THE ADOPTION OF AGENT BANKING: THROUGH THE LENS OF COMMERCIAL BANK CLIENTS

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ABSTRACT

Agent banking has played a crucial role in promoting financial inclusion in Bangladesh, particularly during the COVID-19 pandemic when accessing banking services in rural areas became challenging. This study aims to explore the factors and dimensions that influence agents' intention towards agent banking services post-pandemic, drawing from the Technology Acceptance Model, SERVQUAL model, and perceived risk theory. A survey was conducted using a structured questionnaire, gathering data from 300 current agents recruited by commercial banks during the fiscal year 2021-2022 and residing in major divisions of Bangladesh. The study findings indicate the significant roles of perceived risk dimensions, service quality factors, and technological dimensions in agent banking services in Bangladesh. Specifically, dimensions of perceived risk were identified as having a significant negative influence on agents' intention towards agent banking adoption. These findings highlight the risk factors that hinder people's intention to adopt agent banking services and emphasize the importance of service quality factors in promoting adoption behavior. Policymakers, such as the central bank of Bangladesh and operating banks, can leverage these study findings to develop effective strategies for maximizing the adoption behavior of agent banking services.

KEYWORDS

Agent Banking, Bangladesh, Intention, Technology Acceptance Model, SERVQUAL model, Perceived Risk Theory

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DECLARATION OF INTEREST STATEMENT

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INTRODUCTION

Agent banking has acted as a catalyst for financial inclusion in Bangladesh. The aim of agent banking has been to ensure a secure alternative delivery channel of banking services to the unbanked people in rural areas that are beyond the reach of the traditional banking network (Khurshed, 2020; Rahman, 2020). Agent banking has gained popularity as a cost-effective and convenient banking channel that enabled financial institutions to expand their businesses in rural areas (Rahman, 2020). However, the agent banking model got the greatest momentum as the COVID-19 pandemic posed challenges for people to access banking services in rural areas. With the emergence of the COVID-19 pandemic, restrictions on public movement in lockdown meant that clients could not travel far to visit bank branches in rural areas and this largely limited their access to banking services (Hasan, 2020). Besides, the government also limited commercial banking services all over the country (Uddin & Nazrul, 2020) as part of the containment measures. Such measures complicated the provision of banking services by commercial banks and challenged the acceleration of financial inclusion in rural areas. Interestingly, the agent banking model proved to be the perfect remedy amidst these restrictions of the pandemic.

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Globally, agent bankers are being increasingly utilized as important distribution channels for financial inclusion across a number of developed and developing countries (Bangladesh Bank, 2017). Banks provide agent banking services through non-bank agents, such as grocery stores, retail outlets, post offices, pharmacies, or lottery outlets (AFI, 2012). Agent banking initially entered the banking industry as the World Bank Group was promoting financial inclusion across the world in order to achieve Universal Financial Access by 2020 (UFA2020) (Chowdhury, 2017). One focus of the World Bank Group has been Bangladesh, as their agent banking initiative specifically targets the country's unbanked population in rural areas intending to contribute to this global financial inclusion and the vision of UFA2020 (Alo, 2017). Agent banking accounts in Bangladesh totaled 1.22 billion at the end of FY21, showcasing a 65 per cent increase compared to 73.57 million at the end of FY20 (Rahman, 2020). The agent banking model comprises the owner of an outlet who conducts banking transactions on behalf of a bank under a valid agency agreement (Hasan, 2020). Drawing from the Principal Agent Theory (Roach, 2016), it can be argued that commercial banks act as a principal who proposes the agency agreement and recruits' agents (also known as contingent/contract employees) to execute the provision of banking services in rural areas. Although the agents function as contingent/contract employees of the commercial banks, the fact that they are third parties exempts them from the restrictions of limited banking operations during the pandemic (Uddin & Nazrul, 2020). This autonomy enabled agents to offer banking services in rural areas and turn, clients got access to banking services at the agency outlets amidst the pandemic. The number of agent banking accounts increased by 115% in the pandemic, with a 47.75% increase in the number of agents providing the services and a 44.91% increase in the number of agency outlets in the rural areas of Bangladesh (Rahman, 2020).

Typically, agents use a mobile application to electronically provide banking services to clients in rural areas. As a result, agent banking services can be categorized as electronic services. Scholars like Rashwan et al. (2019) and Baabdullah et al. (2019) document that the success of electronic banking services largely depends on the importance that people place on convenience and usefulness. While Rotchanakitumnuai (2008) argues that the intention towards electronic services can increase with higher service quality. In fact, Mustapha and Obid (2015), and Rahman et al. (2018) combine the technological dimensions of electronic services with service quality factors to examine the influence on behavioral intention towards the use of electronic services. This indicates that technological dimensions of electronic services and service quality factors associated with such services can have a bearing on the agents' behavioral intention towards agent banking services. In contrast, the risks associated with electronic services cannot be negated despite the surprising growth of agent banking services during the pandemic. Previous studies like Barati et al. (2014), and Bhuasiri et al. (2016) specifically argue that perceived risks influence the behavioral intention towards the use of electronic services. This implies that agents, who provide banking services, are susceptible to such risks as service provision includes interacting with the technology by agents themselves. However, the literature only measures the effect of overall risk on behavioral intention and does not address the facets of perceived risk (Azmi & Kamarulzaman, 2010). Moreover, Azmi and Kamarulzaman (2010) combine technological dimensions with perceived risk factors but the model lacks empirical examination in the electronic service context. Specifically, the emergence of health risks that gained traction due to the pandemic has not been considered in the context of electronic services.

We argue that agents may be worried about contracting the virus in the process of service provision to clients and this may impede their intention towards the use of electronic services. To this end, we identify three gaps: First, the significant roles of technological dimensions, perceived risk and service quality factors for agent banking services have not been addressed in the literature. Second, the literature lacks empirical work that addresses a conceptual model comprising technological dimensions, service quality and perceived risk facets. As the intention to use any technological service is contingent on these three aspects (Azmi & Kamarulzaman, 2010; Rotchanakitumnuai, 2008), investigating the simultaneous impact of these factors can contribute to the risk, technology and banking service literature. Third, health risks emerging from the pandemic have not been examined for significance in the agent banking service context. Addressing this gap can contribute to the emerging pandemic literature with valuable insights into risks associated with agent banking services.

Drawing from Technology Acceptance Model (TAM) (Davis, 1989), the SERVQUAL model (Parasuraman et al., 1988), and perceived risk theory (Featherman & Pavlou, 2003), the objective of this study is to identify factors and dimensions that can influence the agents' intention towards agent banking services. This research will be of particular significance to the commercial banking sector, in reviewing and upgrading their service provisions related to agent banking. The outcomes of the study will also be important for the banking sector in determining the

prospects of agent banking services amidst the pandemic. In practice, this study will be of importance to the banks because they will get to know about the risk and service quality factors that drive the adoption of agent banking services in Bangladesh, especially during crisis periods. The study will make significant theoretical contributions by exploring perceived risk facets and service quality factors, along with technological aspects associated with agent banking services during the pandemic.

LITERATURE REVIEW & HYPOTHESES

Agent Banking

In recent years financial inclusion has become a common objective for the central banks of many developing nations like Bangladesh. This has been driven by the fact that financial services are still unavailable in various regions of such countries and are used only by a segment of the population (Nisha and Rifat, 2017). These deprived regions usually encompass rural, poor regions and also those living in harsh climatic environments where it is difficult to provide the usual financial services (Atandi, 2013). Besides, the high cost associated with financial services' long distance to banking channels is another reason behind the financial exclusion in developing countries (Ndung'u et al., 2015). Hence it has become imperative to develop new financial service delivery models which can change the economics of banking for the poor drastically. Therefore, to fill the gap, the concept of agent banking has quickly become popular as a practical solution for extending formal financial services, especially to the poor and in rural areas of Bangladesh.

