
White Rose Research Online

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk
Universities of Leeds, Sheffield and York

Deposited via The University of Sheffield.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/id/eprint/242790/

Version: Accepted Version

Article:
Taneja, S., Ali, L., Siraj, A. et al. (2024) Leveraging digital payment adoption experience to advance the development of digital-only (neo) banks: role of trust, risk, security, and green concern. IEEE Transactions on Engineering Management, 71. pp. 10862-10873. ISSN: 0018-9391

https://doi.org/10.1109/tem.2024.3395130

© 2024 IEEE. Personal use of this material is permitted. Permission from IEEE must be obtained for all other users, including reprinting/ republishing this material for advertising or promotional purposes, creating new collective works for resale or redistribution to servers or lists, or reuse of any copyrighted components of this work in other works. Reproduced in accordance with the publisher's self-archiving policy.

Reuse
Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.





Leveraging digital payment adoption experience to advance the development of digital-only (Neo) banks: Role of trust, risk, security, and green concern

Abstract: The neo-banking and BaaS (Banking as a Service) model implementation by financial service organizations and FinTech firms require wide-ranging acceptance of digital payment systems. Given the development of digital-only (neo) banking at nascent stages, especially in developing economies, there is a need to understand their potential adoption by the customers. This study investigates antecedents to customer's intention to adopt digital-only banks based on their adoption experience with existing digital payment platforms. From a novel perspective on digital-only banking, this research advances the extant literature on digital financial services by synergistically combining unified theory of acceptance and use of technology theory and the factors namely attitude, trust, risk, security and green concern. The structural equation model based on a cross-sectional sample found that the behavioural intention to adopt digital-only banks is significantly influenced by effort expectancy, hedonic motivation, performance expectancy, social influence, in addition to attitude, trust, perceived risk, perceived security and green concern. This study adds to the growing theoretic debate in the field by stressing the significance of examining given contextual factors in addition to previously established theories for studying purely digital services. The managers can draw upon the findings for leading the way to wide-ranging implementation of BaaS.

Keywords: Digital payment, Digital-only banks, Intention, Trust, Risk, Security, Green Concern

Managerial Relevance Statement: This research offers profound insights to the financial services and FinTech industry by highlighting the crucial factors that will lead to the adoption of digital-only banks. As the banking picture is moving from digital banking to all-digital

banking, i.e., Neo-banking across the world, it becomes vital for the banking industry to achieve full-fledged usage of digital payment platforms and systems. The banks or financial service providers must consider the factors highlighted here while delivering existing or newly developed digital services. For motivating the consumers to adopt digital-only services, the managers should ensure that these services are: free of effort to use, available to them as and when required without any technical hindrances, and with assurance of security to build trust in the consumer's minds. Besides, the banks must frame effective communication strategies to inform consumers regarding the environmental value of using digital payment services. The managers need to frame influential marketing strategies through various channels while considering the important variables leading to adopting these services.

1. Introduction

The world has witnessed enormous level of digital transformation since past few decades. The rapid digitalization has led to growth of digital finance globally. Evidence suggests that the digital technologies have enormous potential to help attain sustainability through its pillars, i.e., economic, social, and environmental (Aysan et al., 2024; Dwivedi et al., 2022; Rodrigues et al., 2020; Wang et al., 2023). On this vein, the digital finance has been increasingly viewed as one of the significant catalysts of sustainable growth and development (Chauhan, 2024; Wu et al., 2024). Evidence has also shown that, in OECD (Organization for economic co-operation and development) countries, digital finance has led to a considerable reduction in pollution rate and greenhouse gases (GHG) emissions (Elheddad et al., 2020). In this day and age, the preferences of customers are being greatly influenced by the sustainability-related aspects of the products and services they use. Their socially responsible consumption habits and the perceived effectiveness of these habits have a significant

favourable influence on their intentions (Palacios-González & Chamorro-Mera, 2018). The digital-only banks can play an important part due to non-requirement of physical branches that consume huge amounts of energy and contribute greatly to GHG emissions. Further, this model can improve the level of financial inclusion by reaching to the underprivileged masses (Ajambo, 2023; Chen, 2024), especially in the developing countries. However, the development of neo-banks/digital-only banks and FinTech startups is still at infancy stage (Windasari et al., 2022), especially in developing economies like India. In order to take these setups forward, the managers and policymakers need to understand the adoption of already existing and established platforms such as digital payment platforms.

The huge potential of digital financial platforms around the world has driven the financial services providers and various FinTech startups to provide the customers with various digital payment services (Aysan et al., 2024). The relatively new concept of the cashless/digital economy (Lóska & Uotila, 2023) can be achieved only when the consumers are completely prepared to switch from traditional to digital services, thereby the emergence of neo-banking/digital-only banking would be accelerated (Rastogi, 2020). The neo banks, i.e. the digital-only banks are the banks with a 100% digital direct banking model with no physical branches. They are the Fintech firms that provide Banking as a Services (BaaS). However, the concept of Neo-banks is in a very early phase and are currently working in partnership with physical and licensed banks, this concept will completely transform the banking scenario. Consequently, fast-tracking digital payment adoption is indispensable to the growth of neo-banking in developing nations.

Although several researchers have scrutinized the adoption of digital payments by the customers in the context of developing economies (Chawla & Joshi, 2017, 2019; Chauhan, 2024). No research till date has focused on assessing the customer's intentions to adopt digital-only banks based on their perceptions towards existing digital payments systems.

Also, with rising concerns for environmental well-being where the environmental concerns of the customers are highly influencing their purchase intentions (Ignat et al., 2022), it is important to see how the digital-only banks can help a long way in achieving the targets of lower carbon emissions due to the feature of no physical branches. There is a dearth of research on how customers perceive the model of digital-only banks from the angle of sustainability. Thus, to bridge this gap pertaining to the digital financial services literature, this research adds to the extant knowledge by conceptualizing a parsimonious behavioural model by incorporating the important predictors namely green concern, trust, risk and security by integrating previously established theories on technology acceptance. Moreover, the paper is perhaps the first to explore the role of customers' green concern in measuring technology acceptance. None of the existent literature studies, to best known, has yet studied the intentions of customers towards digital-only banks using a holistic and integrated approach. The research aims to empirically resolve and address the research question: what are various antecedents to customers' intention towards adopting digital-only banking? Consequently, the study frames following research objectives:

(1) To understand the behavioural factors concerning digital payments adoption experience.

(2) To present an integrated behavioural model representing how these factors shape intention to adopt digital-only/neo-banking, by extending UTAUT2 with attitude, trust, risk, security, and green concern.

The manuscript is systematized as follows. The following section discusses the review of relevant literature, with Section 3 depicting the theoretical underpinnings and hypothesis formulation. Section 4 and 5 present the research methodology and the results respectively. Section 6 concludes the manuscript, deliberates the implications for theory and practice, and offers a note on the limitations and future research directions.

2. Literature Review

In the information technologies/systems (IT/IS) and management literature, the issues concerning the adoption of digital technologies and services have fetched considerable attention for the past few decades (Alalwan et al., 2018; Wu et al., 2024). The researchers have tested and established various suitable models and theories concerning technology adoption in multiple contexts (Davis et al., 1989; Fishbein & Ajzen, 1975; Rogers, 1995; Venkatesh et al., 2003; Venkatesh et al., 2012). By using a plethora of competing theoretical frameworks, researchers progressively attempt to understand how the customer's preferences for digital payment services are shaped (Chauhan, 2024; Baabdullah et al., 2019; Prete, 2022). In seeking an improved insights into the factors affecting digital system adoption, the studies have applied, integrated, and extended these models (Venkatesh et al., 2016).

