggests that environmental concern should be integral to any future research model investigating customers' intentional behavior in negative climate change regions.

The extant literature has stated that risks have a major influence on intentional adoption in online environments, such as in digital-only banks [15,17,22,37,53,60,150]. However the current study argues that the extensive use of digital banking and the safety measures created by fintech technologies may have diminished the sensitivity of functional and security issues. Nevertheless, this perception of risk can be concerning since it could result in the long-term destruction of digital bank business ecosystems [10,180,181]. Negative experiences will logically cause customers to discontinue using and detach themselves from a product or service [10,182]. Therefore, the perception of risk should be further explored and conceptualized by conducting in-depth quantitative and qualitative analyses, especially in Malaysia, as the current research results suggest that perception of risk does not influence the intention of Malaysians to adopt digital-only banks.

This study provides not only the theoretical contributions described above but also suggests implications for practitioners. The results of this study have highlighted convenience and economic efficiency as factors that can promote customers' intention to adopt such banks. Hence, digital-only bank practitioners are encouraged to continuously communicate information about their innovative products and services that provide convenience to their customers. Additionally, practitioners should inform their customers about financial benefits that they can obtain, like charge-free and differentiated services, competitive rates, and upcoming innovative products and services [15].

The study mentions that functional and security risks are concerning for digital-only banks adopting it in the long run. Therefore, the only way to ensure the protection of customers' security and the functionality of the digital-only banks' system is by having comprehensive and tight regulations. Accordingly, this study urges policymakers to implement and enhance security frameworks that obligate digital-only banks and other internet-based financial service providers to comply with such regulations in their systems and operations. Similarly, practitioners of digital-only banks should still strive to enhance system functionality and security measures in various ways, such as developing security-related technologies and providing information in a transparent manner. Additionally, marketers of digital-only banks are encouraged to provide details on the steps and efforts taken to ensure the security of customers' personal identification [15].

Increasing trust in the relationship between practitioners and their customers will help establish long-term relationships and increase the rate of non-users adopting digital-only banks. In online settings, clients often depend on a website's content for information in order to make a decision [13]. Unlike traditional banks, digital-only banks lack a well-known offline brand, so building trust in their services may be challenging [18]. In traditional banks, online banking users have the opportunity to interact face-to-face with bank employees and evaluate bank products and services, and customers have more trust in these banks since they are well-established in the financial industry [13,18]. By contrast, users of digital-only banks do not have that option, and they are limited to evaluating the financial services offered by these banks based on the design of their websites and their interaction with a virtual advisor [13]. Therefore, it is very crucial for internet innovations to design their websites to include the appropriate information for customers to develop initial trust [18], so that they can increase the adoption rate of non-users.

Furthermore, perceived value has shown a strong influence on the intention to adopt digital-only banks, so practitioners can enhance perceived value by promoting pleasure value using AI technologies. Moreover, the factor "number of services" (e.g., main and

supporting services) is amongst the factors influencing intentional behavior. Digital-only banks can therefore offer complementary services such as media, messaging, games, financial education, and shopping to improve digital-only banks' perceived value and adoption intention rate. Likewise, practitioners should enhance service experiences and customers' emotional connections to their services. Digital-only banks can achieve this by engaging more with their customers as well as creating an enjoyable and impressive experience. This requires speeding up the cycle of service updates along with developing sophisticated messaging and announcement systems to sustain the relevance and popularity of the service and always keep customers interested. Overall, practitioners should always keep in mind that customers demand value for their money, time, and effort; thus offered products and services must be analyzed in relation to these three items.