According to the Central Bank of Bangladesh, agent banking is the means of providing limited-scale banking and financial services to the underserved population of the country through engaged agents under a valid agency agreement (The Daily Star, 2017b). The main aim of Bangladesh Bank behind this initiation is to reach the poor segment of society as well as existing bank customers with a range of financial services, particularly in geographically dispersed locations (The Daily Star, 2017a). In December 2013 Bangladesh Bank allotted licenses to four banks to start the operation of agent banking services, especially in remote areas where formal bank services were not accessible to a large extent (The Daily Star, 2017d). However, out of those four only two banks introduced agent banking services first - Bank Asia and Dutch Bangla Bank Limited (DBBL) in the country. They started to appoint agents from the core levels in January 2015 (The Daily Star, 2017c). Bank Asia initially appointed 49 agents in 32 Upazilas under 17 districts while Dutch-Bangla recruited six agents. Following this, banks started to buy fast into this concept. Subsequently, other banks like South Bangla Agriculture and Commerce Bank, and NRB Commercial Bank also initiated to launch of the service (The Daily Star, 2014a). Over time agent banking has garnered so much popularity in the banking sector that about 3.3 lacs agent banking accounts were opened in the first half of 2017 leading to an increase of 60.18 per cent in the use of this new form of banking service across the country (The Daily Star, 2017a). Even during the peak Covid period that ended on May 30, when the government limited commercial banking operations to control the spread of the virus, agents were not bound by any restrictions to support the economically vulnerable people (The Daily Star, 2021). Around 80 per cent of agents decided to continue work despite the pandemic situation. A local newspaper reported that the disbursements of foreign remittances witnessed a record surge in agent outlets during the Covid period (The Financial Express, 2021).

Therefore, banks are giving higher priority to developing their agent banking infrastructure instead of building their mobile banking platform in Bangladesh. Statistics by Bangladesh Bank in 2020 reveal that around 28 banks have signed up for agent banking licenses. Of the 28 banks, 24 are already running their own agent banking operations. The banks with a notable presence in the sector of agent banking include Bank Asia, Islami Bank Bangladesh Ltd, Dutch-Bangla Bank Ltd, Brac Bank, City Bank, Mutual Trust Bank, Al-Arafah Islami Bank, Agrani Bank, NRB Commercial Bank, and Modhumoti Bank (The Daily Star, 2021). Due to this proliferation of agent banking models, it has become imperative to explore and identify the factors that can affect the adoption of agent banking services by agents in Bangladesh.

Technological Dimensions

The technology acceptance model (TAM), which was proposed by Davis (1989) and Davis et al. (1989) is an extensively used framework that explains the reasons behind the adoption of a particular innovation. The model was formerly adopted from another broadly used theory called the theory of reasoned action (TRA) which explains an

individual's behavior through his intentions (Fishbein and Ajzen, 1975). According to TAM, behavioral intention is influenced by individual behavior toward technology that consists of perceived usefulness (PU) and perceived ease of use (PEOU) through the mediation of attitude. This model assumes that a prospective user of a technology always weighs the possible benefits against the challenges before adopting or rejecting it (Davis et al., 1989). The model has been revised in many studies to fit a particular context of technology being investigated. Moreover, with the emergence of new technologies, additional variables were introduced to the TAM to produce an extended TAM for predicting consumers' intention to use. These variables include product involvement (Koufaris, 2002), cost (Shih, 2004), perceived risk (Pavlou, 2003), service quality (DeLone & McLean,2003), etc. To explain the adoption intention of agent banking services from the perspective of a commercial bank, we have assimilated factors from Perceived Risk Theory and SERVQUAL Model with TAM in this study. The proposed research model used to address the influencing factors for agent banking is presented in **Figure 1**. In addition, all the variables hypothesized in this study and their likely relationships towards commercial bank employees' acceptance of agent banking services in Bangladesh have been discussed next.

Perceived Risks

Perceived risk is defined as the potential for loss in the pursuit of a desired outcome of using an electronic service (Featherman & Pavlou, 2003). Risk is a feeling of insecurity that shakes people's confidence in their decisions. It is users' perceptions regarding risk and their own tolerance of risk-taking that influence their technology adoption decisions (Chan & Lu, 2004). Hence, we conceptualize the perceived risk of agent banking services as the feelings like anxiety, concern, discomfort, uncertainty, and cognitive dissonance that an employee of a commercial bank may associate with the use of agent banking technology. So far, perceived risk has been found to have inconsistent results empirically regarding its influence in the context of e-service acceptance. Perceived risk has been shown to reduce users' intention significantly to engage in e-transactions in various prior studies Lai and Zainal (2015); Chittoor and Dhotah (2016); Siyal et al. (2019); Rifat et al. (2019); Chauhan et al. (2019); and Penney et al. (2021). On the other hand, Fu et al. (2006), Mcleod et al. (2009), Stafford and Turan (2011); Unnikrishnan and Jagannathan (2018); Chakiso (2019) and Widyanto et al. (2021) indicate that perceived risk exhibits negligible influence for the adoption of electronic services.

Seven facets of risk that may affect an e-service adoption were initially proposed by Featherman and Pavlou (2003) in perceived risk theory. These facets include performance risk (possibility of malfunctioning), financial risk (potential monetary outlay), time risk (loss of time), psychological risk (potential loss of self-esteem), social risk (potential loss of status), privacy risk (potential loss of control over private information), and overall risk (a measure of overall perceived risk). Later, researchers like Luo et al. (2010), Alalwan et al. (2016), and Shareef et al. (2018) considered similar facets of risk in their conceptual paper for the adoption of innovative electronic banking services. In congruence with the prior research, in this paper five different dimensions of risk have been identified that may cloud the judgement of commercial bank employees regarding the adoption of agent banking technology- namely performance risk, individual risk, financial risk, time risk and cyber risk. Whereas performance risk, financial risk, time risk and cyber (privacy) risk are adopted straight from the perceived risk theory of Featherman and Pavlou (2003) and Azmi and Kamarulzaman (2010), individual risk has been adapted based on the studies of Luo et al. (2010), Choudrie et al. (2017); Nisha et al. (2018) and Rifat et al. (2019). Furthermore, this study adopted the overall risk dimension proposed by Featherman and Pavlou (2003) and Azmi and Kamarulzaman (2010) as well as the composite variable of perceived risk.

Performance risk has been defined as the losses incurred by deficiencies or malfunctions of agent banking software. It relates to situations in which agents may perceive that the agent banking system won't perform effectively and efficiently due to various reasons like slow wireless internet or server shutdown for unknown reasons, which consequently will result in some unforeseen losses (Van et al. 2020). Lee (2009), Brown et al. (2011), and Van et al. (2020) prove that performance risks have a significant but negative influence on the usage intention of an e-service. While Featherman and Pavlou (2003), Azmi and Kamarulzaman (2010) Hubert et al. (2017), Roy et al. (2017) and Hubert et al. (2019) propose that performance risk is positively related to overall perceived risk, which in turn negatively influences the behavioral intention for an e-service. This signifies that the higher the performance risk, the higher will be the perceived risk and the lower will be the adoption intention of any e-service. Hence, there is a chance that performance risk can be a prominent risk factor that influences the adoption of agent banking technology by prospective agents. The second type of risk which has been proposed in this study is individual risk. Individual risk can be referred to as the risks that arise due to human errors like careless data disposition and erroneous

submissions by the user (Nisha et al., 2018; Rifat et al., 2019). Previous studies like Nastase and Nastase (2007), Luo et al. (2010) and Iqbal et al. (2018) acknowledged and investigated the influence of individual risk on the adoption of e-services and discovered an adverse relationship with usage intention. In this paper, we additionally suggest that individual risk may have a positive relationship with overall perceived risk, which in turn negatively influences the behavioral intention for an e-service. This indicates that the higher the individual risk, the higher will be the perceived risk and the lower will be the adoption intention of any e-service. The logic behind this proposition is that individual risk to a certain level relates to the psychological risk of potential loss of self-esteem that happens due to the inability of achieving one's goals (Featherman & Pavlou, 2003; Rifat et al.,2019). Thus, any human error or erroneous submissions by the user may challenge their self-image which in turn results in an intersection of individual and psychological risk facets. So, individual risk is included as a major dimension of perceived risk in the proposed model.