The digitalisation is continually changing the consumer behaviour landscape. The financial service organizations too are not lagging in integrating digital technologies into their operations and services for withstanding the highly competitive business environment (Kimiagari & Baei, 2022; Wang et al., 2023; Wu et al., 2024). To understand how digitalisation affects the consumer's decision process with regards to retail banking, Pousttchi & Dehnert (2018) conducted research using online consumer review data from different countries and identified relevant factors influencing consumer decision-making (CDM). The study developed an integrated model of CDM based on traditional theories such as TAM (Technology acceptance model) and suggested that there are several other important factors in addition to such theories that might serve the purpose of examining the impacts of digitalisation on retail banking consumers. Baabdullah et al. (2019) measured the prime predictors of mobile banking by blending the UTAUT2 and another model, i.e., D&M IS (DeLone and McLean Information Systems) Success Model in Saudi Arabian context to indicate significant predictors of actual usage behaviour. Furthermore, the prominence of

consumer's perception of trust as well as risk in explaining adoption of mobile banking in a developing economy, i.e., Jordan was highlighted by Alalwan et al. (2017, 2018).

Moreover, the consumer's preferences and decision-making are being progressively affected by their rising environmental concerns (Chen & Chang, 2012; Ting et al., 2019). In the current scenario, the customers are increasingly being mindful of various environmental and sustainability issues concerning their consumption of products and services. For few decades, the researchers have been examining and establishing positive impacts of perceived environmental sustainability on consumer behaviour, and thereby the attitudes and intentions (Ting et al., 2019). In this respect, Frank (2020) has examined the influence of the perception of possible environmental benefits of AI-enabled products on their purchase intentions and found positive causal effects using the signalling theory. It has been opined in the literature that the consumers tend to form positive attitudes towards environmentally sustainable products as well as the providers since the firms providing such products are having ethically superior values. As per Martínez & Rodríguez del Bosque (2013), the green or environmental aspect signals the trustworthiness and this signal of trustworthiness gets translated into favourable customers' attitudes as well as intentions towards the product/service (Jørgensen et al., 2022). In today's era of environmental sustainability, banks are also incorporating green technologies into their operations to stay sustainable (Chen, 2024; Wang et al., 2023). Digital technologies and systems can help reduce the organization's carbon footprint through lesser usage of paper and energy (Dwivedi et al., 2022; Jenkin et al., 2011) and promote green credit (Shang & Niu, 2023). The organizations across the globe are undertaking several corporate social responsibility (CSR) initiatives in several ways, and installation of green information technology and IT for green (Jenkin et al., 2011) is amongst the most important ones. The CSR practices not only drive corporate innovation but also exert a strong influence on stakeholders' perceptions. On the same note, Lekakos et al. (2014) have also found that

the CSR practices bear positive effects on the users' attitudes towards the green electronic banking services and these effects were found to be moderated by utilitarian information systems factors and the utilitarian individual difference factor (Lekakos et al., 2014). The neo-banks would be the banks with no physical network with greater green value. The environmental concern will lead to increased trust in the product, service and the organization itself (Laing et al., 2023).

3. Theoretical Underpinnings and Hypothesis Formulation

This research proposes a research model based on the theoretic underpinnings of UTAUT2 (Venkatesh et al., 2012). This model is an extension of the UTAUT (unified theory of acceptance & use of technology) and is established as the most useful and comprehensive model for understanding individual's adoption as well as usage of particular technologies if viewed in the context of consumption (Tamilmani et al., 2020). This theory emphasized the intrinsic motivation (hedonic value), in addition to the extrinsic motivation (utilitarian value) propounded by its predecessor UTAUT (Venkatesh et al., 2003), and hence was considered for the present paper. The main constructs of UTAUT2 include price value (PV), hedonic motivation (HM), and habit in addition to the basic UTAUT variables namely, performance expectancy (PE), facilitation conditions (FC), social influence (SI), and effort expectancy (EE) that influence the intention. Research shows that the two of the aforementioned models lacks in extensive testing and validation in developing economies in general (El-Masri et al., 2017) and India in particular (Chawla & Joshi, 2019). Besides, both the models are faced with the problem of inconsistent findings even for the same research question and show biases across countries, cultures and type of technology (Schmitz et al., 2022; Tamilmani et al., 2020). Moreover, Venkatesh et al. (2016) have recommended using UTAUT/UTAUT2 as

the reference models to conceptualize the individual technology adoption and use by identifying new contexts to refine and theorize the current context factors.

The relevant literature has greatly discussed the importance of consumers' trust in shaping their intentions towards adopting digital technologies (Lóska & Uotila, 2023; Wu et al., 2024; Zhang et al., 2022). Perceived risk (PR) and the assurance of security had also been viewed as a vital attribute having an influence on the customer's perception of any innovation such as internet banking technologies (Alalwan et al., 2018; Gupta et al., 2017; Wang et al., 2023). Likewise, scholars have identified the importance of consumer's green/environmental concerns in explaining their perceptions regarding adoption and usage of products & services (Chen & Chang, 2012; Yip & Bocken, 2018). On this note, Yip & Bocken (2018) have scrutinized the customers' receptiveness towards the sustainable business models undertaken by the banks and stated that one of the most welcomed sustainable business prototypes by the bank customers was the substitution of processes with digital processes along with other archetypes such as the adoption of stewardship role and encouraging efficiency (Chen, 2024; Shang & Niu, 2023).

The purpose of current investigation here is to study the behavioural intention (BI) to adopt digital-only banks in the Indian context, based on users' adoption experiences with digital payment systems. The BI can be termed as "*an individual's readiness to undertake or perform a specific behaviour*" (Venkatesh et al., 2003). In the present context, it is the customers' readiness to use digital-only banks for making transactions. The extant literature has concluded that BI has a highly significant role in shaping the actual usage as well as the intention to adopt a technology or system (Venkatesh et al., 2003a, 2012). The present research included all the variables of UTAUT2, except habit. The construct habit is not added to the model since digital payments are relatively new to Indian consumers and these services have not gained widespread adoption and use, for the consumers to be habitual of using them.

The exclusion of this construct is aligned with some of the other studies focused on developing countries (Alalwan et al., 2017b; Oliveira et al., 2016). Figure 1 represents the conceptual model developed.

3.1 Performance Expectancy (PE)

PE can be demarcated as "*the degree of an individual's belief regarding improvement in his/her job performance by using the system*" (Venkatesh et al., 2003). The PE can be operationalized in conjunction to the PU by TAM, and the relative advantage in DoI theory, and expectations of outcomes propounded in the social cognitive theory (SCT) (Venkatesh et al., 2003). It conceptualizes that if the consumer finds digital payment services useful, they will be more prepared to adopt them. Kala Kamdjoug et al. (2021) termed this variable as utilitarian expectation. Prior research has found an affirmative association of PE with attitude and intention to adopt various digital financial platforms (Baabdullah et al., 2019; Kala Kamdjoug et al., 2021; Upadhyay et al., 2022). Moreover, research shows if an individual finds a technology as useful, he/she would have greater trust in that (Chawla & Joshi, 2019). Consequently, the study frames following hypothesis:

H_1: PE positively influences customer's: (a) intention to adopt digital-only banks, (b) attitude towards digital-only banks, (c) trust in digital-only banks.

3.2 Effort Expectancy (EE)

EE is conceptualized by Venkatesh et al. (2003) as "*the degree of ease/comfort associated with using a system*". To put differently, it can be referred to as the perception of the users regarding the ease and effort-free learning to use and using a system. Since using digital payment services requires certain knowledge and skills, the degree of effort expectancy could influence the user's intention towards adoption and use (Davis et al., 1989; Vimalkumar et al., 2021). The expectation of the effortless use of technology can influence the expectation of improvement in job performance (Luarn & Lin, 2005). Several previous studies have

established a noteworthy association between the perception of EE and BI (Alalwan et al., 2017). A positive relationship between EE and PE is underscored in the literature (Bommer et al., 2022). In addition, if an individual finds using a system easy to use, he/she would perceive it as enjoyable while using (Butt et al., 2024), as argued by Rodrigues et al., (2016). Therefore, the study outlines the following hypotheses:

H_2: EE positively influences: (a) customer's intention to adopt digital-only banks, (b) PE of digital-only banks, (c) HM to use digital-only banks.

