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Determinants of adopting the internet banking in Bangladesh: Extending UTAUT2 with perceived susceptibility to COVID-19

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Abstracts
This study aims at examining the factors that influence internet banking adoption by Bangladeshi bank customers. The conceptual model used in this study is based on the extended Unified Theory of Acceptance and Use of Technology (UTAUT2), which is extended by adding perceived susceptibility to COVID-19 to understand the impact of the pandemic on internet banking adoption. Data were collected from a convenience sample of 293 Bangladeshi banking customers through field survey questionnaires. The collected data were analyzed by conducting structural equation modeling (SEM). The results of the study show that internet banking adoption by banking customers in Bangladesh is significantly influenced by behavioral intention, which notably depends on price value, social influence and hedonic motivation; however, behavioral intention is independent of effort and performance expectancy. Moreover, the result revealed a significant direct impact of facilitating conditions and habit on internet banking adoption, but no significant relationship was found between perceived susceptibility to COVID-19 and internet banking adoption. The study offers worthy findings to the banks as well as policymakers to make decisions regarding internet banking promotion, financial inclusion and digitalization of the financial sector.

Keywords Internet banking, UTAUT2, Susceptibility to COVID-19, Bangladesh

Paper type Research paper

1. Introduction

Technology is significantly redesigning business processes day by day. The Business environment is being dramatically contributed by technological inclusion, which provides business entities capabilities of facilitating customers with convenience and high-quality products and services (Li, He, & Zhang, 2020). The sound attainment of the strategic goals and objectives of organizations is tremendously dependent on a strong alignment between the resources available with business and information technology(Wagner, Beimborn, & Weitzel, 2014).

The adoption of technological advancements by banking industry is very remarkable since service delivery system have tremendously improved with the dint of information technology. Technological

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advancements are replacing traditional banking systems with techno-oriented banking systems which characterized by ATM services, mobile and internet-based banking(Ganguli & Roy, 2011). Technology-based banking has given banks a competitive edge to manage customers' privileges in terms of convenience, time and cost(Lin & Hsieh, 2011). The influence of internet on the modern bank service delivery process is so prevalent that the whole service delivery process is converted to an internet-based service delivery process(Akhlaq & Ahmed, 2013). internet banking, the most pivotal breakthrough of technology, is replacing the role of the human encounter to offer a ranges of financial services with an internet-based service delivery and management process(James & Meuter, 2005). IB can be defined as the contemporary application of banking, permitting the customers to avail banking services from convenient places through the support of the internet, WWW and Wi-Fi technologies(Shih & Fang, 2004). Through IB, customers can access, electronically, banking services such as placement of cheque, payment of bills, fund transfers, statement printing, balance queries, etc (Martins, Oliveira, & Popovič, 2014). IB also facilitates customers with some e-commerce dimensions, such as online shopping, stock trading and auctions by providing e-payment platforms (Aladwani, 2001; Shih & Fang, 2004; Tan & Teo, 2000).

With internet banking, customers can perform, electronically, a wide range of transactions, such as writing checks, paying bills, transferring funds, printing statements, and inquiring about account balances through the bank's website(Keskar & Pandey, 2018). Furthermore, internet banking has a significant impact on e-payments, offering a platform to support many e-commerce applications, such as online shopping, online auction and internet stock trading (Ali & Raza, 2017). internet banking facilitates customers with quick access to financial information, uninterrupted services from any place and ensures service cost minimization for banks (Rahi & Ghani, 2019).

Since the beginning of the journey of online banking, it has been adopted by banking industries across the world in varying magnitudes. Though internet banking could be adopted by banking institutions all over the world, but its adoption is very insignificant in many countries compared to developed countries(Takieddine & Sun, 2015). The adoption of internet banking is directly related to countries' orientation with technology and internet speed, which is more available in developed countries. The trend of internet banking is also prevalent in developing countries (Sukkar & Hasan, 2005).

As one of developing countries, internet banking is now a crucial phenomenon in the financial sector of Bangladesh, which is dominated by the banking industry (Alam, Khatibi, Santhapparaj, & Talha, 2007). Since

internet banking adoption contributes to the transformation of financial sector in new dimensions(Raza, Umer, Qureshi, & Dahri, 2020), all banks in Bangladesh are now providing banking services through internet along with traditional banking channels. Such movement of banking industry is also a major aim of "Digital Bangladesh" vision taken by the present government(Amin & Rahman, 2019). Customers play the most significant role in ensuring smooth performance of internet banking(Broderick & Vachirapornpuk, 2002). Thus, understanding the factors and issues that shape internet banking adoption by Bangladeshi bank customers is highly important for different stakeholders. Moreover, in recent time, perceived risk to COVID-19 is also found as significant in changing behavior of financial service customer(Bechlioulis & Karamanis, 2022). Consequently, this research tries to address following research question:

- What are the crucial factors influencing the internet banking adoption by Bangladeshi bank customers?
- Does perceived susceptibility to COVID-19 influence the level of internet banking in Bangladesh?