Recently, Malaysia has faced a variety of environmental problems related to climate change in recent years, including rising sea levels, flooding, air pollution, and acid rain. The effects of climate change extend to society, the economy, and the financial system. The occurrence of over 50 natural disasters in the past 20 years has contributed significantly to climate-related physical risk. Over MYR eight billion in monetary losses resulted from these disasters. They have also contributed to the displacement, injury, and death of more than 3 million Malaysians. Businesses and households, as well as financial institutions that provide financing and investment to such individuals and companies, may suffer substantial financial harm through the failure to recognize and manage climate-related risks [11,160]. On a global scale, environmental issues and climate change are becoming concerning for individuals in every aspect of the global economy, which has led to behavioral change towards greener options [28,29]. The aforementioned argument is supported by the current research findings, as environmental concern showed the strongest influence on the intention to adopt digital-only banks. Therefore, this study urges managers of digital-only banks to develop environmental measures to combat climate change and its impacts. For this reason, it is crucial for digital-only banks to promote green behavior by encouraging paperless financial activities and utilizing renewable energy in their operations, in addition to organizing campaigns and events that enhance people's pro-environmental attitudes and behaviors.

The study concludes that policymakers need to encourage new players with innovative business models to serve the digital economy and contribute to people's well-being. The findings suggest that policymakers should develop strategies to ensure that digital-only banks achieve the key factors customers consider when using these banks (e.g., convenience, economic efficiency, number of services, trust, perceived value, and environmental concern) so that they can achieve a higher penetration rate for these digital financial services. It is also necessary to establish updated laws and regulations that emphasize on regulating digital-based financial services since most of the existing policies are oriented towards incumbent banks. Personal identification, for instance, has been simplified by non-face-to-face financial services. Although this may be positive for customers in terms of convenience, it may also raise security concerns in the fintech market, which lacks adequate safeguards to protect consumers [15]. Finally, it is vital for policymakers to create laws that encourage sustainability and environmental protection among digital-only banks as well as the fintech industry, since environmental concern is a major factor in the adoption of these financial technologies.

## 8. Limitations and Suggestions for Future Studies

The current research has few limitations. As this study only included respondents in the prime age range (25–54 years old), the first limitation may be the exclusion of Gen-Z, which is becoming an increasingly attractive target for digital-only banks [3], and the older population, which has demonstrated a greater level of technological literacy and an interest in using technological innovations [183]. Therefore, future research should include Gen-Z and older population groups in their future investigations. Furthermore, this study used a stratified sample technique and was limited to the Klang Valley. To increase the

generalizability of findings, future research should apply random sampling targeting wider locations in Malaysia to essentially obtain a larger sample size in their future investigations.

Another limitation of this study is focusing only on non-adopters, and it can only be conducted as a cross-sectional study since digital-only banks are still new in Malaysia (2022). Therefore, customers' actual behavior towards digital-only banks in Malaysia could be altered over time. Customers' behavior could be influenced and changed through extensive use of digital-only banks, social norms, and word-of-mouth. Therefore, replication of the study in the future is needed to see if the impacts of adoption change over time and even decrease to ensure the long-term viability of digital-only banks in Malaysia. Future studies can also extend the body of knowledge by incorporating factors that were not investigated in this study, such as gender, personal innovativeness, and cultural influence, besides investigating customers' loyalty and satisfaction, which can only be investigated among users. More importantly, perceived risks have shown insignificant results that are concerning for digital-only banks' continued adoption [10,180,181]. Therefore, future research should have in-depth analysis to extend our knowledge about risk perceptions and explore whether or not customers' behavior towards risk is changing in an innovative technology context. Additionally, future studies should focus on the development of new conceptualization and theories for risk perception, especially in the context of the technology-based financial services industry that is booming with advancement in industry 4.0.

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## Appendix A

**Table A1.** Construct, items, and sources.

Constructs	Code	Item Statement	Sources
Convenience	CONV1	Using digital-only banks would make it easier to access financial services	[15,115]
	CONV2	Digital-only banks allow access for financial services at a convenient time (i.e., 24/7 service)	
	CONV3	Digital-only banks allow access for financial services from a convenient location (i.e., services are accessible from anywhere)	
	CONV4	Using digital-only banks would be easy for me (i.e., using services is not mentally challenging)	



Table A1. Cont.