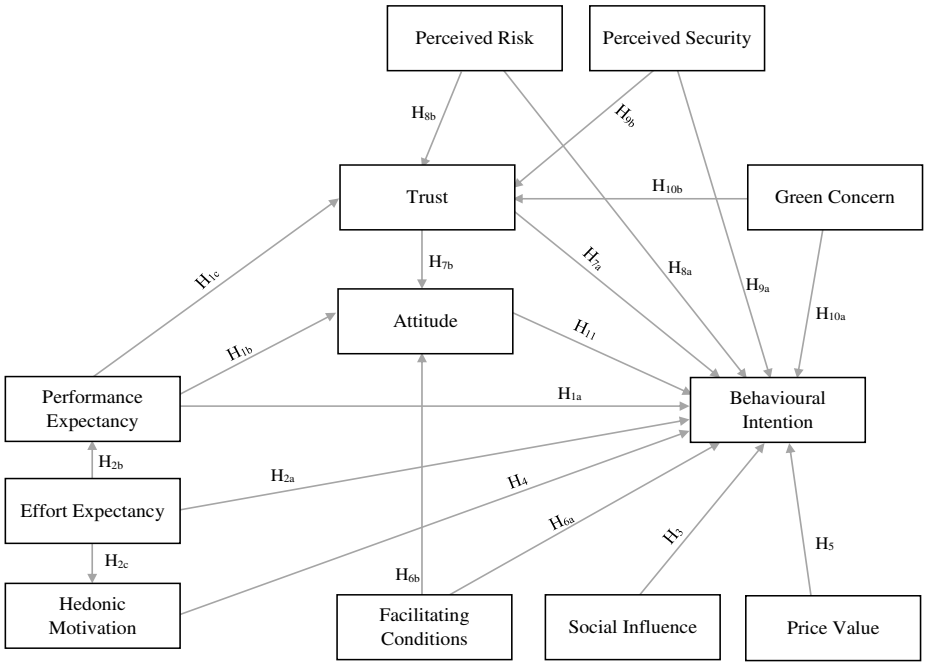


Figure 1: Research Model

3.3 Social Influence (SI)

SI can be referred to as "*the perception of consumers/users regarding the opinion of their significant others in favour of using a particular system*" (Venkatesh et al., 2012). The construct SI includes the social pressures and various social mechanisms that help individuals to formulate perceptions regarding the usage of technology. The subjective norms from TRA theory are similar to SI. Due to the element of risk involved in digital payments, the intentions of potential users are affected by the opinions from their social surrounding (Alalwan et al., 2018). The behaviour of people is highly affected by their social groups such

as their peer group, family, friends, and colleagues (Andespa et al., 2024; Khan, 2022). As such, SI is expected to influence potential consumers' preferences and behaviour. Given the evidence on the positive relationship of SI and BI in the mobile and digital services context so far (Giovanis et al., 2018; Khan, 2022; Liu et al., 2019), the study proposes following hypothesis:

H_3: SI positively influences customer's intention to adopt digital-only banks.

3.4 Hedonic Motivation (HM)

Venkatesh et al. (2012) incorporated additional HM as a crucial variable in the model. Accordingly, HM is termed as "*the element of fun, joy or pleasure in using a particular technology or system*". Earlier conceptualized as perceived enjoyment, it is considered to provide an intrinsic stimulus for using a new technology (Davis et al., 1992). In the consumers' context, it has also been recorded as a significant determining factor of adoption and consequent use of technology (Butt et al, 2024). Studies have concluded a strong impact of HM on the usage intention of a system (Schmitz et al., 2022) and particularly in case of digital and mobile financial service avenues (Baabdullah et al., 2019; Bommer et al., 2022; Rodrigues et al., 2016). Researchers are increasingly emphasizing on the element of enjoyment and fun as important factor affecting adoption of innovative technologies by the users (Butt et al., 2024; Kala Kamdjoug et al., 2021). Based on evidence on such a relationship, the following hypothesis has been proposed:

H_4: Hedonic Motivation positively influences customer's intention to adopt digital-only banks.

3.5 Price Value (PV)

The UTAUT model was primarily propounded to study adoption in organizational context and the utilitarian value was emphasized for the organizational users of technology. Venkatesh et al. (2012) extended this model to augment its applicability in the consumer

context by including price value (PV) since the consumers must pay the financial cost for using a technology. The consumer decisions are based on the monetary cost, perceived pain for paying cash or the price they must pay for purchasing or using a product or service in addition to other factors (Parks-Stamm & Flinner, 2024). The price value in terms of technology use is defined as "*the consumers' perceptive trade-off between the monetary cost involved and the perceived benefits of using the applications*" (Dodds et al., 1991). When the payoffs gained out of using a technology/system are perceived to be higher as compared to the financial cost involved, the PV would be positive and will have a favourable influence on customer's intention (Tamilmani et al., 2021; Venkatesh et al., 2012). Empirical support regarding the positive association of price value and intention has been found in the literature (Baabdullah et al., 2019; Khan, 2022). Henceforth, the following hypothesis is outlined:

H_5: PV positively influences customer's intention to adopt digital-only banks.

3.6 Facilitating Conditions (FC)

FC can be termed as "*the degree of an individual's belief regarding the existence of required organizational and technical infrastructure for using a system*" (Venkatesh et al., 2003a). In the context of digital payment services, it includes the required knowledge, skills, and resources such as mobile phones as well as the help facility by their financial service provider. There is a direct association between the accessibility to infrastructure and adoption of digital financial platforms as easy availability of the supporting resources for using a technology eliminates the hindrances in wide-ranging adoption (Butt et al., 2024; Upadhyay et al., 2022). Thereby, the customers would be motivated to adopt digital payments if they have all the necessary support to use (Upadhyay et al., 2022; Xu et al., 2024). The important role of facilitating conditions in shaping the attitude and intention has been stressed in several relevant studies in the field of digital payment systems (Bommer et al., 2022; Chawla & Joshi, 2019). Consequently, the study frames the following hypothesis:

H_6: FC positively influence customer's: (a) intention to adopt digital-only banks, (b) attitude towards digital-only banks.

3.7 Trust

Trust is conceptualized as "*the state of a person comprising the willingness to accept the vulnerability of the other party's behaviour and intentions based on the feeling of assurance about the other party, i.e., the trusted party*" (Gefen et al., 2003; Zhang et al., 2022). Several researchers had stressed the significant role of trust in explaining the behaviour related to acceptance towards an innovative or newly introduced technology or system (Xu et al., 2024). The initial trust is of paramount importance while adopting and accepting an innovative technology/system. Trust factor has often been spotted as one of the central predecessors to customer's attitude towards digital financial services such as digital payments and mobile banking services (Bommer et al., 2022; Lin, 2011; Parks-Stamm & Flinner, 2024). Evidence in the extant literature indicates trust as a driver of intentions towards adopting such innovative technologies (Alalwan et al., 2018; Vimalkumar et al., 2021; Wu et al., 2024). Therefore, the following hypothesis is formulated:

H_7: Trust positively influences customer's: (a) intention to adopt digital-only banks, (b) attitude towards digital-only banks.

3.8 Perceived Risk (PR) and Perceived Security (PS)

Perceived risk has been viewed as a vital attribute having an influence on the customer's perception of these technologies such as mobile banking applications and digital payments (Alalwan et al., 2018; Chauhan, 2024). Any kind of online platforms such as online shopping or online banking involves risk. That risk may be associated with the chance of fraud, losing bank debit card password, unauthorized access to accounts, and the privacy risk. The financial service providers need to build and maintain customer's trust in their digital services as such services involve high chances of risks prevailing in the digital marketplace

environments in comparison to other financial avenues (Windasari et al., 2022; Yuan et al., 2022; Wu et al., 2024). The perceived risk has been recorded as a determinant of trust along with negative and significant association (Liebana-Cabanillas et al., 2013).

Since there are high amounts of risks involved in electronic landscape, the researchers can not overlook the perception of security by the users/consumers (Chauhan, 2024; Trivedi et al., 2022; Zhang et al., 2022). The security concerns can be viewed as important factor that build adoption intention for a system (Parks-Stamm & Flinner, 2024; Schmitz et al., 2022; Vimalkumar et al., 2021). Gupta et al., (2017) established the security concerns amongst the major barrier in the widespread acceptance of mobile banking services. The lower risk levels associated with using a system leads to more favourable attitude and intention (Xu et al., 2024). To put differently, if customers perceive using digital payments as secure, they will have greater trust in these systems (Vimalkumar et al., 2021). Accordingly, this research frames following hypotheses:

H_8: Perceived risk negatively influences customer's: (a) intention to adopt digital-only banks, (b) trust in digital-only banks.