2. Literature review

internet banking adoption is a wider arena of research. Many researches has been conducted to explore different factors and theories of internet banking (Tam & Oliveira, 2016; Zhu, Nakata, Sivakumar, & Grewal, 2013). Many crucial dominating factors have been addressed as key determinants influencing customer usage and intention of internet Banking. For instance, Tan and Teo (2000), Jaruwachirathanakul and Fink (2005) and some other researchers have explored the adoption of IB by customers with highest focus. Martins, Oliveira, and Popovič, (2014) examined the factors influencing the IB adoption process by banking customers in Portugal by obtaining data from 249 banking customers. In this study, social expectancy, performance expectancy and social influence are recognized as dominating factors shaping customer intention to IB.

Shih and Fang (2004) defined behavioral intention as pivotal factor to determine usage of IB. Riffai, Grant, and Edgar (2012) proposed website design and playfulness, along with effort and performance expectancy, as significant factors to build Omani customer intentions to IB.

Walker and Johnson (2006) examined the SSTs that could be adopted by technological interfaces supported by customers' ability and capability. Along with online shopping and telephone bill payments, internet banking is also believed by customers to be accessible through the available technological interface.

Al-Somali, Gholami, and Clegg (2009) claimed, after examining the customer adoption process to IB in Saudi Arabia, to ease the IB process to enhance customer adoption of IB. Eriksson, Kerem, and Nilsson

(2005) explored the factors influencing Estonian bank's customer perception to IB and dictated two dominating factors to promote customer intentions to IB such as perceived or experienced ease of use and trust maintained by customers in the process. Eriksson and Nilsson (2007) found in a study on bank customer of Estonia that some demographic factors, such as being male rather than female, education and youth are positively related to IB adoption.

Kesharwani and Bisht (2012) dictated that customers' desire to adopt IB depends on the perceived usefulness of the process, whereas the perceived ease of using system is a key indicator to quantify usefulness. This finding is also supported by other researches. For instance, Chiou and Shen (2012) approved perceived ease of use and usefulness as crucial factors in the attitude of Indian bank customers toward internet-based banking channels. They also claimed that simplicity in the use of technology drives customers to believe that the technology is useful.

Berger (2009), based on investigation of German bank's customers' attitudes toward IB, claimed that internet-based banking facilitates self-service banking process, which is positively related to perceived benefits and ease of use. Roy, Balaji, Kesharwani, and Sekhon (2017) revealed that perceived risk, categorized as internal or external, and perceived ease of use are key factors, in determining the acceptance level of IB by Indian banking customers. Berger (2009) also identified willingness of customers as key determinants of IB adoption of bank customers.

Ho and Ko (2008) claimed that savings of cost and self-control are also crucial factors, along with perceived usefulness and ease of use, to determine the customer intention to adopt IB. Marakarkandy, Yajnik, and Dasgupta (2017) found perceived benefits, ease of use, IB self- efficacy, usage efficacy, and banking initiative are significant factors determining the IB adoption of bank customers, while perceived risk is identified as a key peril that demotivate bank customers to accept IB. This study also explored the impact of image and government initiative, whereas these two factors are considered less significant to shape banking customer intention to adopt IB.

Akhlaq and Ahmed (2013) focused on the trust and use of IB by studying the responses of 109 Pakistani bank customers, where they found that the trust level and usage of IB are significantly influenced by intrinsic motivating factors. Çelik (2008) also argued for intrinsic motivating factors to have positive perception of ease of use and usefulness of IB by Turkish bank customers. James M. Curran and Meuter (2007) demonstrated customers' intention to IB depends on some expected qualitative outcomes such as enjoyment and utility. Alalwan, Dwivedi, Rana, and Algharabat (2018) demonstrated that the behavioral intention of Jordanian customers to adopt IB is significantly adorned by

the expectancy of performance and effort, perceived risk, price value and pleasantness in use and a remarkable significance of social influence is found in this regard. Howcroft, Hamilton, and Hewer (2002), Riffai, Grant, & Edgar, (2012) and Gerrard and Barton Cunningham (2003) argued that social factors shaping the customer's involvement with internet banking. Boateng, Adam, Okoe, and Anning-Dorson (2016) claimed for producing website features that consider trust and social issues, reflecting lifestyle to enhance customers' involvement with internet banking. Patel and Patel (2017) found that in Gujarat, India, internet banking adoption is positively the influence by social impact, perceived benefits and ease of use, whereas influence of perceived security transcends the other mentioned factors. George (2018) reported that perceived ease of use enhances perceived usefulness, which is the main motivator of IB adoption by customer of Kerala, whereas perceived ease of use has a direct impact on IB adoption. This study also proposed the indirect impact of privacy, efficiency, service fulfillment, enriched websites, reliability and responsiveness on the IB adoption process. Aboobucker and Bao (2018) found that in Sri Lanka, internet banking adoption depends on perceived risk and trust related to process, privacy, security and usability of websites. Rahi and Abd. Ghani (2018) identified the perceived security of technology and innovativeness as key factors that determine the customer intention to use internet banking. Namahoot and Laohavichien (2018) claimed that the behavioral intentions of Thai customers are influenced by trust in the process, perceived risk and quality level of services.