Financial risk is the next dimension of risk that has been proposed in this study. Financial risk relates to concerns regarding the probability of financial losses that may arise due to fraud or monetary outlay and from errors or incorrect information in the process of conducting agent banking transactions (Luo et al., 2010; Van et al., 2020). According to Almousa (2014); Biucky and Harandi (2017) and Van et al. (2020) there is a significant negative relationship between financial risk and usage intention. While Featherman and Pavlou (2003), Azmi and Kamarulzaman (2010), Hubert et al. 2017 and Rifat et al. (2019) propose that financial risk positively affects overall perceived risk, which then negatively influences the behavioral intention to adopt an e-service. This indicates that the higher the financial risk, the higher will be the perceived risk and the lesser will be the intention to adopt any e-service. Financial risk thus has been suggested as a prominent risk facet that can influence the adoption of agent banking technology by the agents in this study.

Time risk is the fourth dimension of risk that has been investigated in this study. Through this research, we have tried to explore whether the agents are very time-conscious and apprehensive regarding the probability of "wasting time" in training, implementing, and troubleshooting agent banking technology (Azmi & Kamarulzaman, 2010; Hubert et al., 2019; Van et al., 2020). These time-conscious people tend to lessen the possible loss of time and are less likely to adopt those e-services that are assumed to have higher switching, setup and maintenance time and costs (Azmi et al., 2012; Nisha et al. 2018; Rifat et al., 2019). Martins et al. (2014), Rifat et al. (2019) and Sharma et al. (2021) argue that time risk positively affects perceived risk and thus influences the usage intention of a technology-based service. Hence, it can be deduced that the higher the time risk, the higher will be the perceived risk and the lesser will be the adoption intention of the e-service. This relationship has also been proved by Featherman and Pavlou (2003) and Azmi and Kamarulzaman (2010) and recently by Rifat et al. (2019) and Van et al. (2021). As such, time risk has been considered a significant dimension of perceived risk in the proposed model of this study.

Finally, cyber risk has been proposed as the fifth dimension of perceived risk in the current study. It relates to a situation in which harmful and unauthorized access to data may occur, or information regarding banking transactions may get stolen, illegally modified, or misused. More precisely, it can be defined as an individual's averseness to use technology due to the probability of being a victim of cybercrimes like hacking, identity, or password theft (Nisha et al., 2018; Rifat et al., 2019). The reason behind our proposition of keeping cyber risk as an important dimension of perceived risk is its negative impact which can refrain a prospective agent from adopting agent banking technology (Iqbal et al., 2018; Rifat et al., 2019). Chen and Sharma (2015), Hsieh (2015), Riek et al. (2016), Rifat et al. (2019) and Van et al. (2021) indicate that users' apprehension of the theft of private information, or simply its misuse is crucial for the adoption of an e-service. Based on the conceptualizations offered by Featherman and Pavlou (2003) and Azmi and Kamarulzaman (2010), a connection can be seen between cyber risk and privacy risk in all aspects. This risk is then positively related to overall perceived risk, which in turn negatively influences the behavioral intention for an e-service (Featherman & Pavlou, 2003; Rifat et al, 2019; Van et al., 2021). Thus, the higher the cyber risk, the higher will be the perceived risk and the lesser will be the adoption intention of any e-service. Therefore, cyber risk has been assumed to be a prominent risk facet in this study that can impact the adoption intention of agent banking technology by the potential agents. Based on the above arguments, the following hypotheses are proposed:

H1a: Performance Risk has a significant influence on Perceived Risk.
H1b: Individual Risk has a significant influence on Perceived Risk.
H1c: Financial Risk has a significant influence on Perceived Risk.
H1d: Time Risk has a significant influence on Perceived Risk.
H1e: Cyber Risk has a significant influence on Perceived Risk.

Service Quality

Service quality has been drawn from the SERVQUAL model, which was primarily developed by Parasuraman et al. (1988). Despite its initial emphasis on the extent to which a service can constantly meet customers' expectations, with time the focus has shifted towards a more performance-based perspective (Cronin & Taylor, 1992). Service quality can be defined as a form of attitude that signifies a long-term complete evaluation of service (Cronin & Taylor, 1992). From the perspective of agent banking technology, service quality can be referred to as the excellence and quality of banking services agents are offering to their clients (Ahmad et al., 2019; Raza et al., 2020). Balasubramanian et al. (2003) stated that, in the adoption of any e-service, the dimensions of service quality play a prominent role. Specifically, for any kind of financial service like banking, service quality can play an important role (Raza et. Al., 2020). The significance of various service qualities for individual satisfaction and subsequent adoption of technology has already been proven in several studies (e.g., Rahman et al., 2018; Rifat et al., 2019; Hizam & Ahmed, 2020; Yusfiarto, 2021). Consequently, two vital and relevant dimensions of service quality are deemed appropriate for agent banking technology – namely, interaction quality and system quality.

Interaction quality is referred to as individual perceptions of the interfaces that take place during service delivery (Iqbal et al., 2017). If performance exceeds the anticipated rate, interaction quality will be above the satisfactory level, which can stimulate technology adoption. Easy interaction between an agent and user in agent banking can create an attractive environment from the perspective of both parties involved (Li et al., 2021). Prior studies like Nikou and Economides (2017) and Li and Shang (2020) explored and demonstrated the significance of interaction quality in the virtual marketplace as it incites active participation and assists in knowledge acquisition. While Iqbal et al. (2017) and Li and Shang (2020) provide evidence of a significant influence of interaction quality over e-service usage intention, the findings of Yeh and Li (2009) & Rifat et al. (2019) state otherwise. As the objective of agent banking is to provide limited-scale banking and financial services to underserved people by using convenient and user-friendly agent banking software through agents, interaction quality is justified to be a salient quality dimension in this context (Li & Shang, 2020; Li et al., 2021).

Another crucial aspect of service quality that can play a significant role in e-service adoption is system quality. System quality can be defined as the charm that user interface design presents to individual users (Kim & Lee, 2005). In the case of agent banking services, system quality can be linked to a user-friendly arrangement of the physical attributes of agent banking technology, such as usability, software design, navigability, and operation modules (Li & Shang, 2020). The overall operations of the agent banking system must display professionalism and user-friendliness to attract and retain both agents and clients (Tsao et al., 2016). In the context of this study, system quality represents the quality of the service provided by a partner bank to the agents in terms of software design, responsiveness, and assistance. Several prior pieces of research provided evidence in favor of a significant positive correlation between user adoption intentions of e-services and system quality (Chandra & Ibrahim, 2015; Rahi et al., 2017; Rahi & Ghani, 2019; Kavandi & Jaana, 2020; Li & Shang, 2020). Whereas, Lee and Lin (2005) and Rifat et al., (2019) found system quality insignificant as a predictor of technology adoption.

The above-mentioned dimensions of service quality are associated with the perceived performance of e-services by researchers like Aghdaie and Faghani (2012) and Islam (2012). Besides, Rahi et al. (2017), Rahi and Ghani (2019) and Li and Shang (2020) found that dimensions of service quality have a significant effect on the behavioral intentions of individuals through their level of satisfaction regarding service performance. On this note, this study suggests that interaction quality and system quality can have an impact on the adoption of agent banking services but the relationship will be mediated by the service performance. The construct of service performance will be represented here by the perceived usefulness of the Technology Acceptance Model (TAM), as suggested by Featherman and Pavlou (2003) and Azmi and Kamarulzaman (2010). On this basis, the following hypotheses are proposed:

H2a: Interaction Quality has a significant influence on Perceived Usefulness.
H2b: Website Quality has a significant influence on Perceived Usefulness.

Pandemic Risk: An Additional Facet

With the emergence of the COVID-19 pandemic, we argue that the capacity to affect the behavioral intention of agents to get involved in providing physical banking services to clients can be related to the risks of the pandemic. Pandemics are large-scale outbreaks of infectious diseases that can increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption (Madhav et al., 2018). To control the rapid spread of COVID-19, the government of Bangladesh limited commercial banking operations in mid-2020. However, being third-party entities, agents were not under any kind of restrictions. They were given the independence to decide whether to carry out operations or abandon them during the pandemic. Keeping the autonomy of the agents regarding the adoption decision in mind, two facets of pandemic risks have been suggested in this study that may have a negative impact on the behavioral intention of adopting agent banking services, i.e., infection risk and emotional health risk.