H_9: Perceived security (PS) positively influences customer's: (a) intention to adopt digital-only banks, (b) trust in digital-only banks.

3.9 Green Concern (GC)

The green concern can be termed as "*an individual's knowledge and consciousness associated to purchase or usage of a specific product or service and the awareness of environmental issues*" (Yu et al., 2017). Melville (2010) has suggested incorporating the elements based on environmentally sustainable beliefs of the users in addition to their perceptions regarding personal efficiency, which would have a vital role in defining their intentions to use a technology. Chen & Chang (2012) have argued that it embraces the perception for purchasing a product or service that will have potential positive effects or

lesser harm to the environmental sustainability. Since the information and communication (ICT) can play an important role towards environmental protection (Jenkin et al., 2011; Papagiannidis & Marikyan, 2022; Xu et al., 2024), the digital payment platforms could help save paper and energy usage and wastage (Chen, 2024) and promote green behaviour. Importantly, the neo-banking as complete digital banking would be a great contribution to environmental protection. Researchers have opined that the perceptions of favourable environmental value of consuming and using a product or service will positively influence the consumers' intentions (Chen & Chang, 2012; Kumar et al., 2017). In the digital financial services context, people would be more prepared to use such services if they find them of high environmental value, i.e., have lesser harm to the environment. Moreover, the green concern and perceived green value also improve the level of the consumer's trust (Jørgensen et al., 2022; Taneja & Ali, 2021). Melville (2010) also stressed that knowing how the pre-existing beliefs about the impact of using a particular IT/IS on the environment would influence the adoption would be of great insight. Accordingly, the following propositions are outlined:

H_{10}: Green concern positively influences customer's: (a) intention to adopt digital-only banks, (b) trust in digital-only banks.

3.10 Attitude

The previous theories, i.e., theory of reasoned action (TRA), theory of planned behaviour (TPB), and TAM have emphasized the significance of users' attitude towards technology in shaping their intention and actual usage (Kala Kamdjoug et al., 2021). The term "attitude" is defined as "*an individual's positive or negative affective evaluation of performing a specific behaviour*" (Ajzen & Fishbein, 1980). Researchers have tested and located a favourable and direct association between the consumer's attitude and BI to adopt mobile banking (Lin, 2011). Earlier researchers also argued this positive linkage between the two constructs

(Andespa et al., 2024; Chawla & Joshi, 2019). Alsajjan & Dennis (2010) had suggested that the attitude of customers is central to influencing usage of internet banking technologies. In a recent study undertaken in the context of mobile payment adoption, Upadhyay et al. (2022) have stated a significant association between attitude and BI. Hence, the following hypothesis has been outlined:

H_{11}: Attitude positively influences customer's intention to adopt digital-only banks.

4. Research Methodology

4.1 Background of the Study

India has been reportedly the fastest player in the smartphone market growth in the Asia-pacific region because of the availability of mobile phones at lower cost and mobile tariffs (Chawla & Joshi, 2019). Thereby, India offers a huge potential for the wide-ranging growth of digital payment avenues. With the augmented acceptance of various existing digital platforms in the financial services industry, the evolution and development of Neo-banking/digital-only banking would be fast-tracked. Consequently, the study was undertaken in the Indian context.

4.2 Measurement

For investigating the research question, the study adopted an empirical approach based on survey method. The conceptual framework was developed using the synthesis of literature and expert's opinion. For testing the conceptual model, a survey instrument, i.e., the structured questionnaire was developed. The study includes an extensive review of literature around the theories of technology adoption and digital and sustainable finance. A total of 50 scale items were framed and used for measuring the focal constructs under consideration. The items for the constructs, i.e., attitude; EE, PE, FC, SI (Venkatesh et al., 2003), HM, PV, and BI were adapted from Ajzen (1991); Davis et al. (1989); Thompson et al. (1991); Venkatesh

et al. (2003a, 2012b). Five items are adapted from Gefen et al. (2003); Lee & Turban (2001); and Su & Han (2002) to measure trust. The items concerning perceived risk were taken from Aldas-Manzano et al. (2011); O'cass & Fenech (2003) and then minor amendments were performed according to the current study. Perceived security is operationalized as the perception of safeguarding of information swapped during the digital transactions from the risks and threats to the integrity, authorization and authentication (Shumaila et al., 2010). The four-item scale for perceived security has been adapted from Flavian & Guinaliu (2006); O'Cass & Fenech (2003); Shumaila et al., (2010).

The novel construct, i.e. green concern is operationalized as the consumer's environmental awareness and consciousness of the potential impact of using a particular technology or system (Biswas & Roy, 2015). The green concern is assessed using four measurement items adapted from Kumar et al. (2017); Melville (2010) and Ramayah et al. (2012). The responses were measured on an interval level using a 5-point Likert scale. The constructs were measured using a scale ranging from 'strongly disagree (SD)', i.e., 1 to 'strongly agree (SA)', i.e., 5. The questionnaire was designed in the English language. To collect data from the general people or the less qualified participants, some of the questionnaires were translated to Hindi as per the recommendations of Brislin (1970). The questionnaire had two sections, with first section comprising of the demographic variables.

4.3 Data Collection

Using the empirical approach, the data were gathered using a pre-tested questionnaire. The questionnaire comprised of two sections: (a) The variables to analyse sample profile, and (b) the items measuring the core constructs. In the cover letter, the digital payment systems/services were described to the participants as the financial transactions such as deposits, withdrawals, account enquiries, and everyday bank transactions (bank balance, mini-statement requests, etc.), fund transfer, mobile banking applications, digital wallets,

credit/debit cards, and point-of-sale terminals. And the digital-only banks were defined as the provision of financial services with all-digital platforms with no physical branches. The questionnaire was first pilot tested on a sample of 50 respondents to ensure its reliability and validity. The scale was also assessed by seven experts, i.e., four academicians and three professionals from the financial services industry in order to ensure the scale for its content validity. Preliminary analyses depict the scales as reliable and valid, with three of the statements reworded and two added based on the experts' opinion to improve clarity and understanding.

Following the pre-test, the questionnaires were distributed using both online and physical surveys, among the users who were using at least two platforms of the aforementioned ones. To avoid any kind of bias, the survey was administered to customers having basic awareness and knowledge of digital payment systems. The questionnaire was disbursed to a sample of 700 customers using purposive sampling technique. For online survey, 500 questionnaires were distributed using Google Forms, and 200 physical forms were disbursed amongst the potential respondents over a period of three months. Since the study is based on understanding the adoption of a novel way of banking, purposive selection of sample was required so that only respondents who have: (a) some prior experience of using digital payment systems; and (b) basic awareness of sustainable/green aspects of banking, should be approached for data collection. The web questionnaires were distributed using social networking sites and physical survey was conducted using branch intercept method. In total, 517 participants returned the questionnaire after marking their responses. The response rate was 62.42%, with 80 incomplete responses, leaving 437 valid responses for final testing. The detailed depiction of the distribution of the demographic variables is shown in Table 1 [as given in supplemental material (Online Appendix)].

Firstly, the early and late responses were examined for non-response bias and the comparison

did not indicate any differences which confirmed the unlikeliness of non-response bias in the dataset (Armstrong & Overton, 1977). The similar comparison was performed for online and offline responses and no significant difference was found there. Further, to test for the common method bias in the current dataset, the "Harman's single factor test" (Harman, 1976) was conducted. In this respect, the exploratory factor analysis was run using 12 study variables in SPSS 21.0. The unrotated solution depicted that the first factor accounted for 23.67% variance far less than 50% (Podsakoff et al., 2003), thereby, no single factor appeared in the present dataset. Hence, the data was found to be free of common method bias.