Constructs	Code	Item Statement	Sources
Economic Efficiency	ECE1	Using digital-only banks would enable me to use financial services more quickly	[15,61]
	ECE2	Using digital-only banks would allow me to use financial services more effectively	
	ECE3	Using digital-only banks would increase my productivity in managing financial transactions	
	ECE4	Using digital-only banks would be less time consuming compared to traditional banks	
Functional Risk	FR1	Digital-only banks may have problems executing financial services	[15,17]
	FR2	Digital-only banks may not offer stable online financial services	
	FR3	Digital-only banks may not offer stable online systems	
	FR4	Digital-only banks may not function normally and lead to the delay of financial transactions	
	FR5	Digital-only banks may not function normally and lead to the mishandling of financial transactions	
Security Risk	SR1	I feel unsecure sending sensitive information across digital-only banks	[15,52]
	SR2	I would not feel safe providing personal information to digital-only banks	
	SR3	I am worried about other people gaining access to my personal information through digital-only banks	
	SR4	I am worried that using digital-only banks increases the probability of encountering cyberattacks	
	SR5	I am concerned that using digital-only banks increases the probability of encountering financial fraud	
Critical Mass	CM1	I think a good number of people use digital-only banks	[4,15]
	CM2	I think many people are using digital-only banks	
	CM3	I think there will still be many people using digital-only banks in the future	
	CM4	I can easily see people using digital-only banks around me	
	CM5	Many of the people I know and deal with use the digital-only bank	
Number of Services	NS1	I think a wide range of services are available on digital-only banks such as payments, as well as tickets and booking services	[15,116]
	NS2	I believe a wide range of applications are available on digital-only banks such as messaging and shopping	
	NS3	I think a wide range of helpful tools are available on digital-only banks such as chatbot, file transference, and picture sharing	
	NS4	I believe a wide range of activities are available on digital-only banks such as articles to read and games	
Trust	TR1	I personally trust digital-only banks	[117]
	TR2	I can always rely on digital-only banks for my banking activities	
	TR3	In general, digital-only banks are trustworthy	
	TR4	When I need to conduct financial services, I would feel comfortable depending on digital-only banks for the services	
	TR5	I feel that I could trust digital-only banks to conduct my financial services	
Perceived Value	PV1	Compared to the fee I need to pay to obtain banking services, the use of digital-only banks offer value for money	[112,118]
	PV2	Considering the effort I need to put in to obtain banking services, digital-only banks are beneficial to me	
	PV3	Considering the time I need to spend to obtain banking services, digital-only banks are worthwhile to me	
	PV4	Considering the risk I might encounter to obtain banking services, digital-only banks have value for me	
	PV5	Overall, the use of digital-only banks delivers me good value	
Environmental Concern	ENC1	I am concerned that traditional banks may negatively affect the environment by heavy usage of paper and consumption of electricity through extensive networks of branches	[34]
	ENC2	I am aware of digital-only banks' environmentally sustainable initiatives and services (i.e., discouraging the use of environmentally harmful products)	
	ENC3	Digital-only banks are taking the required steps to undertake environmentally sustainable initiatives (e.g., utilize renewable energies)	
	ENC4	Using environmentally sustainable products and services by digital banks is a primary way to safeguard the environment (e.g., reducing transportation negative impacts while transaction processing digitally)	

**Table A1.** *Cont.*

Constructs	Code	Item Statement	Sources
<b>Intention to Adopt Digital-only Banks</b>	INT1	I intend to adopt digital-only banks in the future	[117]
	INT2	I will select digital-only banks in the future	
	INT3	Given the chance, I predict I will adopt digital-only banks in the future	
	INT4	It is likely that I will select digital-only banks in the future	
	INT5	I expect to adopt digital-only banks in the future	

**Table A2.** SPSS results; values of Cronbach's Alpha coefficient-pilot study.

Variables	Number of Items	Cronbach's Alpha
Convenience	4	0.846
Economic efficiency	4	0.800
Functional risk	5	0.818
Security risk	5	0.826
Critical mass	5	0.849
Number of services	4	0.828
Trust	5	0.858
Environmental concern	4	0.870
Perceived value	5	0.825
Intention to adopt digital-only banks	5	0.827