Gerrard and Barton Cunningham (2003), Kolodinsky, Hogarth, and Hilgert (2004) and Gan, Clemes, Limsombunchai, and Weng (2006) show that customers attitude toward and preference for internet banking depend on characteristics of IB, such as trial ability, simplicity, convenience and compatibility. Ege Oruç and Tatar (2017) dictated that internet banking usage of customers, is tremendously influenced by convenience, communication and benefits of the process.

Yoon (2010) indicated that customers who have experienced technology have greater intentions and desires to use internet banking. Yoon (2010) also argued that facilitating customers with assistants and the information required regarding the use of IB, has positive impact on the adoption of IB.

Al-Somali, Gholami, and Clegg (2009) also found a strong positive relationship between the level of education and IB adoption in Saudi Arabia. Garín-Muñoz, López, Pérez-Amaral, Herguera, and Valarezo (2018) argued that computer and internet skills level and two demographic factors, such as age and education, are pivotal in explaining e-banking and e-commerce in Spain.

Zhang, Weng, and Zhu (2018) claimed that cultural variation results in the concentration of different factors by customers while they adopt IB. In countries with high power distance, trust and social impact get more attention; more attention is given to perceived risk and performance and effort expectancy in countries featured by high individualism; and in countries, oriented toward uncertainty avoidance, customers give heeds to trust and performance expectancy.

Borges, Marine, and Ibrahim (2020) claimed that the increase in digital banking services was due to a recent health crisis. Financial Times (2020) reported the replacement of cash money with electronic money during the pandemic. The I-banking dimension, such as e-wallet promotes social distancing which helps control of pandemic(Daragmeh, Sági, & Zéman, 2021). In addition to the perceived usefulness of digital financial services, Aji, Berakon, and Md Husin (2020) identified that perceived risk of COVID-19 significantly contributed to digital financial service adoption. Pandemic required some direct and indirect contact constraints, which motivate customers' attitude toward internet banking adoption(Zhao & Bacao, 2021).

Based on the above reviewed literatures the factors affecting internet banking adoption by customers can be summarized as follows: expectancy, social influence, support of technological interfaces, perceived use of ease, perceived trust, perceived usefulness, customer willingness, saving of cost, self-control, intrinsic motivating factors, habits and culture, convenience, compatibility, demographic factors, customer confidence, perceived health risk, etc.

Some notable studies have been made to explore the IB adoption by Bangladeshi bank customers. For instances, Hasan, Baten, Kamil, and Parveen (2010) predicted that young Bangladeshi customers have more interest in IB whereas it also found that male customers desire more than female customers to be involved with internet-based self-service banking systems. Jahangir and Parvez (2012) indicated that the significance of IB, compatibility, communication and convenience are key determinants of IB adoption in Bangladesh. Azam (2007) identified complexity, trial ability and relative advantage as major determinants of IB adoption in Bangladesh. (Hoque, Ali, and Mahfuz (2015)) dictated that the intentions to use of e-commerce depends on customer attitudes, which are shaped by perceived ease of use, usefulness and credibility as well as computer self-efficacy.

Though some remarkable factors have been explored, but impacts of several determinants of the IB adoption of Bangladeshi customers, such as intrinsic motivation, habits, social influence, customer willingness, perceived risk, and hedonic motivation, have not yet been examined. Beside these, no significant study has yet examined the impact of

COVID-19 on internet banking adoption in Bangladesh. This study focuses on exploring the impacts of these unexamined determinants, along with some examined determinants such performance and effort expectancy, facilitating conditions on the internet banking adoption of Bangladeshi bank customers.

3. Conceptual framework and hypothesis development

UTAUT 2 proposed by Venkatesh et al. would be used to examine the factors influencing the internet banking adoption process by Bangladeshi Bank customers. UTAUT 2, an effective model explaining acceptance of technology, is an extension of the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Gupta, Dogra, & George, 2018). Researchers use UTAUT 2 model to examine the factors of technology adoptions. Performance expectancy, effort expectancy, social influence, and facilitating conditions are key direct determinants of incorporation in the UTAUT model(Venkatesh, Morris, Davis, & Davis, 2003); later, price value, hedonic motivation and habits are included in the UTAUT 2 model(Venkatesh, Thong, & Xu, 2012) for examining the technology acceptance process of customers. Researchers use the UTAUT 2 model to examine the factors of technology adoptions. Thus, this model is used to investigate those factors of model in the context of IB adoption by Bangladeshi bank customers(Tamilmani, Rana, Wamba, & Dwivedi, 2021). Since perceived risk of contracting COVID-19 is a factor of the internet banking dimension, this study integrates perceived susceptibility to health risk, a crucial dimension of the Health Belief Model (Daragmeh, Sági, & Zéman, 2021), with the UTAUT 2 model. Following discussion provides the reasoning behind the key constructs of proposed model and produces hypotheses of this study.