5. Discussion of Results

The partial least square-based structural equation modelling, i.e., PLS-SEM was employed to test the conceptual model and the respective hypotheses. The analytical approach followed two-step method of SEM (Anderson & Gerbing, 1988). To reach a more complete analysis of the interrelationships among the variables, the PLS-based SEM facilitates the simultaneous estimation of inner and outer model as an advantage over the covariance-based SEM (Marcoulides & Saunders, 2006). Researchers suggest that PLS-SEM is effective in cases where there is less prior knowledge available on the topic under consideration (Hair et al., 2016). The study also focuses on a novel topic of digital-only (neo) banking adoption intention. Further, the dataset satisfied the sample size requirements for applying PLS-SEM as it requires sample size at least ten times the higher frequency of paths leading to a particular variable in the inner model. The sample size in current study is 437, i.e., greater than the minimum requirement for sample size of 110 (Hair et al., 2016). Moreover, this method was used because it does not demand any distributional assumptions to test the model where covariance-based SEM requires data to be normally distributed. The data were analysed using SmartPLS 2.0.

5.1 Analysis of the Outer Model

For testing the outer model, the validity and reliability of the scale were examined. For measuring the internal consistency, all the α-values as well as CR scores were found to be exceeding 0.7 (Nunnally, 1978) and (Carmines & Zeller, 1979). The minimum value for CR in our case is 0.87, hence depicting internal consistency. The factor loadings were also greater than 0.6 (Hair et al., 2010) showing sound indicator reliability. To confirm the validity, the convergent as well as discriminant validity was assessed. With satisfactory values of CR, the AVE values for all the constructs were exceeding 0.5 (Fornell & Larcker, 1981). The statistical results of the outer model are depicted in Table 2 [as given in supplemental material (Online Appendix)].

The discriminant validity was confirmed following two-fold criteria: (a) comparing the AVE square root for each construct to the respective correlation coefficients with other constructs, (b) based on cross-loadings. The AVE square roots for each construct exceeded the later for all the other constructs (Fornell & Larcker, 1981) as shown in Table 3 [as given in supplemental material (Online Appendix)]. Also, the indicator loadings on their own constructs were higher than the cross-loadings on other variables in the model. Therefore, both the conditions of discriminant validity were satisfied in the data.

5.2 Analysis of the Inner Model

Next, the inner model, i.e., the structural model was specified and tested using a bootstrapping technique with 5000 resamples (Hair et al., 2016). The results of the path analysis are given in Table 4 & Figure 2. Out of all the hypotheses framed, most of them were supported in the present study. The outcomes revealed that behavioural intention to adopt digital payment systems was significantly influenced by PE, EE, HM, SI, perceived security, attitude and green concern, where perceived risk exerts significant negative influence on behavioural intention, hence supporting H_{1a}, H_{2a}, H_4, H_3, H_{7a}, H_{9b}, H_{11}, H_{10a}, and

H_{8a} respectively.

Table 4: Summary of Inner model Results

Hypothesis	Relationship	β-values	Standard Error	t-Statistics (|O/STERR|)	Result
H_{1a}	PE → BI	0.11	0.06	2.04*	Supported
H_{1b}	PE → AT	0.27	0.05	5.55**	Supported
H_{1c}	PE → TR	0.15	0.05	2.83**	Supported
H_{2a}	EE → BI	0.11	0.05	2.35*	Supported
H_{2b}	EE → PE	0.42	0.04	10.47**	Supported
H_{2c}	EE → HM	0.40	0.04	9.47**	Supported
H_{3}	SI → BI	0.10	0.05	2.01*	Supported
H_{4}	HM → BI	0.12	0.05	2.17*	Supported
H_{5}	PV → BI	-0.04	0.04	1.15	Rejected
H_{6a}	FC → BI	-0.05	0.04	1.34	Rejected
H_{6b}	FC → AT	0.02	0.05	0.40	Rejected
H_{7a}	TR → BI	0.31	0.06	5.08**	Supported
H_{7b}	TR → AT	0.19	0.05	3.98**	Supported
H_{8a}	PR → BI	-0.13	0.03	3.84**	Supported
H_{8b}	PR → TR	-0.16	0.04	4.14**	Supported
H_{9a}	PS → BI	0.11	0.05	2.42*	Supported
H_{9b}	PS → TR	0.29	0.05	5.90**	Supported
H_{10a}	GC → BI	0.12	0.04	3.08**	Supported
H_{10b}	GC → TR	0.21	0.04	4.73**	Supported
H_{11}	AT → BI	0.13	0.04	2.95**	Supported

**$p < 0.01$, *$p < 0.05$.

EE has a significant impact on PE as well as HM which supported H_{2b} and H_{2c} respectively. Trust and performance expectancy were found to influence attitude significantly which in turn was recorded as significant predictor of behavioural intention, thus confirmed H_{7b} and H_{1b}. The perceived risk, perceived security and green concern were documented as significant antecedent to trust, thereby H_{8b}, H_{9b}, H_{10b} were supported. PR has been found to have a negative association to the trust. Moreover, performance expectancy was found to influence trust significantly which empirically supported H_{1c}. Yet, the study could not establish facilitating conditions as a determinant of attitude and behavioural intention, and price value as a predecessor to behavioural intention in this respect which rejected H_5, H_{6a}, and H_{6b}. The model presented by this research predict around 53% of the total variance explained in the BI to adopt digital-only banks.

Pperformance expectancy as a direct antecedent to behavioural intention confers a greater likelihood of customers adopting digital-only banks if they find it advantageous and useful in life, in congruence with prior researchers (Alalwan et al., 2017a, 2018; Chawla & Joshi, 2019). The performance expectancy has been found to be significantly influencing attitude towards digital-only banks. Several researchers have argued that the perception of the usefulness of a digital payment service will help to formulate favourable consumer's attitude which in turn significantly determine the behavioural intention (Zhang et al., 2018). Further, performance expectancy as a significant determinant of trust entails that consumer's trust will be shaped if he/she experiences performance gains out of using digital banking. Prior researchers have demonstrated this relationship of performance expectancy and trust for digital payment and banking services (Chawla & Joshi, 2019).

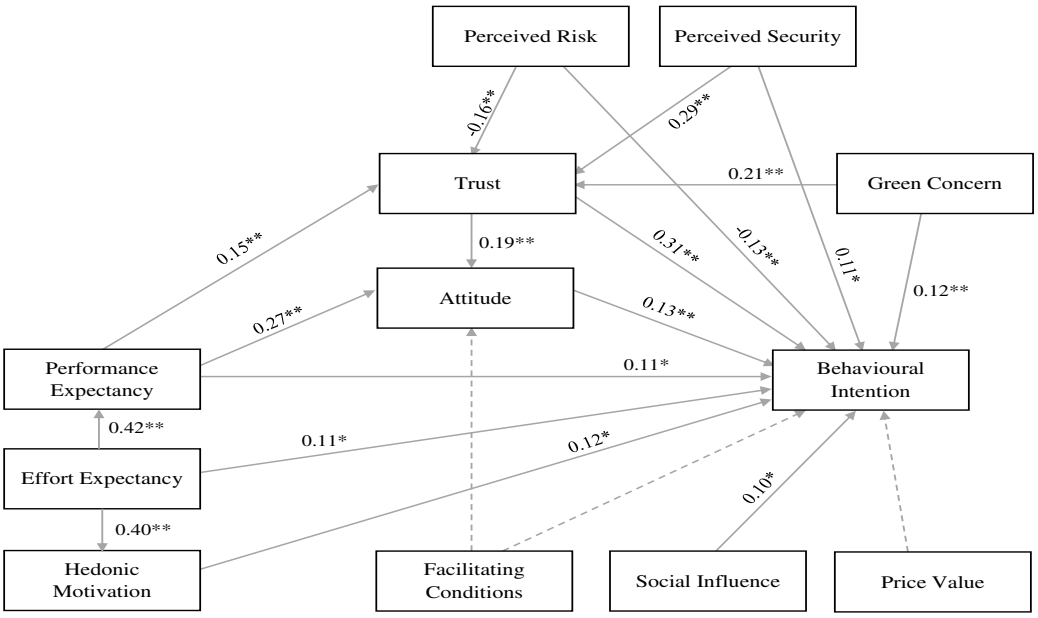
A significant association of effort expectancy and behavioural intention implies that the consumers will prefer to use these services if they consider using them as easier and less difficult to operate. The positive association between the two constructs have also been

noticed by (Alalwan et al., 2017a; Luarn & Lin, 2005). In addition, the perception of effort expectancy was also highlighted as a direct predictor of performance expectancy and hedonic motivation. This means that the consumers who are more concerned about the level of difficulty associated with making digital payments would consider them as more advantageous (Davis et al., 1989), and he/she would enjoy using digital services for making the transactions. The linkage between effort expectancy and performance expectancy established by this research is in line with prior studies (Luarn & Lin, 2005; Venkatesh et al., 2003). The significant impact of effort expectancy on the hedonic motivation has also been argued by several relevant studies (Davis et al., 1989; Rodrigues et al., 2016).