Infection risk is defined as the prospect that the process of providing services will negatively affect the agents' health or the agent can get infected while at work which can lead to serious complications (Hwang & Choe, 2020; Suhartanto et al., 2021 and An et al., 2021). During the pandemic, agents' concerns were not only about providing services or getting more clients but also about the chances of getting infected during physical contact. In fact, the risk of COVID-19 is not only limited to the agents who might get infected while providing services but also will be extended to the family members who will get exposed to the virus because of them. Given that social distancing is important for reducing infection risk during the COVID-19 pandemic, high expected interactions with clients are likely to lessen the behavioral intention of agents to adopt or continue to provide agent banking services (Ha et al., 2020).

On the other hand, the ongoing COVID-19 pandemic not only poses a large threat to physical health but also has detrimental consequences for mental health or emotional health (Suhartanto et al., 2021). Hence, this study attempted to investigate the relationship between emotional health risk and behavioral intention of adopting agent banking services by the agents. Emotional health risk can be defined as the increased level of anxiety caused by fears of contamination, stress, grief, and depression triggered by probable exposure to the COVID-19 virus and the following isolation (Gostin & Wiley, 2020; Polizzi et al., 2020; An et al., 2021). The stream of disheartening COVID-19 news provides fodder for increased worry and distress, which can create anxiety disorders among the agents which in turn can influence them to abandon the banking services they provide through agency agreements or can demotivate potential agents from entering the force. Based on the above discussion, the following hypotheses are proposed:

H3a: Infection Risk has a significant influence on Behavioral Intention.

H3b: Emotional Health Risk has a significant influence on Behavioral Intention.

Along with the five facets of risk and two dimensions of service quality and pandemic risk respectively, three composite variables of perceived risk, perceived usefulness and perceived ease of use are also considered in this study. Perceived risk is defined as the overall measure of risk when all the facets or dimensions of risk are evaluated together (Featherman & Pavlou, 2003). In the context of this study, the evaluation of performance risk, individual risk, financial risk, time risk and cyber risk can lead to this measure of perceived risk. Few studies like Featherman and Pavlou (2003), Fu et al. (2006), Azmi and Kamarulzaman (2010), Chauhan et al. (2019), Van et al. (2020) and Noreen et al. (2021) found a negative but significant relationship of users' perceived risk about e-service adoption. This indicates that the higher will be the perceived risk, the lower will be the adoption intention of any e-service. According to Featherman and Pavlou (2003), perceived risk is a negative utility that should be used as moderating positive utility or for usefulness evaluations of e-services. Several studies like Moore & Benbasat (1991), Dowling and Staelin (1994), and Azmi and Kamarulzaman (2010) indicate that perceived risk may influence technology adoption and evaluation or perceived usefulness. Perceived risk is mostly found to exert a strong inhibiting influence on TAM's criterion variables of perceived usefulness (Featherman & Pavlou, 2003). In line with previous studies like Featherman and Pavlou (2003), Azmi and Kamarulzaman (2010) and Rifat et al. (2019), this study proposes the influence of perceived risk on agent banking technology first through a higher-level construct of perceived usefulness and then to behavioral intention towards agent banking services.

On the other hand, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are two factors drawn from the basic TAM model, which are used in this study to explicate the behavioral intention of adopting agent banking services by the potential agents of the commercial bank. An impressive body of academic research like Morgan-

Thomas and Veloutsou (2013), Park and Kim (2014), Dahlberg et al. (2015), Muthu et al. (2016), and Huang (2017) often used PU and PEOU as constructs to check the effect of users' perception regarding the usefulness of technology on the intention to use it. These two factors have been confirmed to have both direct and indirect associations with the behavioral intention of accepting a technology (Acheampong et al., 2017). Davis (1989) defined PU as "the degree to which a person believes that using a particular system would enhance his or her job performance". It is the subjective possibility that adopting a technological innovation will advance the way an individual finish a task. In the context of agent banking service adoption by potential agents of commercial banks, a noteworthy reason behind the usage intention is a judgement that it will be advantageous to them. Alternatively, Davis et al. (1989) defined PEOU as the extent to which an individual assumes that using a particular innovation would be free of effort. It is a function of an individual's overall perception of how simple a new technology will be. In the context of this study, PEOU can be defined as the degree to which it is easier to adopt and provide agent banking services to potential agents. Findings of the studies conducted by Mortimer et al. (2015), Muthu et al. (2016), Sharma et al. (2016) and Dong et al. (2017) report both PU and PEOU to be major determinants of technology acceptance against the backdrop of innovative services. In their study, Alharbi and Drew (2014) and Rauniar et al. (2014) claim that PEOU significantly influences the PU of technology, while together they influence an individual's attitude towards its usage intention.

The following hypotheses are thus proposed:

H4a: Perceived Ease of Use has a significant influence on Perceived Usefulness.

H4b: Perceived Ease of Use has a significant influence on Behavioral Intention.

H5a: Perceived Risk has a significant influence on Perceived Usefulness.

H5b: Perceived Risk has a significant influence on Behavioral Intention.

H6: Perceived Usefulness has a significant influence on Behavioral Intention.

The conceptual model based on the above arguments is presented in **Figure 1**.

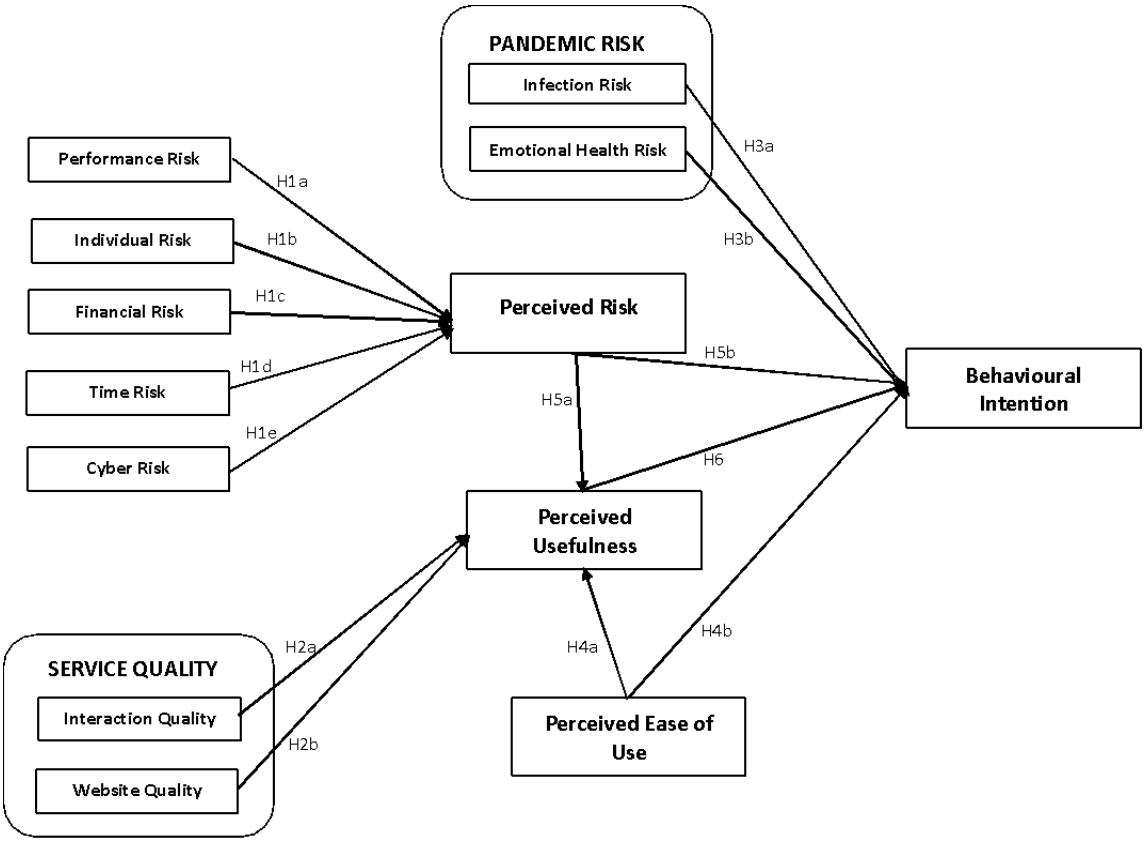

Figure 1: Conceptual Research Model

METHODOLOGY

The research study is a quantitative survey-based study aimed at investigating the factors influencing agent banking services in Bangladesh. The methodology involved primary data collection using a structured questionnaire administered to a sample of 300 agents recruited by commercial banks during the fiscal year 2021-2022. A representative convenience sampling method was employed to select respondents from major divisions in Bangladesh, ensuring diversity and minimizing biases. Preceding the main survey, a pilot study was conducted to ensure the clarity and feasibility of the questionnaire.