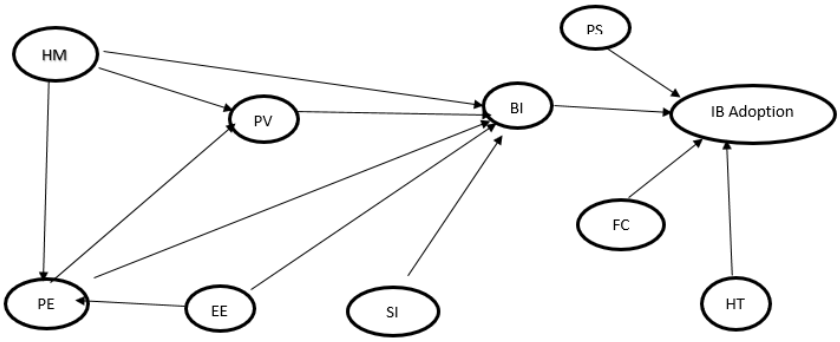

Figure 1
Conceptual model

Price value

Price value is considered to be existing when customers think the monetary cost of the services is not higher than perceived

benefits(Venkatesh, Thong, & Xu, 2012). This contrast actually dictates a trade-off between the cost and perceived benefits of using technology. Since the perceived value of service depends on the cost of service(Lovelock & Patterson, 2015), a positive price value is likely to influence customers' intention to adopt internet banking. Therefore, following hypothesis is developed in this regard:
H1: Price Value keeps positive and significant influence on intention of Bangladeshi customers to adopt IB

Performance expectancy
Performance expectancy could be dictated as the presence of some benefits that could be availed by technology users, such as accessibility, time and effort convenience, tailoring to individual user needs etc. (Venkatesh, Morris, Davis, & Davis, 2003). The magnitude of performance expectancy decides the perceived usefulness of a technology (Chopdar, Korfiatis, Sivakumar, & Lytras, 2018). The behavioral intention of bank customer to adopt IB is remarkably influenced by performance expectancy (Alalwan, Dwivedi, & Rana, 2017). Perceived usefulness generated by performance expectancy is likely to make the customers delight. Such delights are likely to enhance the price value of internet banking services. Thus, this research outlines following two hypotheses regarding PE:
H2: Bangladeshi customers' intention to adopt internet banking is positively and significantly related to performance expectancy.
H3: Performance expectancy would enhance price value of IB perceived by Bangladeshi customers.

Effort expectancy
Effort expectancy, the magnitude of ease of use of a system (Venkatesh, Morris, Davis, & Davis, 2003), is an influencing factor that shapes customer adoption of internet banking (Martins, Oliveira, & Popovič, 2014). Since EE is concerned with ease of use, which is remarked as a dimension of performance expectancy, effort expectancy accelerates performance expectancy. Therefore, the hypotheses to be tested regarding EE are as follows:
H4: Bangladeshi customers' intention to adopt internet banking is positively and significantly related to effort expectancy.
H5: Effort expectancy would enhance performance expectancy of internet banking services in Bangladesh.

Social influence
Social influence can be defined as the magnitude of a bank customer's perception of how significant it is that surrounding people think that he/she ought to adopt the new technology(Venkatesh, Morris, Davis, &

Davis, 2003). How people in society perceive the use of technology by a particular user, has a crucial impact on their behavioral intentions (Kijsanayotin, Pannarunothai, & Speedie, 2009). Though social influence has less impact on the behavioral intentions of professionals entitled to high autonomy(Chang, Hwang, Hung, & Li, 2007), for banking customers, adopting technology such as mobile technology is significantly influenced by social influence(Zhou, Lu, & Wang, 2010). Thus, the following hypothesis is developed in this regard:
H6: Social influence has a positive and significant influence on the intention of Bangladeshi customers to adopt IB

Facilitating conditions
Facilitating conditions dictate the existence of technical and organizational platforms that ensure the ease of technological use by individuals (Venkatesh, Morris, Davis, & Davis, 2003). Although facilitating conditions are not imperative for influencing behavioral intentions, they significantly influence the adoption of new technology (Chang, Hwang, Hung, & Li, 2007; Chau & Hu, 2002; Venkatesh, Morris, Davis, & Davis, 2003). Therefore, in this regard, following hypothesis is developed:
H7: Facilitating conditions have a positive and significant influence on the IB adoption of Bangladeshi bank customers.

Hedonic motivation
Hedonic motivation can be defined as pleasure or fun that are likely to be produced from the use of technology(Ahmed, Everett, & Turnbull, 2017). The most imperative sources of hedonic motivation are joy, enjoyment and playfulness, which are proven strong determinants of customer acceptance of technology(Venkatesh, Thong, & Xu, 2012). The Significance of hedonic motivation is also prevalent since the availability of online banking is perceived as an indicator of modernism (Çelik, 2008; Riffai, Grant, & Edgar, 2012. Therefore, the following hypotheses can be articulated here:
H8: Hedonic motivation has a positive and significant influence on Bangladeshi bank customers' intention to adopt IB.
H9: Hedonic motivation enhances the performance expectancy of using internet banking.
H10: Hedonic motivation rises price value of internet banking use.