A significant association between social influence and behavioural intention reflects that the consumers are more inclined to the expectations and recommendations of their significant others in framing the intention to adopt digital payment systems. Several researchers have maintained that the opinions of social group have a notable bearing on their intention to adopt digital financial platforms (Giovanis et al., 2018). Hedonic motivation was found as an important factor influencing behavioural intention which demonstrates the significance of perception of fun, joy, pleasure and enjoyment in using digital payment systems in shaping behavioural intention. Results pertaining to hedonic motivation are in line with Rodrigues et al. (2016); and Baabdullah et al. (2019). The results established trust as the strongest antecedent to the intention to adopt digital-only banks. It implies that the level of trust is of foremost value in shaping the intention to adopt digital banking. The consumers who have more trust in such services will be more willing to adopt digital-only banks, as also highlighted by other researchers (Alalwan et al., 2017; Montazemi & Qahri-Saremi, 2015). Moreover, a significant association between trust and attitude implies that consumers will form a favourable attitude if they have more trust in these services; this relationship is supported by Lin (2011). And the attitude is further found to be a significant determinant of

behavioural intention. To put differently, the consumers with a favourable attitude towards digital payment services are more inclined to adopt these services; and this finding is aligned with (Chawla & Joshi, 2019; Davis et al., 1989).

The study has found a negative but significant linkage between the perception of risk and behavioural intention which infers that consumers with higher degrees of uncertainty and chances of loss while using digital payment services are less likely to adopt digital-only banks. Several studies have established similar relationship of risk and intention (Alalwan et al., 2018; Liébana-cabanillas et al., 2014). Perceived security was also found to wield a direct favourable effect on behavioural intention which implies that the more a consumer will feel safe and secure, the more likely he/she will be to adopt these services, as supported by (Arvidsson, 2014). Nevertheless, both the constructs, i.e., PR and PS are observed as predecessors to trust. Several prior studies too have stated this connection of security and trust in the digital financial services context (Chawla & Joshi, 2019; Shumaila et al.2010). Similarly, risk perception was found as having a negative impact on trust, in congruence with Liébana-cabanillas et al., (2014) and Shumaila et al. (2010).



$^{**}p < 0.01$, $^{*}p < 0.05$

Figure 2: Inner Model Results (Path Coefficients & Significance)

The study provided empirical evidence for the relationship of green concern and adoption intention which postulates that the customers who are more mindful and aware of various environmental issues and perceive that using digital systems would help protect environmental well-being, would be more likely to adopt digital-only banks. The results also reflected green concern as a significant predecessor to trust which exhibits that consumer's trust is formulated when they regard digital payment services as having green or environmental value, this finding is supported by Chen & Chang (2012), Chen (2010) and Taneja & Ali (2021). Prior literature has depicted such an association of green concern with the purchase and behavioural intentions (Ting et al., 2019; Yu et al., 2017).

6. Conclusion, Implications, Limitations, and Future Research

6.1 Conclusion

The digital-only banks have enormous potential in emerging economies like India. With the potential transition of traditional banking activities to neo-banking methods, the current study realized the necessity to examine the factors that can build the intention to adopt digital-only banks. Based on the review of literature, we introduced an innovative research model by identifying relevant factors, i.e., attitude, trust, risk, security and green concern combined with the most comprehensive UTAUT2 model for technology acceptance. The UTAUT2 constructs were able to significantly predict customers' intention to adopt digital-only banking systems. Yet, facilitating conditions and price value did not exhibit a significant association with the intention to adopt these services. All the variables examined in addition to UTAUT2 constructs were established as significant predictors of behavioural intention. The study is perhaps the first to study customers' intention to adopt digital-only banks and another novel contribution of this research lies in including consumer's green concern with respect to the intention. The research paved the way for including environmental factors to

the models predicting the adoption of digital technologies. Therefore, the outcomes of this research will contribute to the emerging literature in several ways. First, this research is the new to examine the consumers' intention to adopt digital-only banks in a developing economy context. Second, it adds to the digital financial services literature by providing a comprehensive model to understand the intentions to adopt digital-only banks to assist in the development of digital-only banks and neo-banks. Third, this research paves the way for including green concern as an important indicator along with established technology adoption theories for determining consumer's adoption of innovative digital services. Fourth, it highlights the importance of including trust, risk, security, and attitude that are not otherwise incorporated in the latest models for measuring adoption of digital financial services.

6.2 Implications

6.2.1 Implications for Theory

The study adds significantly to the extant body of knowledge on digital financial services and FinTech space in a number of ways. To capture the most significant determining factors of customers' intention to adopt the emerging neo-banks/digital-only banks, the study has chosen a very relevant theoretical model, i.e., UTAUT2 which was established to examine technology acceptance in consumer's context. By applying this theory in a novel context of digital-only banking adoption, this research has validated the applicability of this model in a developing nation, i.e., India and in the context of digital-only banks. The current paper identified the crucial factors influencing adoption in addition to those proposed in UTAUT2, i.e., attitude, trust, perceived risk, perceived security and green concern. All the five constructs included to the standardized model were found to be significant in shaping consumer's adoption of digital-only banks which reflects significant contribution to the applicability of this model. Further, this research included a novel construct, i.e., green concern to the conceptual model explaining adoption from the lens of the environmental

value of digital-only banks. Melville (2010) have suggested that including social and environmental factors would enrich the technology acceptance models in predicting the intention to use a system. To best known, none of the previous studies in the literature has considered the significance of consumer's green or environmental beliefs while using a technology or system. Therefore, this research paves the way of extending UTAUT2 by including contextual factors and green/environmental aspects to examine the adoption and acceptance of digital and sustainable technology avenues.

6.2.2 Implications for Practice

The present research offers profound insights to the financial services and FinTech industry by highlighting the crucial factors that will lead to the adoption of digital-only banks. For a developing nation like India, the all-inclusive adoption of digital initiatives taken by banks is indispensable for the growth of the banking industry. Moreover, as the banking picture is moving from digital banking to all-digital banking, i.e., Neo-banking across the world, it becomes vital for the Indian banking industry to achieve full-fledged usage of digital payment platforms and systems. The banks or financial service providers must consider the factors highlighted by the present research while the delivery of existing or newly developed digital services for making transactions. In an endeavour to motivate the consumers for adopting digital-only services, the managers should ensure that using these services is free of effort by providing all the required instructions and help facilities for effort-free use. As conferred from the current results, these services must be available to the consumers as and when required without any technical hindrances or failures. Drawing upon the outcomes of current study, managers can formulate appropriate marketing strategies in the current scenario of rapidly changing consumer behaviour landscape.

Importantly, the consumers must be reassured about the security features of these services with the help of live demonstrations, etc. so that they don't fear of any chances of loss or

fraud while undertaking transactions using digital systems. The findings of this research indicate that the managers need to build trust in the consumer's minds that their service providers would safeguard their privacy and security when they are required to provide personal information for making digital payments. Besides, the banks must frame effective communication strategies to inform the consumers regarding the environmental value of using digital payment services as compared to their traditional alternatives, as the consumers are becoming highly aware and concerned about environmental issues (Taufique & Vaithianathan, 2018). The managers need to frame influential marketing strategies through various channels (Aysan et al., 2024) such as social media (Alalwan et al., 2017a; Wang & McCarthy, 2020) while considering the important variables leading to the adoption of these services. The consumers are also required to be made aware of the neo-banking and its potential benefits so that the growth and development of neo-banks could be hastened.