Collection of Data

To investigate the proposed research model, the methods and techniques employed for data collection consisted of primary research. The primary research involved gathering data by conducting a survey using a structured questionnaire on a sample of 300 respondents. These respondents are the current agents who are recruited by the commercial banks for the fiscal year 2021-2022 residing in the major divisions of Bangladesh – Dhaka, Chittagong, Khulna, Rajshahi, Barisal and Sylhet. The selection of respondents has been made based on representative convenience sampling methods. The use of this particular sampling method allowed us to avoid biases in data and provided equal opportunity for all agents who are currently responsible for executing agent banking services in the banking sector of Bangladesh. Agents, in this case, represented the major locations around Bangladesh fulfilling agent banking services through grocery stores, retail outlets, food shops, post offices and pharmacies.

The survey questionnaires were translated into the Bengali language to increase the proper understanding of the questions. Before distribution, a pilot study across 40 respondents was carried out. This was mainly done to check the phrasing, relevance, language clarity and understanding of the questions with experts drawn from academia, bank employees and practitioners. Results from the pilot study ensured the feasibility of the developed questionnaire to be used for the larger-scale study. However, one source of common method variance was identified by the researchers from the pilot study. Since data for both independent and dependent variables were being collected from the same respondents at one point in time, potential common method variance might be present in the data collected from the larger scale study. Acknowledging the presence of possible common source bias, some procedural remedies were undertaken during the main survey.

For the main study, survey questionnaires were disseminated in the form of only hard copies. Six research assistants were hired and trained to administer the distribution and filling out of the questionnaire. Also, the respondents received rewards/incentives such as gift cards, food vouchers etc. upon completion of the survey. This approach was taken to increase the response rate of the respondents. While conducting the face-to-face survey, the measurement of predictor and criterion variables were proximally or methodologically separated following Podsakoff et al. (2003). In other words, research assistants asked the respondents and completed the predictor variable measurements first then the measurement of the criterion variable was completed. The research assistants were hired individually to conduct the surveys in each division (Podsakoff et al., 2003) to avoid and eliminate any common retrieval cues of the respondents through the reduction of short-term memory.

A total of 300 hardcopy of the questionnaire were distributed, among which 246 surveys were usable, the remaining others had some missing values and flat-linings. As a result, the sample size stood at 246 respondents out of 300 agents approached for the data. **Table 1** represents the demographic profile of the 246 respondents surveyed in this study.

Table 1: Profile of Respondents

Demographics	Frequency	Percentage (%)
Gender		
Male	184	74.80
Female	62	25.20
Age		
21-30	56	22.77
31-40	88	35.78

Demographics	Frequency	Percentage (%)
41-50	67	27.23
Above 50	35	14.22
Location		
Dhaka	41	16.67
Chittagong	65	26.42
Khulna	37	15.04
Rajshahi	33	13.41
Barisal	49	19.92
Sylhet	21	8.54
Outlet Types		
Grocery Store	102	41.46
Retail Outlet	48	19.51
Pharmacy	54	21.95
Post Office	18	7.32
Food Shop	24	9.76

Development of Instruments

Survey instruments were developed to examine the proposed hypotheses of this study. The items of the survey were adapted from existing literature to ensure the content validity of the scales used in a questionnaire (Luarn & Lin, 2005). **Table 2** shows a display of the sources from where the constructs were adapted for the questionnaire that has been used in this study. A total of 13 constructs can be found in the questionnaire - following previous behavioral research. This includes the composite variable of perceived risk, five facets of risk along with two constructs adapted from the Pandemic Risk Perception Scale, two factors from TAM, two from SERVQUAL factors, and adoption intention as the outcome variable. The survey questions or items were modified to fit the context of agent banking. A minimum of 3 items for each variable were maintained – resulting in 51 questions in the survey questionnaire. The questionnaire consisted of close-ended questions, as shown in **Table 3**, that gauged the agents' opinions about agent banking using a five-point Likert scale, where "1" denoted strongly disagree and "5" as strongly agree.

Table 2: Overview of the Constructs

Constructs	Adoption Sources
Performance Risk	Featherman & Pavlou (2003), Azmi & Kamarulzaman (2010), Hubert et al. (2019), Rifat et al. (2019)
Individual Risk	Nastase & Nastase (2007), Luo et al. (2010), Iqbal et al. (2018), Rifat et al. (2019),
Financial Risk	Featherman & Pavlou (2003), Azmi & Kamarulzaman (2010), Hubert et al. (2017), Rifat et al. (2019)
Time Risk	Featherman & Pavlou (2003), Azmi & Kamarulzaman (2010), Rifat et al. (2019), Van et al. (2021)
Cyber Risk	Featherman & Pavlou (2003), Rifat et al. (2019), Van et al. (2021)
Infection Risk	Vieira et al. (2021)
Emotional Health Risk	Vieira et al. (2021)
Perceived Risk	Featherman & Pavlou (2003), Rifat et al. (2019), Chauhan et al. (2019), Penney et al. (2021)
Interaction Quality	Aghdaie & Faghani (2012), Iqbal et al. (2017), Rifat et al. (2019), Li & Shang (2020)
Website Quality	Chandra & Ibrahim (2015), Rahi et al. (2017), Rifat et al. (2019), Kavandi & Jaana (2020)
Perceived Ease of Use	Alharbi and Drew (2014), Rauniar et al. (2014), Acheampong et al. (2017), Rifat et al. (2019)
Perceived Usefulness	Acheampong et al. (2017), Rifat et al. (2019)
Behavioral Intention	Rifat et al. (2016), Rifat et al. (2019)

Table 3: Constructs and Corresponding Items

Constructs	Corresponding Items
Performance Risk	[PfR1] The agent banking services may not perform well due to software failures. [PfR2] The agent banking services may compromise my security through virus and malware attacks.

Constructs	Corresponding Items
	[PfR3] The agent banking services may create problems through malfunctioning and data corruption. [PfR4] The agent banking services may fail in delivering the desired level of performance.
Individual Risk	[IR1] I feel apprehensive about using agent banking services to do banking transactions. [IR2] I am scared of consumers' information loss due to my careless mistakes in using agent banking services. [IR3] I hesitate to use agent banking services for fear of mistakes I cannot correct. [IR4] I feel agent banking services are somewhat intimidating to me.
Financial Risk	[FR1] The chances of losing money while using agent banking services are high. [FR2] Using agent banking services may lead to a financial loss for me. [FR3] Using agent banking services subjects' consumers to financial risk. [FR4] Using agent banking services subjects me to financial risk.
Time Risk	[TR1] There can be possible time loss from connection disruptions while using agent banking services. [TR2] Possible time loss from using agent banking services can make me miss the tax filing deadline. [TR3] Possible time loss from using agent banking services is high. [TR4] Possible time loss from using agent banking services can make consumers switch to a physical bank
Cyber Risk	[CR1] Chances of losing privacy control of the consumer's information in using agent banking services are high. [CR2] Using agent banking services subjects me to potential cybercrimes. [CR3] The agent banking services may not be safe for transmitting personal sensitive information. [CR4] Using agent banking services subjects the consumers to their information being used without their knowledge.
Infection Risk	[InR1] I can catch Covid-19 during while providing agent banking services [InR2] I can die due to Covid-19 [InR3] My spouse can catch Covid-19 [InR4] My children can catch Covid-19 [InR5] My parents can catch Covid-19 [InR6] My general health condition worsens due to the Covid-19 pandemic
Emotional Health Risk	[EHR1] I feel depressed due to the Covid-19 pandemic [EHR2] I feel stressed due to the Covid-19 pandemic [EHR3] I feel distressed due to the Covid-19 pandemic
Perceived Risk	[PR1] Using agent banking services is dangerous for consumers. [PR2] Using agent banking services may add great uncertainty to the consumers' life. [PR3] Using agent banking services may expose consumers to an overall risk.
Interaction Quality	[IQ1] It is easy for consumers to communicate with banking authorities through agent banking services. [IQ2] Agent banking services help consumers to form transparent relationships with banking authorities. [IQ3] Agent banking services allow consumers to recommend ideas to banking authorities.
Website Quality	[WQ1] The design of agent banking service websites/applications is attractive. [WQ2] The agent banking service websites/applications looks professionally designed [WQ3] The agent banking service websites/applications are visually pleasing [WQ4] The overall look and feel of agent banking service websites/applications is visually appealing
Perceived Ease of Use	[PEU1] I think that learning to use agent banking is easy. [PEU2] I think that interaction with agent banking does not require much mental effort. [PEU3] I think it is easy to use agent banking to accomplish the tasks. [PEU4] My interaction with agent banking is clear and understandable.
Perceived Usefulness	[PU1] I find agent banking services attractive as it makes consumers more efficient in banking transactions. [PU2] I find agent banking services attractive as it makes consumers' life more convenient for banking transactions. [PU3] I find agent banking services attractive as it saves consumers' time in banking transactions. [PU4] Overall, I find agent banking services attractive since it is useful in the consumers' life.
Behavioral Intention	[BI1] I prefer to use agent banking services for consumers. [BI2] I intend to use agent banking services for consumers. [BI3] I believe it is worthwhile for me to use agent banking services for consumers. [BI4] I am determined to use agent banking services.