Habit
Habit could be defined as magnitude to which individual apt to show atomicity behavior, derived from knowledge and skill gathered over time (Limayem, Hirt, & Cheung, 2007; Venkatesh, Thong, & Xu, 2012). According to proposition of UTAUT 2 model, this study formulates following hypothesis:

H11: Habit keeps positive and significant influence on IB adoption of Bangladeshi bank customers

Behavioral intention

Behavioral intention can be defined as the degree to which bank customers are apt to use self-service technology (Venkatesh, Thong, & Xu, 2012). Behavioral intention is considered as the most dominant determinant of the behavior of bank customers to accept technological innovation (Martins, Oliveira, & Popovič, 2014; Shih & Fang, 2004). Accordingly, this study produces the following hypothesis:

H12: Behavioral intention has a positive and significant influence on the IB adoption of Bangladeshi bank customers.

Perceived susceptibility to COVID-19

The possibility of being affected by a disease or health hazard is defined as perceived susceptibility to disease, is a major dimension of perception of health risk as per Health Belief Model (Champion & Skinner, 2008). The perceived susceptibility to COVID-19 makes people more aware of changing behavior or lifestyles to minimize health hazards. In this regard, retail customers are getting used to use online platforms for purchases since they helps them avoid mass gatherings. For instance, risk of getting affected to COVID-19 increases the adoption of mobile based payment system(Sreelakshmi & Prathap, 2020). Same result was also found in the research of Puriwat and Tripopsakul (2021) that investigated the susceptibility to COVID-19 on use of contactless payments. Daragmeh et al. (2021) argued for the adoption of more e-wallet services due to the risk of getting affected by COVID-19. Thus, this study posits the following hypothesis:

H13: Perceived susceptibility to COVID-19 positively and significantly influences adoption of IB by Bangladeshi bank customers.

4. Research methodology

To validate the conceptual model and examine research hypotheses, a self-administered questionnaire was distributed to 380 respondents, of which 293(77% response rate) returned with valid responses. Convenient sample of Bangladeshi Banking customers was reached by direct and indirect contact to targeted respondents. As direct approach, they are contacted and provided questionnaires at bank branches as well as visiting their workplaces. Known bank customers are reached as per this approach. As indirect approach, bank customers are provided questionnaires through staff of 16 banks including both Islamic and conventional banks. Bank staff provided questionnaires to their regular customers, who use internet banking services. To measure the basic constructs of the conceptual model, 36 scale items are used in this study.

The same items used by Venkatesh, Thong, and Xu, (2012) are also used for the constructs of UTAUT 2. Perceived susceptibility to COVID-19 was measured by 4 items suggested by Daragmeh et al. (2021). To measure the answers of the respondents, a seven-point Likert scale is used, with anchors ranging from strongly agree to disagree.

5. Results

5.1 Descriptive statistics

Table I

Demographic profile of the respondents

Respondents' Profile		Count	Percentage (%)
Gender	Male	179	61.1
	Female	114	38.9
Age	Less than 22	80	27.3
	23 to 30	175	59.7
	More than 30	38	13
Education	Diploma	23	7.8
	Undergraduate	146	49.8
	Masters	117	39.9
	MPhil/PhD	7	2.4
Years of experience with I-banking	Less than 1	101	34.5
	1 to 2	104	35.5
	More than 2	88	30
Type of bank	Islamic	133	45.4
	Conventional	160	54.6
Hours spent online per week	15- 20	57	19.5
	20-25	128	43.7
	More than 25	108	36.9

Table I shows the demographic profile summarized from 293 valid responses received from 380 distributed questionnaires. Among the respondents, 61.1 % are male and 38.9% are female. Almost 60% of the respondents were aged 23--30 years, and 50% of the respondents had graduated. Seventy percent of the respondents had less than 2 years of I-banking experience. The majority of the respondents spent.20 to 25 hours online per week. Among the respondents, 54.6% engage in banking with conventional banking, and the other prefer the Islamic banking system.

5.2 Measurement model: confirmatory factor analysis

The CFA model fit indices are presented in table II. The Fit indices show the goodness of fit of both the initial and final measurement models since the value of CMIN/DF, NFI and SRMR meets the cut-off points. The CMIN/DF values for both initial and modified models are 2.94 and 2.66, respectively, which are less than the threshold value of 3. Values of NFI for both models are higher than 0.90 and the values of SRMR for the models are less than 0.10. Thus, CFA confirms the good fit of the measurement model.

Table II

CFA model fit indices

Fit Indices	Cut-off Points	Initial Measurement Model	Modified Measurement Model
CMIN/DF	≤ 3.00	2.94	2.66
NFI	≥ 0.90	0.92	0.95
SRMR	≤ 0.10	0.076	0.08

5.3 Common method bias

Since data of both explanatory and explained variables are collected from the same sources, this study requires to examine the presence of common method bias, which is a spurious effect due to instrument of measurement rather than actual measured constructs(Kamakura, 2010). For examining common method bias, Harman's single factor test was run. The test exposed that a single factor solution described only 41% of the total variance. Since the value is significantly lower than the threshold value of 50%, this study is free of common method bias.