**Table A3.** Assessment of normality.

Variable	Skew	C.R.	Kurtosis	C.R.	Variable	Skew	C.R.	Kurtosis	C.R.
CONV1	−0.858	−7.033	1.027	4.21	NS1	−0.78	−6.391	0.473	1.936
CONV2	−0.594	−4.871	0.064	0.261	NS2	−1.085	−8.889	1.153	4.723
CONV3	−0.463	−3.792	−0.037	−0.153	NS3	−1.189	−9.745	1.258	5.155
CONV4	−0.351	−2.874	−0.141	−0.579	NS4	−0.825	−6.765	0.298	1.222
ECE1	−0.405	−3.322	−0.266	−1.089	TR1	−0.826	−6.771	−0.251	−1.03
ECE2	−0.723	−5.923	0.318	1.305	TR2	−0.899	−7.369	0.083	0.34
ECE3	−0.803	−6.58	0.672	2.753	TR3	−0.58	−4.751	−0.819	−3.355
ECE4	−0.557	−4.563	−0.289	−1.184	TR4	−0.955	−7.827	0.236	0.966
FR1	−0.659	−5.403	1.103	4.521	TR5	−0.677	−5.548	−0.269	−1.103
FR2	−0.589	−4.828	1.053	4.314	ENC1	−0.773	−6.331	0.554	2.269
FR3	0.162	1.329	−0.447	−1.832	ENC2	−0.734	−6.012	0.15	0.617
FR4	−0.554	−4.539	0.876	3.591	ENC3	−0.201	−1.647	−0.529	−2.168
FR5	−1.022	−8.375	2.104	8.624	ENC4	−0.646	−5.293	0.135	0.554
SR1	−0.793	−6.496	−0.164	−0.67	PV1	−1.188	−9.734	0.827	3.387
SR2	−0.811	−6.649	0.053	0.218	PV2	−0.889	−7.286	0.309	1.266
SR3	−0.531	−4.353	−0.56	−2.295	PV3	−0.732	−5.999	−0.354	−1.45
SR4	−0.398	−3.259	−0.852	−3.49	PV4	−0.427	−3.501	−0.38	−1.559
SR5	−0.254	−2.081	−0.836	−3.425	PV5	−0.985	−8.076	0.365	1.494
CM1	−0.798	−6.541	−0.106	−0.432	INT1	−0.882	−7.225	0.908	3.72
CM2	−0.876	−7.176	0.326	1.337	INT2	−0.799	−6.551	0.57	2.335
CM3	−0.637	−5.222	0.001	0.003	INT3	−0.349	−2.857	−0.128	−0.524
CM4	−0.686	−5.619	−0.191	−0.784	INT4	−0.394	−3.228	−0.377	−1.543
CM5	−0.617	−5.056	−0.385	−1.576	INT5	−0.682	−5.587	0.138	0.565

Source: Computed Data Analysis. Key: INT: Intention to adopt digital-only banks; PV: Perceived Value; CONV: Convenience; ECE: Economic Efficiency; FR: Functional Risk; SR: Security Risk; CM: Critical Mass; NS: Number of Services; TR: Trust; ENC: Environmental Concern.

**Table A4.** Multicollinearity test.

Variable	Collinearity Statistics	
	Tolerance	VIF
PV	0.651	1.535
CONV	0.756	1.322
ECE	0.923	1.083
FR	0.912	1.096
SR	0.947	1.056
CM	0.907	1.102
NS	0.951	1.052
TR	0.720	1.389
ENC	0.658	1.519

Dependent Variable: INT. Source: Computed Data Analysis. Key: INT: Intention to adopt digital-only banks; PV: Perceived Value; CONV: Convenience; ECE: Economic Efficiency; FR: Functional Risk; SR: Security Risk; CM: Critical Mass; NS: Number of Services; TR: Trust; ENC: Environmental Concern.

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