DATA ANALYSIS

The data analysis of this study employed Structural Equation Modelling (SEM) through AMOS software version 26. This study is most suitable for conducting covariance-based SEM as the constructs originated from established scales reflecting correlated items (Hair et al., 2017). Based on Anderson & Gerbing (1988), a two-step approach was followed by assessing the measurement model (CFA) and structural model relationships to test the hypotheses. Before assessing the measurement model, Kaiser-Meyer-Olkin (KMO), reliability analysis and Harman's one-factor test was performed to ensure the minimum standard of the dataset through SPSS software version 26. In this study, the KMO value stood at 0.785, and Cronbach's alpha value for each construct was more than 0.8, which is statistically significant and above the threshold limit suggested by Hair et al. (2017). These results indicate sampling adequacy and high data reliability of this final dataset. Also, the result of Harman's one-factor score attained way less than 50 percent of the extracted variance indicating no issue of common method bias (Podsakoff et al., 2003).

Assessment of the Measurement Model

After running the CFA, the minimum cut-off level for the values of item loadings has been considered as 0.70 to only keep the items that effectively imitate their respective constructs (Hair et al., 2018). To maintain this cut-off level, one item of performance risk (PfR2), one item of financial risk (FR3), and two items of infection risk (InR2, InR6) had to be discarded. This is because all the other items had an item loading value of 0.70 and above, with the exceptions of the above-listed items. Before assessing both convergent validity and discriminant validity, the measurement model was tested for model fit adequacy. The CFA results indicated that $\chi 2/df$ ratio is 1.877, CFI is 0.965, TLI is 0.955, and AGFI 0.931, which are higher than the threshold value of 0.90 (Hair et al., 2018; Byrne, 2001). Also, RMSEA is 0.06 and SRMR is 0.04, which is below the recommended value of 0.08 (Hair et al., 2018; Byrne, 2001). Therefore, the measurement model indicated model fit adequacy based on the latent variables constructed.

Convergent validity measures whether the items effectively reflect their respective constructs, whereas discriminant validity shows whether the constructs are statistically different from each other. The convergent validity has been checked through the average variance extracted (AVE) and composite reliability (CR) of the items and constructs. For AVE, 0.50 has been considered the minimum cut-off level (Fornell & Larcker, 1981). Results indicate that all AVE values of the constructs of this study are well above 0.50. Next, 0.70 has been considered the minimum cut-off value for composite reliability (Nunnally & Bernstein, 1994). Since all of the CR of the constructs in this study is above 0.80, it suggests internal consistency for the proposed model. The values for the measurement model are given below in **Table 4**. The discriminant validity has been checked through the square root of the AVE of each construct being greater than its highest latent variable correlation (Fornell & Larcker, 1981). **Table 5** shows that the constructs used in this study satisfy this criterion, as represented by the square root of AVE of each construct of latent variables and all latent variable correlations. This further suggests that the result of the Fornell-Larcker criterion is acceptable and the model poses good discriminant validity.

Table 4: Standardized Item Loadings, Composite Reliability and AVEs

Constructs	Items	Factor Loadings	Composite Reliability (CR)	AVE
Performance Risk	[PfR1]	0.845	0.831	0.622
	[PfR3]	0.784		
	[PfR4]	0.734		
Individual Risk	[IR1]	0.839	0.855	0.610
	[IR2]	0.829		
	[IR3]	0.804		
	[IR4]	0.720		
Financial Risk	[FR1]	0.872	0.799	0.600
	[FR2]	0.756		
	[FR4]	0.713		
Time Risk	[TR1]	0.875	0.835	0.610
	[TR2]	0.867		
	[TR3]	0.839		
	[TR4]	0.801		

Constructs	Items	Factor Loadings	Composite Reliability (CR)	AVE
Cyber Risk	[CR1]	0.874	0.883	0.655
	[CR2]	0.873		
	[CR3]	0.758		
	[CR4]	0.720		
Infection Risk	[InR1]	0.834	0.818	0.605
	[InR3]	0.890		
	[InR4]	0.832		
	[InR5]	0.790		
Emotional Health Risk	[EHR1]	0.765	0.830	0.620
	[EHR2]	0.849		
	[EHR3]	0.744		
Perceived Risk	[PR1]	0.781	0.888	0.727
	[PR2]	0.879		
	[PR3]	0.894		
Interaction Quality	[IQ1]	0.785	0.857	0.629
	[IQ2]	0.854		
	[IQ3]	0.833		
Website Quality	[WQ1]	0.771	0.810	0.518
	[WQ2]	0.776		
	[WQ3]	0.705		
	[WQ4]	0.700		
Perceived Ease of Use	[PEU1]	0.792	0.817	0.527
	[PEU2]	0.739		
	[PEU3]	0.718		
	[PEU4]	0.745		
Perceived Usefulness	[PU1]	0.858	0.907	0.709
	[PU2]	0.852		
	[PU3]	0.827		
	[PU4]	0.832		
Behavioral Intention	[BI1]	0.825	0.913	0.723
	[BI2]	0.860		
	[BI3]	0.872		
	[BI4]	0.844		

Table 5: Measurement Model Estimations

	BI	CR	FR	IQ	IR	InR	EHR	PEU	PfR	PR	PU	TR	WQ
BI	**0.857**												
CR	0.530	**0.836**											
FR	0.183	0.540	**0.948**										
IQ	0.125	0.276	0.167	**0.911**									
IR	0.208	0.588	0.575	0.009	**0.865**								
InR	-0.415	-0.184	0.004	-0.002	0.356	**0.832**							
EHR	-0.266	-0.166	0.112	-0.007	0.265	0.441	**0.837**						
PEU	0.371	0.126	0.128	0.545	0.344	0.033	0.133	**0.865**					
PfR	0.575	0.433	0.130	0.266	0.236	0.334	0.268	0.417	**0.832**				
PR	0.545	0.427	0.723	0.153	0.426	0.411	0.423	0.111	0.387	**0.803**			
PU	0.366	0.430	0.176	0.283	0.202	0.009	0.133	0.390	0.471	0.335	**0.921**		

TR	0.474	0.061	0.204	0.174	0.321	0.102	0.008	0.121	0.450	0.117	0.133	**0.877**	
WQ	0.135	0.117	0.038	-0.322	0.002	0.006	-0.024	0.214	0.154	0.129	0.288	0.321	**0.836**

Notes: *1. BI (Behavioral Intention); CR (Cyber Risk); FR (Financial Risk); IQ (Interaction Quality); IR (Individual Risk); InR (Infection Risk); EHR (Emotional Health Risk); PEU (Perceived Ease of Use); PfR (Performance Risk); PR (Perceived Risk); PU (Perceived Usefulness); TR (Time Risk); Website Quality (WQ).*

*2. D*iagonal elements represent the AVEs, while off-diagonal elements represent the square correlations.