5.4 Reliability, validity and multicollinearity tests

Cronbach's Alpha(CA) and Composite Reliability (CR) are used for quantifying the reliability of the variables. Average Variance Extracted(AVE) is used for testing convergent validity, whereas cross loading, Fornell & Larcker and the Heterotrait-Monotrait Method (HTMT) criterion are used to examine discriminant validity. The Values of factor loading, CA, CR and AVE are presented in table 4. At the start of testing, the whole sample was examined, and variables with factor loading value less than 0.60 were eliminated. The remaining variables dictate the sound reliability of the research since all the values of CA and CR are higher than the value of 0.70(Nunnally, 1978). AVE values for all latent constructs are found higher than the threshold value of 0.50(Hair, Anderson, Babin, & Black, 2010). Thus, AVE results establish the convergent validity of the measurement model. Results of cross loading, Heterotrait-Monotrait Method (HTMT) and Fornell & Larcker the criterion are presented in table IV, V, VI, respectively. Convergent validity is confirmed since all cross loadings are less than the factor loading values. Table V shows that all the correlation values are less than 0.85, which confirms the convergent validity as per HTMT method(Henseler, Hubona, & Ray, 2016). Moreover, as all the values of the Square root of the AVE of each variable are higher than the bi-variate correlations are, convergent validity is confirmed(Fornell & Larcker, 1981). The VIF values shown in table III signifies the absence of multicollinearity problem since all the values are less than 10(Siguaw & Diamantopoulos, 2000).

Table III

Item loading, reliability and convergent validity

Latent Constructs	Items	Factor Loading	CA	CR	AVE	VIF
Performance expectancy	PE1	0.61	0.767	0.852	0.595	1.36
	PE2	0.864				2.2

Latent Constructs	Items	Factor Loading	CA	CR	AVE	VIF
Effort expectancy	PE3	0.86	0.716	0.824	0.54	1.92
	PE4	0.746				1.49
	EE1	0.696				1.30
	EE2	0.776				1.47
	EE3	0.728				1.40
	EE4	0.738				1.34
Social influence	SI2	0.896	0.767	0.896	0.811	1.63
	SI3	0.905				1.63
Price value	PV1	0.723	0.721	0.83	0.621	1.29
	PV2	0.825				1.57
	PV3	0.813				1.36
Facilitating condition	FC1	0.815	0.752	0.863	0.547	1.00
	FC4	0.657				1.00
Hedonic motivation	HM2	0.872	0.743	0.856	0.68	1.16
	HM3	0.783				1.16
Habit	HT3	0.855	0.762	0.834	0.618	1.06
	HT4	0.712				1.06
Behavioral intention	BI1	0.715	0.701	0.823	0.50	1.28
	BI2	0.659				1.19
	BI3	0.758				1.37
	BI4	0.688				1.24
Internet banking adoption	IA1	0.736	0.775	0.884	0.601	1.04
	IA2	0.812				1.04
Perceived susceptibility to covid	PS2	0.624	0.842	0.891	0.531	1.05
	PS3	0.707				1.18
	PS4	0.835				1.15

Table IV

Discriminate validity – cross loadings.

	BI	EE	FC	HM	HT	IA	PE	PS	PV	SI
BI1	**0.715**	0.04	0.189	0.199	0.238	0.243	0.171	0.02	0.286	0.248
BI2	**0.659**	0.038	0.191	0.206	0.227	0.268	0.062	0.07	0.258	0.186
BI3	**0.758**	0.112	0.21	0.253	0.311	0.289	0.104	0	0.263	0.192
BI4	**0.688**	0.084	0.232	0.246	0.231	0.195	0.125	-0.02	0.276	0.194
EE1	-0.035	**0.696**	0.058	0.082	-0.033	-0.17	0.359	0.05	-0.067	-0.069
EE2	0.041	**0.776**	0.14	0.047	-0.034	-0.01	0.362	-0.05	-0.062	-0.04
EE3	0.069	**0.728**	0.185	0.109	-0.026	0.034	0.308	0.02	-0.003	0.109
EE4	0.201	**0.738**	0.19	0.171	0.05	0.069	0.348	-0	0.153	0.112
FC1	0.165	0.083	**0.814**	0.214	0.1	0.201	0.185	0.05	0.232	0.153
FC4	0.283	0.227	**0.657**	0.225	0.146	0.155	0.131	0.1	0.207	0.118
HM2	0.302	0.129	0.251	**0.872**	0.247	0.112	0.122	0.07	0.195	0.189
HM3	0.222	0.1	0.236	**0.783**	0.269	0.192	0.094	-0.01	0.177	0.18
HT3	0.313	-0.027	0.106	0.213	**0.855**	0.229	0.081	-0.07	0.199	0.232
HT4	0.245	0.013	0.157	0.287	**0.712**	0.17	-0.149	0	0.073	0.092
IA1	0.226	-0.059	0.135	0.094	0.261	**0.736**	0.001	0.07	0.221	0.21
IA2	0.315	0.018	0.235	0.175	0.147	**0.812**	0.128	0.1	0.276	0.198
PE1	0.091	0.265	0.058	-0.032	-0.072	0.04	**0.58**	0.1	0.004	-0.001
PE2	0.143	0.369	0.176	0.094	-0.006	0.104	**0.864**	0.04	0.101	0.027
PE3	0.148	0.433	0.197	0.163	-0.036	0.059	**0.86**	0.01	0.083	0.103
PE4	0.119	0.359	0.205	0.129	0.034	0.068	**0.746**	-0.04	0.004	-0.006
PS2	0.017	-0.02	-0.075	0.03	-0.059	0.053	-0.026	**0.52**	-0.03	-0.1
PS3	0.006	-0.006	0.071	0.007	0.004	0.062	0.014	**0.71**	0.026	-0.054
PS4	0.025	0.019	0.143	0.037	-0.04	0.099	0.042	**0.84**	-0.01	-0.049
PV1	0.271	0.055	0.144	0.136	0.135	0.22	0.11	-0.03	**0.723**	0.292