6.3 Limitations and Future Research

The current study has many limitations which might offer meaningful avenues for future research. This research attempted to include the important determinants of digital-only banks, however, there are several other factors such as culture, financial literacy, and public image that can influence the adoption of such avenues which need to be explored by the potential researchers. The study considered digital payment adoption as a pathway towards neo-banking, the future research can undertake to examine the consumer's awareness regarding neo-banks, their working and their potential benefits for consumers. By systematically adapting UTAUT2 model with significant external variables, the present research model can be retested, reapplied and revalidated to examine the adoption of different technologies, i.e., m-shopping, e-government services, and e-ticket booking, etc., in different contexts, i.e. commerce, railways, tourism, and hospitality, etc. and in different countries.

References

Ajambo, E. (2023). Fintech and digital finance for financial inclusion. *Policy Brief*. United Nations Economist Network, United Nations. Retrieved 4th February 2024 from https://www.un.org/sites/un2.un.org/files/fintech4_14_march_2023.pdf

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, *37*(3), 99–110.

Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Algharabat, R. (2018). Examining factors influencing Jordanian customers' intentions and adoption of internet banking: Extending UTAUT2 with risk. *Journal of Retailing and Consumer Services*, *40*, 125-138.

Aldas-Manzano, J., Ruiz-Mafe, C., Sanz-Blas, S., & Lassala-Navarré, C. (2011). Internet banking loyalty: evaluating the role of trust, satisfaction, perceived risk and frequency of use. *The Service Industries Journal*, *31*(7), 1165–1190.

Alsajjan, B., & Dennis, C. (2010). Internet banking acceptance model: Cross-market examination. *Journal of Business Research*, *63*(9–10), 957–963.

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, *103*(3), 411–423.

Andespa, R., Yeni, Y. H., Fernando, Y., & Sari, D. K. (2024). A systematic review of customer Sharia compliance behaviour in Islamic banks: determinants and behavioural intention. *Journal of Islamic Marketing*, *15*(4), 1013-1034.

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, *14*(3), 396–402.

Arvidsson, N. (2014). Consumer attitudes on mobile payment services - results from a proof of concept test. *International Journal of Bank Marketing*, *32*(2), 150–170.

Aysan, A. F., Gozgor, G., & Nanaeva, Z. (2024). Technological perspectives of Metaverse for financial service providers. *Technological Forecasting and Social Change*, *202*, 123323.

Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. (2019). Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, *44*.

Biswas, A., & Roy, M. (2015). Leveraging factors for sustained green consumption behavior based on consumption value perceptions: Testing the structural model. *Journal of Cleaner Production*, *95*, 332–340.

Bommer, W. H., Rana, S., & Milevoj, E. (2022). A meta-analysis of eWallet adoption using the UTAUT model. *International Journal of Bank Marketing*, *40*(4), 791-819.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185–216.

Butt, A.H., Ahmad, H. & Muzaffar, A. (2024). Augmented reality is the new digital banking – AR brand experience impact on brand loyalty. *International Journal of Bank Marketing, 42*(2), 156-182.

Carmines, E. G., & Zeller, R. A. (1979). Reliability and validity assessment. Sage University Paper 17. Beverly Hills Sage Publications.

Chauhan, V. (2024). Understanding users' protective behavior and its suppressor effect on the perceived risk in M-wallet/banking use: An Indian urban-rural comparison. *Technological Forecasting and Social Change*, *201*, 123255.

Chawla, D., & Joshi, H. (2017). Consumer perspectives about mobile banking adoption in India – a cluster analysis. *International Journal of Bank Marketing*, *35*(4), 616–636.

Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India – An empirical study. *International Journal of Bank Marketing*, *37*(7), 1590–1618.

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics*, *93*(2), 307–319.

Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, *50*(3), 502–520.

Chen, Y. (2024). Cleaning Russian oil industry for energy resource exploration and industrial transformation towards zero carbon green recovery: Role of inclusive digital finance. *Resources Policy*, *88*, 104436.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, *35*(8), 982–1003.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace1. *Journal of Applied Social Psychology*, *22*(14), 1111–1132.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of Price, Brand, and Store Information on Buyers' Product Evaluations. *Journal of Marketing Research*, *28*(3), 307.

Dwivedi, Y. K., Hughes, L., Kar, A. K., Baabdullah, A. M., Grover, P., Abbas, R., … Wade, M. (2022). Climate change and COP26: Are digital technologies and information management part of the problem or the solution? An editorial reflection and call to action. *International Journal of Information Management, 63*, 102456.

El-Masri, M., Ali Tarhini, B., Tarhini, A., & El-Masri Mazenelmasri, M. (2017). Factors affecting the adoption of e-learning systems in Qatar and USA: Extending the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). *Educational Technology Research and Development*, *65*, 743–763.

Elheddad, M., Benjasak, C., Deljavan, R., Alharthi, M., & Almabrok, J. M. (2020). The effect of the Fourth Industrial Revolution on the environment: The relationship between electronic finance and pollution in OECD countries. *Technological Forecasting and Social Change*, 120485.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior : an introduction to theory and research*. Addison-Wesley Pub. Co.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50.

Frank, B. (2020). Artificial Intelligence-Enabled Environmental Sustainability of Products: Marketing Benefits and Their Variation by Consumer, Location, and Product Types. *Journal of Cleaner Production*, 125242.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and tam in online shopping: AN integrated model. *MIS Quarterly: Management Information Systems*, *27*(1), 51–90.

Giovanis, A., Assimakopoulos, C., & Sarmaniotis, C. (2019). Adoption of mobile self-service retail banking technologies: The role of technology, social, channel and personal factors. *International Journal of Retail & Distribution Management*, *47*(9), 894-914.

Kline, R. B. (2005). Principles and practice of structural equation modeling. Guilford Publications, 2nd ed.

Gupta, S., Yun, H., Xu, H., & Kim, H. W. (2017). An exploratory study on mobile banking adoption in Indian metropolitan and urban areas: a scenario-based experiment. *Information Technology for Development*, *23*(1), 127–152.

Hair, Joseph F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*, 2nd Ed.

Hair Jr., J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) Multivariate Data Analysis

A Global Perspective. 7th Edition, Pearson Education, Upper Saddle River.

Harman, H. H. (1976). *Modern factor analysis*. University of Chicago Press.

Ignat, B., & Chankov, S. (2020). Do e-commerce customers change their preferred last-mile delivery based on its sustainability impact? *International Journal of Logistics Management*, *31*(3), 521–548.

Jenkin, Tracy A., Webster, J., & McShane, L. (2011). An agenda for "Green" information technology and systems research. *Information and Organization*, *21*(1), 17–40.

Jørgensen, S., Pedersen, L. J. T., & Skard, S. (2022). How going green builds trusting beliefs. *Business Strategy and the Environment*, *31*(1), 297–311.

Kala Kamdjoug, J. R., Wamba-Taguimdje, S. L., Wamba, S. F., & Kake, I. B. e. (2021). Determining factors and impacts of the intention to adopt mobile banking app in Cameroon: Case of SARA by afriland First Bank. *Journal of Retailing and Consumer Services*, *61*.

Kimiagari, S., & Baei, F. (2022). Extending Intention to Use Electronic Services Based on the Human–Technology Interaction Approach and Social Cognition Theory: Emerging Market Case. *IEEE Transactions on Engineering Management*. DoI: 10.1109/TEM.2022.3147169.

Khan, I. U. (2022). How does culture influence digital banking? A comparative study based on the unified model. *Technology in Society*, *68*, 101822.

Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services*, *34*(August 2015), 1–9.

Laing, T., Upadhyay, A., Mohan, S., & Subramanian, N. (2019). Environmental improvement initiatives in the coal mining industry: maximisation of the triple bottom line. *Production Planning & Control*, *30*(5-6), 426-436.

Lee, M. K. O., & Turban, E. (2001). A Trust Model for Consumer Internet Shopping All use subject to JSTOR Terms and Conditions A Trust Model for Consumer Internet Shopping. *International Journal of Electronic Business Management*, *6*(1), 75–91.