Assessment of the Structural Model

The structural model estimated all thirteen constructs which were validated using CFA in the previous section. The structural model was confirmed using the maximum likelihood estimation technique in AMOS. The model fit index indicated a $\chi 2$/df ratio of 2.06, CFI 0.975, TLI 0.965 and AGFI 0.941, whereas, RMSEA is 0.06 and SRMR is 0.05. All these indexes meet the recommended threshold criteria (Hair et al., 2018; Byrne, 2001). Therefore, the final data illustrates an excellent fit of the theorized model. The outcome of the theorized model is presented in **Figure 2**. Moreover, the R^2 (coefficient of determination) value of the endogenous latent variable explains the nomological validity of the proposed model (Rifat et al., 2019). Behavioral intention is the endogenous latent variable for this study and it is important to have a substantial R^2 value as it depends on twelve other exogenous latent variables (Henseler et al., 2009). The R^2 value for behavioral intention is 0.586, which means that the conceptual model of this study explains 58.6% of the variance of the behavioral intention among agents to adopt agent banking services and this result is quite significant.

To evaluate the theorized hypotheses, standardized path coefficients were investigated as shown in **Table 6**. Results reveal that the constructs of performance risk (0.284, $p<0.05$), individual risk (0.162, $p<0.05$), and financial risk (0.294, $p<0.05$) show significant and positive paths to the perceived risk of using the agent banking services, in their order of influencing strength. However, the constructs of time risk (0.167, $p>0.05$) and cyber risk (0.175, $p>0.05$) report an insignificant path towards the perceived risk of the agent banking services. This implies that performance, individual and financial risk are the most important facets of perceived risk for agent banking services from the agent's perspective. Time and cyber risk, however, do not hold much significance as the facets of perceived risk in this context.

The factors of interaction quality (0.149, $p<0.05$), website quality (0.115, $p<0.05$) and perceived ease of use (0.233, $p<0.05$) reveal a significant and positive relationship towards the perceived usefulness of the agent banking services. Findings thus imply that service quality factors and ease of use of the technology are relevant to the agents in their evaluation of the usefulness of agent banking. Furthermore, perceived usefulness (0.197, $p<0.05$) also reveals a significant and positive path to agents' behavioral intention for adopting agent banking services. However, perceived ease of use (0.138, $p>0.05$) does not reveal any significance towards the behavioral intention of using the agent banking services. This means ease of use of the technology seems not to be relevant to the agents concerning the adoption intention of the agent banking services.

Additionally, the construct of perceived risk depicts a significant and negative path to perceived usefulness (-0.265, $p<0.05$) and behavioral intention (-0.296, $p<0.05$) in terms of agent banking services. This implies that perceived risk as a composite variable is relevant to users in their evaluation of the usefulness and behavioral intention of the agent banking services. Therefore, the perceived risk and usefulness of the agent banking services do play a crucial role in the adoption intention of the agents. Moreover, the factors of infection risk (0.154, $p>0.05$) and emotional health risk (0.254, $p>0.05$) depict a non-significant but positive path to behavioral intention in terms of the agent banking services from the agent's perspective. This means that the pandemic risk factors seem to play a non-significant but positive role in the agent's intention to adopt agent banking which contradicts the original proposition of this study.

Table 6: Standardized Coefficient (β), Critical Ratio and Hypotheses Results

Hypothesis	Standardized Coefficient (β)	Critical Ratio	Significance	Results
H1a: Performance Risk to Perceived Risk.	0.284	3.667	0.001*	Supported

Hypothesis	Standardized Coefficient (β)	Critical Ratio	Significance	Results
H1b: Individual Risk to Perceived Risk.	0.162	2.207	0.027*	Supported
H1c: Financial Risk to Perceived Risk.	0.294	4.103	0.001*	Supported
H1d: Time Risk to Perceived Risk.	0.167	2.331	0.071	Not Supported
H1e: Cyber Risk to Perceived Risk.	0.175	2.672	0.062	Not Supported
H2a: Interaction Quality to Perceived Usefulness.	0.149	2.334	0.022*	Supported
H2b: Website Quality to Perceived Usefulness.	0.115	1.853	0.039*	Supported
H3a: Infection Risk to Behavioural Intention.	0.154	1.748	0.098	Not Supported
H3b: Emotional Health Risk to Behavioural Intention.	0.254	2.968	0.079	Not Supported
H4a: Perceived Ease of Use to Perceived Usefulness.	0.233	3.633	0.001*	Supported
H4b: Perceived Ease of Use to Behavioural Intention.	0.138	1.62	0.081	Not Supported
H5a: Perceived Risk to Perceived Usefulness.	-0.265	3.855	0.025*	Supported
H5b: Perceived Risk to Behavioural Intention.	-0.296	4.201	0.001*	Supported
H6: Perceived Usefulness to Behavioural Intention.	0.197	2.075	0.039*	Supported

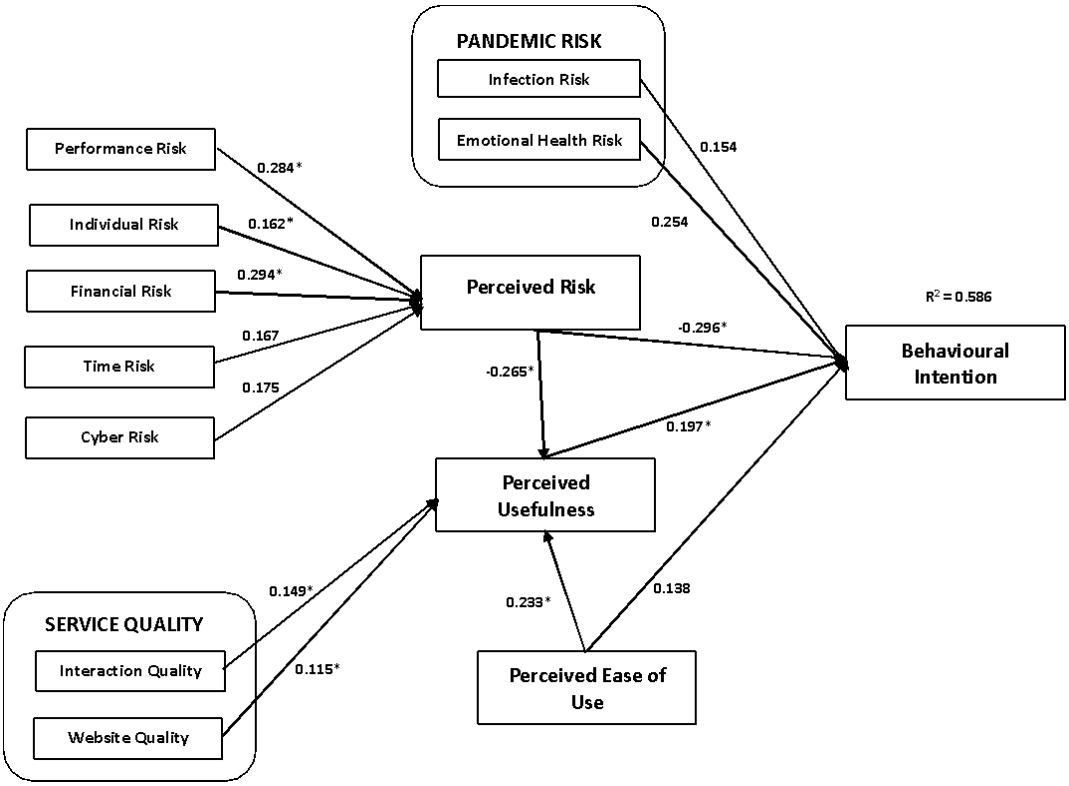

Figure 2: Results of Structural Equation Modeling

DISCUSSION

This study investigates the significant roles of perceived risk dimensions, service quality factors and technological dimensions for agent banking services in Bangladesh. To begin, three dimensions of perceived risk, namely performance, individual and financial risks are identified in this study to be significant with negative influence on

agent's intention towards agent banking adoption. This particular finding has been supported by Chauhan et al. (2019), Van et al. (2021) and Noreen et al. (2021). However, the other two dimensions of risk - time risk and cyber risk – did not reveal any significance towards perceived risk for agent banking services. This finding is consistent with previous studies like Nisha et al. (2018), Iqbal et al. (2018) and Rifat et al. (2019). Therefore, it can be concluded that only performance, individual and financial risks exert a strong negative influence on the adoption behavior of agent banking services. On the other hand, both the dimensions of service quality - interaction quality and website quality – are found to be significant by the results of this study. This finding indicates that the quality of the website and interaction are important dimensions to influence agent's intention towards agent banking services in Bangladesh. Even though this result is supported by Iqbal et al. (2017) and Li and Shang (2020), it contradicts the findings of Yeh and Li (2009) & Rifat et al. (2019).