PV2	0.3	-0.025	0.271	0.134	0.095	0.247	0.039	-0.05	**0.825**	0.301
PV3	0.329	0.001	0.275	0.244	0.193	0.288	0.026	0.05	**0.813**	0.313
SI2	0.256	0.054	0.201	0.167	0.204	0.259	0.028	-0.04	0.383	**0.896**
SI3	0.268	0.015	0.133	0.231	0.188	0.214	0.058	-0.12	0.31	**0.905**

Table V

Discriminant validity using the criterion by Heterotrait Monotrait Method (HTMT)

	BI	EE	FC	HM	HT	IA	PE	PS	PV	SI
BI	0.721									
EE	0.178	0.734								
FC	0.817	0.614	0.739							
HM	0.522	0.219	0.848	0.828						
HT	0.693	0.125	0.655	0.69	0.786					
IA	0.737	0.224	0.825	0.415	0.713	0.775				
PE	0.226	0.625	0.552	0.224	0.269	0.214	0.771			
PS	0.162	0.086	0.467	0.11	0.167	0.25	0.17	0.71		
PV	0.561	0.172	0.835	0.351	0.321	0.654	0.122	0.1	0.788	
SI	0.407	0.152	0.498	0.34	0.375	0.518	0.074	0.16	0.526	0.9

Table VI

D*iscriminant validity using the criterion by Fornell and Larcker*

	BI	**EE**	**FC**	**HM**	**HT**	**IA**	**PE**	**PS**	**PV**	**SI**
BI	0.706									
EE	0.098	0.735								
FC	0.291	0.195	0.74							
HM	0.32	0.14	0.293	0.829						
HT	0.358	-0.012	0.161	0.308	0.786					
IA	0.353	-0.023	0.243	0.177	0.257	0.775				
PE	0.165	0.47	0.216	0.132	-0.021	0.089	0.771			
PS	0.024	0.003	0.095	0.037	-0.045	0.107	0.024	0.7		
PV	0.383	0.012	0.297	0.224	0.183	0.323	0.07	-0.01	0.728	
SI	0.291	0.038	0.184	0.222	0.217	0.262	0.048	-0.09	0.384	0.901

5.5 Structural model

Structural model fit is not emphasized by PLS-SEM. However, it focuses on maximizing the explained variance of the selected construct. Thus, the global goodness of fit index is considered as comprehensive fit index to validate structural model. A desired GOF value (ranging between 0 and 1) ensures the capability of the model to explain empirical data sufficiently(Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). GOF value is the geometric mean value of average of AVE and R2. Based on GOF formula suggested by Tenenhaus, Vinzi, Chatelin, & Lauro, (2005) and guidelines proposed by Henseler, Hubona, & Ray, (2016), the calculated GOF value of 0.56 (presented in table VII) confirms good fit of the structural model.

Table VII
Global goodness of fit index (GOF)

Variable	AVE	R Squared
BI	0.521	0.68
EE	0.54	
FC	0.547	
HM	0.687	
HT	0.618	
IA	0.601	0.44
PE	0.595	0.52
PS	0.501	
PV	0.621	0.48
SI	0.811	
Average	0.6042	0.53
AVE* R Squared	0.320226	
GOF[(AVE × R Squared)^0.5]	0.565885147	

The results of the hypothesis testing are depicted in table VIII. Since all hypotheses are well directional, a t-test was undertaken. Bootstrapping was implemented to figure out t-statistics following p-values for the path coefficients. It is found that eight out of thirteen hypotheses are found to be significant. The Positive impacts of behavioral intention, facilitating conditions, habits on internet banking adoption are found significant. Research results suggest that, as determinants of behavioral intention, hedonic motivation, price value, and social influence have significant impacts. Performance expectancy is significantly influenced by effort expectancy, though both of the variables have insignificant impacts on behavioral intention. The influence of performance expectancy on price value is also insignificant but impact of hedonic motivation is significant. No significant relationship is evidenced between hedonic motivation and performance expectancy. Very finally, the research outcomes inferred insignificant impact of perceived susceptibility to COVID-19 on internet banking adoption by Bangladeshi bank customers.