Lekakos, G., Vlachos, P., & Koritos, C. (2014). Green is good but is usability better? Consumer reactions to environmental initiatives in e-banking services. *Ethics and Information Technology*, *16*(2).

Liébana-cabanillas, F., Sánchez-fernández, J., & Mu, F. (2014). International Journal of Information Management The moderating effect of experience in the adoption of mobile payment tools in Virtual Social Networks : The m-Payment Acceptance Model in Virtual Social Networks (MPAM-VSN), *34*, 151–166.

Lin, H. F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, *31*(3), 252–260.

Liu, Z., Ben, S., & Zhang, R. (2019). Factors affecting consumers' mobile payment behavior: a meta-analysis. *Electronic Commerce Research*, *19*(3), 575–601.

Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*, *21*(6), 873–891.

Marcoulides, G. A., & Saunders, C. (2006, June). PLS: A silver bullet? *MIS Quarterly: Management Information Systems*.

Martínez, P., & Rodríguez del Bosque, I. (2013). CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. *International Journal of Hospitality Management*, *35*, 89–99.

Montazemi, A. R., & Qahri-Saremi, H. (2015). Factors affecting adoption of online banking: A meta-analytic structural equation modeling study. *Information & Management*, *52*(2), 210–226.

Nunnally, J. C. (1978). Psychometric Theory (2nd ed.). New York McGraw-Hill.

O'cass, A., & Fenech, T. (2003). Web retailing adoption: exploring the nature of internet users Web retailing behaviour. *Journal of Retailing and Consumer services*, *10*(2), 81-94.

Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, *61*(2016), 404–414.

Palacios-González, M. M., & Chamorro-Mera, A. (2018). Analysis of the predictive variables of the intention to invest in a socially responsible manner. *Journal of Cleaner Production*, *196*, 469–477.

Papagiannidis, S., & Marikyan, D. (2022). Environmental sustainability: A technology acceptance perspective. *International Journal of Information Management*, *63*, 102445.

Parks-Stamm, E. J., & Flinner, S. M. (2024). Generational differences in payment transparency perceptions. *Journal of Retailing and Consumer Services*, *77*, 103691.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003, October). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*. Palgrave Macmillan.

Pousttchi, K., & Dehnert, M. (2018). Exploring the digitalization impact on consumer decision-making in retail banking. *Electronic Markets*, *28*(3), 265–286.

Lo Prete, A. (2022). Digital and financial literacy as determinants of digital payments and personal finance. *Economics Letters*, 110378.

Lóska, G., & Uotila, J. (2023). Digital Transformation in Corporate Banking: Toward a Blended Service Model. *California Management Review*, 00081256231207429.

Rana, N. P., Luthra, S., & Rao, H. R. (2019). Key challenges to digital financial services in emerging economies: the Indian context. *Information Technology and People*, *33*(1),

198–229.

Rodrigues, L. F., Oliveira, A., & Costa, C. J. (2016). Computers in Human Behavior Does ease-of-use contributes to the perception of enjoyment ? A case of gamification in e-banking. *Computers in Human Behavior*, *61*, 114–126.

Rodrigues, J. F., Ferreira, F. A., Pereira, L. F., Carayannis, E. G., & Ferreira, J. J. (2020). Banking digitalization:(Re) thinking strategies and trends using problem structuring methods. *IEEE Transactions on Engineering Management*, *69*(4), 1517-1531.

Rogers, E. M. (1995). *Diffusion of innovations*. Free Press.

Schmitz, A., Díaz-Martín, A. M., & Yagüe Guillén, M. J. (2022). Modifying UTAUT2 for a cross-country comparison of telemedicine adoption. *Computers in Human Behavior*, *130*, 107183. https://doi.org/10.1016/J.CHB.2022.107183

Shang, X., & Niu, H. (2023). Does the digital transformation of banks affect green credit?. *Finance Research Letters*, *58*, 104394.

Shumaila, Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: Theory of reasoned action, theory of planned behavior, or technology acceptance model? *Journal of Applied Social Psychology*, *40*(5), 1172–1202.

Tamilmani, K., Rana, N. P., & Dwivedi, Y. K. (2021). Consumer Acceptance and Use of Information Technology: A Meta-Analytic Evaluation of UTAUT2. *Information Systems Frontiers*, 1–19.

Taneja, S., & Ali, L. (2021). Determinants of customers' intentions towards environmentally sustainable banking: Testing the structural model. *Journal of Retailing and Consumer Services*, *59*, 102418.

Taufique, K. M. R., & Vaithianathan, S. (2018). A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of Theory of Planned Behavior. *Journal of Cleaner Production*, *183*, 46–55.

Ting, C. Te, Hsieh, C. M., Chang, H. P., & Chen, H. S. (2019). Environmental consciousness and green customer behavior: The moderating roles of incentive mechanisms. *Sustainability (Switzerland)*, *11*(3).

Trivedi, S. K., Patra, P., Srivastava, P. R., Kumar, A., & Ye, F. (2022). Exploring Factors Affecting Users' Behavioral Intention to Adopt Digital Technologies: The Mediating Effect of Social Influence. *IEEE Transactions on Engineering Management*. Early access. DoI: 10.1109/TEM.2022.3182361

Upadhyay, N., Upadhyay, S., Abed, S. S., & Dwivedi, Y. K. (2022). Consumer adoption of mobile payment services during COVID-19: Extending meta-UTAUT with perceived severity and self-efficacy. *International Journal of Bank Marketing*, *40*(5), 960-991.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, *27*(3), 425–478.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly: Management Information Systems*, *36*(1), 157–178.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2016). A I S ssociation for nformation ystems Unified Theory of Acceptance and Use of Technology: A Synthesis and the Road Ahead. *J Ournal*. Retrieved from http://ais.site-ym.com/?SeniorScholarBasket

Vimalkumar, M., Sharma, S. K., Singh, J. B., & Dwivedi, Y. K. (2021). 'Okay google, what about my privacy?': User's privacy perceptions and acceptance of voice based digital assistants. *Computers in Human Behavior*, *120*, 106763.

Wang, Z. A., Samuel, R. N., Chen, X. Q., Xu, B., & Huang, W. L. (2023). Central bank digital currencies: Consumer data-driven sustainable operation management policy. *Technological Forecasting and Social Change*, *196*, 122867.

Windasari, N. A., Kusumawati, N., Larasati, N., & Amelia, R. P. (2022). Digital-only banking experience: Insights from gen Y and gen Z. *Journal of Innovation & Knowledge*, *7*(2), 100170.

Wu, W., Chen, X., Zvarych, R., & Huang, W. (2024). The Stackelberg duel between Central Bank Digital Currencies and private payment titans in China. *Technological Forecasting and Social Change*, *200*, 123169.

Xu, Q., Zhong, M., & Dong, Y. (2024). Digital finance and rural revitalization: Empirical test and mechanism discussion. *Technological Forecasting and Social Change*, *201*, 123248.

Yip, A. W. H., & Bocken, N. M. P. (2018). Sustainable business model archetypes for the banking industry. *Journal of Cleaner Production*, *174*, 150–169.

Yu, T. Y., Yu, T. K., & Chao, C. M. (2017). Understanding Taiwanese undergraduate students' pro-environmental behavioral intention towards green products in the fight against climate change. *Journal of Cleaner Production*, *161*, 390–402.

Yuan, Y. P., Tan, G. W. H., & Ooi, K. B. (2022). Does COVID-19 Pandemic Motivate Privacy Self-Disclosure in Mobile Fintech Transactions? A Privacy-Calculus-Based Dual-Stage SEM-ANN Analysis. *IEEE Transactions on Engineering Management*. DoI: 10.1109/TEM.2022.3204285

Zhang, M., Liu, Y., Wang, Y., & Zhao, L. (2022). How to retain customers: Understanding the role of trust in live streaming commerce with a socio-technical perspective. *Computers in Human Behavior*, *127*, 107052.

Zhang, T., Lu, C., & Kizildag, M. (2018). Banking "on-the-go": examining consumers' adoption of mobile banking services. *International Journal of Quality and Service Sciences*, *10*(3), 279–295.

Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in human behaviour*, *26*(4), 760-767.