Additionally, perceived risk is found to share a significant and inverse relationship to the perceived usefulness of the agent banking services. There is a significant connection between service quality dimensions and perceived usefulness and their significant influence on the agent's intention towards agent banking services in this study. This result is subsequently supported by the findings of Featherman and Pavlou (2003), Azmi and Kamarulzaman (2010) and Rifat et al. (2019). Although perceived ease of use indicated a positive significant influence on perceived usefulness, it was found to be non-significant towards behavioral intention by the results of this study. This contradicts the findings of Alharbi and Drew (2014) and Rauniar et al. (2014). These findings suggest that easy, accessible technology enhances the usefulness of agent banking services among the agents but it doesn't necessarily increase the intention to adopt agent banking services. This study examined the simultaneous impact of perceived risk facets, service quality and technological dimensions on the behavioral intention of agent banking services in Bangladesh. Hence, the findings of this study are well supported by the relationships between perceived risk, perceived ease of use, perceived usefulness and behavioral intention.

This study also explored the pandemic health risk and its impact on the adoption of agent banking services from the agent's perspective. The findings suggested that infection risk and emotional health risks play an insignificant but positive role in adopting agent banking services in Bangladesh. This result contradicts the findings of Ha et al. (2020), where evidence suggested that the ongoing COVID-19 pandemic is expected to lessen the behavioral intention of agents to adopt agent banking services. However, the number of agents providing agent banking services increased by 47.75% during the pandemic in Bangladesh (Rahman, 2020). Due to the exemption from the limited banking operation during the lockdown, the agents preferred to serve their clients and continue their livelihood. Therefore, infection risk and emotional health risk did not significantly affect the agent's intention to adopt agent baking services in Bangladesh.

CONTRIBUTIONS AND IMPLICATIONS

Theoretical Contributions

This study contributes to the scant literature on agent banking services with empirical evidence that provides insights into the significant roles of perceived risk and service quality as technological dimensions. To the best of the authors' knowledge, there has been no significant study that conducts an in-depth investigation on the impacts of technological dimensions for agent banking services, with commercial banks being the setting, and in the context of developing countries. This study also converges the service quality and perceived risk facets and provides a more robust framework to examine agents' behavioral intentions towards agent banking services. In doing so, this study complements Azmi and Kamarulzaman's (2010) study with an empirical examination in a developing country context. Furthermore, this study invokes a new theoretical basis that comprises health risks arising from the pandemic as an additional risk facet for electronic services. Through empirical investigations, this study provides insights into the impacts of health risks on agent bankers' behavioral intention towards the use of agent banking services in an emerging pandemic. On the whole, this study improves the general understanding of this emerging social-related phenomenon of agent banking and evokes academic investigations on the underlying mechanisms of agent bankers' intentions to use agent banking services across industry, country and environmental contexts.

Practical Implications

The pandemic presents an ultimate challenge for agent bankers as they are living in uncertainty about their health and safety and that of significant others. Agent bankers also face a dilemma where they are striving to maintain their livelihood through extended lockdowns. Service provision thus became a means to suppress financial predicament by agent bankers – a reason why, infection risk and emotional health risk stemming from the pandemic did not impact their intention towards agent banking services. To mitigate the predicament, commercial banks need to provide agent bankers with additional financial incentives to sustain their motivation to continue operations during the pandemic. For example, commercial banks can provide minimum-income benefits regardless of how many consumers agent bankers provide services to in this crisis. Besides, cash transfer schemes that ensure small disaster payments to support families of agent bankers during this pandemic can go a long way to motivate agent bankers and induce their loyalty to commercial banks.

Within the banking industry, threats of cyber heists persist in Bangladesh (United Nations, 2018) and the lack of low coping capacity to such threats poses additional challenges to agent bankers. As a result, it is not surprising that agent bankers fear losing money across electronic channels to professional hackers, criminal or terrorist organizations who may misuse sensitive information for financial gains (Park & Tussyadiah, 2016). Moreover, Bangladesh is still not well-equipped with stable facilitating conditions for operationalizing hi-tech electronic services (Nisha et al., 2016), especially in rural areas. Thus, agent bankers face significant challenges like weak internet, unstable server connectivity, and poor mobile networks – which, in turn, impact the performance of the technology (e.g., poor backup systems) that they use to provide agent banking services. Besides, agents often suffer from a lack of experience in offering agent banking services (Chiteli, 2013). This lack of experience can result in agent bankers facilitating data leaks, making erroneous banking transactions and subsequently, leading to monetary loss for the clients. On the whole, these combined impacts of financial, performance and individual risks of agent banking services on overall perceived risk negates the usefulness of the technology in the service provision. While interaction quality and website quality of the service technology may accentuate the technology's usefulness, it is necessary to mitigate these risk facets to positively influence the agent bankers' intention towards agent banking services.

Thus, commercial banks can offer extensive training services to agent bankers to familiarize them with the technology, the ease of technology use and banking support available to them in cases of emergencies. Brochures and short video clips can be used as a means to familiarize agent bankers with the technology and highlight the interaction quality and website quality of the technology and the ease of using the technology. Seminars can also be arranged across different social networking sites, considering the pandemic, to create awareness and knowledge about agent banking technology. However, the ease of use of the technology may not be sufficient to influence the agent bankers' intention towards agent banking services. Training programs and workshops can therefore be run by the commercial banks to make agent bankers aware of common mistakes that can occur in the process of service provision and the actions that need to be taken in such scenarios. On the other hand, government organizations like the Ministry of Finance need to work with the banking industry to identify and implement precautionary measures against cyber heists and banking fraud. The joint efforts by government and commercial banks can ensure the safety of agent bankers and pave the way to positively influence their intention to adopt and participate in the provision of such services.

Agent banking is a newly inaugurated banking service dispersal model in Bangladesh, and hence, robust strategies need to be devised to ensure that agent bankers showcase a positive intention towards the provision of agent banking services. Only then, the enhancement of the financial sector deepening through commercial banks can occur across developing countries like Bangladesh.

CONCLUSION

In conclusion, this study sheds light on the multifaceted factors influencing agent banking services adoption in Bangladesh, with a particular focus on the post-pandemic context. The research highlights the pivotal roles of

perceived risk dimensions, service quality factors, and technological attributes in shaping agents' intentions towards adopting these services. Specifically, performance, individual, and financial risks were found to negatively impact adoption behavior, while interaction and website quality emerged as crucial service quality dimensions promoting positive adoption intentions. The study also addresses significant gaps in the existing literature by empirically validating a comprehensive conceptual model that integrates perceived risk, service quality, and technological factors in the context of agent banking. This contribution is particularly valuable for the banking sector in formulating strategies to enhance service adoption, especially during periods of crisis. Contrary to previous studies, pandemic-related health risks were found to have an insignificant impact on agents' behavioral intentions, suggesting that economic and livelihood considerations may outweigh health concerns in influencing service adoption decisions during crises. Overall, this research provides valuable insights for policymakers, commercial banks, and other stakeholders to develop targeted strategies that mitigate perceived risks and enhance service quality, thereby fostering greater adoption of agent banking services in Bangladesh. Future research could further explore the evolving dynamics of agent banking in other emerging economies, considering different contextual factors and post-pandemic realities.

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