Table VIII
Results of standardized estimates of structural model

Paths	β	T	P	Significant (yes or no?)
BI -> IA	0.259	4.128	0.00	**Yes**
EE -> BI	0.01	0.16	0.873	No
EE -> PE	0.46	6.433	0.00	**Yes**
FC -> IA	0.135	2.375	0.018	**Yes**
HM -> BI	0.213	3.828	0.00	**Yes**
HM -> PE	0.067	1.232	0.218	No
HM -> PV	0.219	4.036	0.00	**Yes**
HT -> IA	0.147	2.195	0.028	**Yes**
PE -> BI	0.107	1.739	0.082	No
PE -> PV	0.041	0.705	0.481	No
PV -> BI	0.277	4.936	0.00	**Yes**
SI -> BI	0.131	2.245	0.025	**Yes**
PS -> IA	0.094	1.555	0.12	No

6.Discussion and implications

The Proposed conceptual model is strongly supported by results of the revised measurement and structural model. All the fit indices of the measurement model are within the limits of their threshold values. Desired internal consistency level indicated by both CA and CR values higher than 0.7 confirmed the reliability of all ten constructs of this study. A sound fit of the structural model is also confirmed by a GOF value of 0.56.

Behavioral intention, the key influencing determinant of internet banking adoption, is significantly influenced by hedonic motivation, price value and social influence. Hedonic motivation is significant since Bangladeshi people experience more fun while using technologies due to low level of internet penetration. This argument is also supported by the research of (Dwivedi, Shareef, Simintiras, Lal, & Weerakkody, 2016). Another determinant of the behavioral intentions of Bangladeshi bank customers for IB adoption is price value. As of December 2021, 123 million Bangladeshi people had used the internet (BTRC, 2021). Along with other uses, i-banking could also be used at the same cost of internet. Thus, no significant additional cost is required for using internet banking by Bangladeshi banking customers. However, here, regulators of the banking industry should work with banks to minimize charges and fees related to the use of internet banking. Social influence is also a key determinant, since Bangladeshi people significantly depend on social networking for the purpose of learning about technology uses. The study found that the behavior intention of internet use in Bangladesh does not depend on effort expectancy or performance expectancy. This might be happened due to less consciousness regarding time and output efficiency of bank customers.

Like other countries, performance of internet banking depends significantly on how customer could easily use the internet banking technology. Thus, performance expectancy is significantly positively influenced by effort expectancy. Though the impact of hedonic motivation on performance expectancy is found to be insignificant price value is significantly influenced by hedonic motivation. In this regard, government of Bangladesh plays significant role by focusing more on reducing internet cost since one of the main motto of the current government is digitalization of the country.

This study acknowledges behavioral intention as a significant determinant of internet banking adoption by Bangladeshi banking customers. Along with this factor, habits and facilitating conditions are also found to be significant. Without personal desire to have time for internet use and digital platforms that are easily accessible by mass people,

internet banking adoption is likely to be difficult. The bank services providers should focus on developing and lunching more customer-friendly technologies. The recent phenomena, perceived susceptibility to COVID-19 is found to be insignificant determinant of internet banking adoption in Bangladesh. Less magnitude of the pandemic in this country could produce this finding. In pandemic time, physical banking services were provided to customer. Since banks were open even in lockdown periods, customers do not need think of other alternative of getting banking services that are used to get services from bank branch. Thus, they were not much worried about finding a solution to minimize the health risk of visiting bank branches. Here, another reason could be mentioned that is the strong presence of relationship banking in Bangladesh. It is evidenced that in Bangladesh, bank services providers focus more on relationship banking than on transaction banking. The Number of lockdown days is considered as crucial determinant of shaping I-banking adoption(Bechlioulis & Karamanis, 2022). Since lockdown period in Bangladesh was short, pandemic did not have significant impact on I-banking adoption.

7. Conclusion and future research directions

This study tried to examine the factors that influence the bank customers to adopt internet banking. The proposed conceptual model was developed based on the UTATUT 2 model. Since internet banking is an option to avoid visits to branches, this also examined the impact of susceptibility to COVID-19 as a determinant of internet banking adoption. This result found no impact of perceived susceptibility of COVID-19 on internet banking adoption. internet banking adoption by Bangladeshi customers is significantly influenced by behavioral intentions, facilitating conditions and habits. Policy makers might consider the outcomes of this research in decision making process like development of digital platform, lowering the cost of internet, providing uninterrupted internet services, reducing internet banking charges. Such actions would be worthy enough to enhance financial inclusion through internet banking in Bangladesh.

Some issues related to Bangladeshi bank customers' intention toward internet banking adoption are likely to be constrained due to application of only quantitative approach in this study. Thus, application of both qualitative and quantitative approach might provide more insight to the policy makers, particularly for the non-significant variables.

This study does not consider the issues related to the banks and policy makers influencing internet banking adoption. Further research should be conducted to examining internet banking adoption in Bangladesh while considering such issues.

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