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To cite this article: Syed Abidur Rahman, Mirza Mohammad Didarul Alam & Seyedeh Khadijeh Taghizadeh (2019): Do mobile financial services ensure the subjective well-being of micro-entrepreneurs? An investigation applying UTAUT2 model, Information Technology for Development, DOI: [10.1080/02681102.2019.1643278](https://doi.org/10.1080/02681102.2019.1643278)

To link to this article: <https://doi.org/10.1080/02681102.2019.1643278>



Published online: 17 Jul 2019.



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Do mobile financial services ensure the subjective well-being of micro-entrepreneurs? An investigation applying UTAUT2 model

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ABSTRACT



The world is now in human palms due to the rapid proliferation of technology e.g. mobile money transferring. Consequently, the information technology has been sensed as a tool for development which is influencing human well-being. This research embarks upon to examine the influence of UTAUT2 model on the subjective well-being of the bKash agents (micro-entrepreneurs) who belong to the underdeveloped societal group. Data were gathered from the bKash agents in Bangladesh with a response rate of 37.5% and was analyzed by SEM-PLS3.0 statistical software. The results reveal that price value strongly predicts behavioral intention for accepting and using mobile financial services along with other factors. Most importantly, the result suggests that the usage behavior of mobile financial services influences the subjective well-being of the respondents. Adjoining the concept of subjective well-being with a unified theory of acceptance and usage of technology is the paper's uniqueness to the 'development' knowledge domain.

KEYWORDS

Mobile financial services; UTAUT2; subjective well-being; bKash; developing countries

1. Introduction

Information technology is seen as the bridging gap between developed and developing countries, large and micro–small–medium enterprises, privileged and underprivileged group of the society (AlBar & Hoque, 2017). In fact, information technology has been substantiated as a means of improving income and abilities of individuals (Pick, Gollakota, & Singh, 2014; Rahman & Das, 2005), and it is considered as a development instrument which fosters a diverse range of innovation in different societies (Qureshi, 2015). However, innovation of mobile financial services as a computer-aided mobile technology and information technology has sparked a great deal of success in the mobility of money (Awunyo-Vitor, 2016), particularly in the developing countries, as for example G-Cash in The Philippines (Parasa & Batten, 2016) and bKash in Bangladesh (Rahman, Taghizadeh, Ramayah, & Alam, 2017). In Kenya, the successful implementation of M-Shwari, M-Pesa, and M-Kesho are the interesting examples of ICT4D (information, communication, and technology for development) projects, which have contributed to the development of the society (Mwangi & Brown, 2015). Research indicates that mobile financial services are being used by people from a different socio-economic stratum, from diverse demography with different reasons. Particularly, mobile financial services

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James Pick is the accepting Associate Editor for this article.

have been studied in the context of small-medium enterprises (SMEs) in a few of the developing countries (Ahmad, Abu Bakar, Faziharudean, & Mohamad Zaki, 2015). On the other hand, Yen and Wu (2016) revealed that perceived mobility and personal habits are the key drivers to the usage of mobile financial services among the Taiwanese mobile financial services consumers who are mostly economically affluent.

However, the question that is still unrequited is whether the populace from the marginalized group of the society (who are having much lower income than the societal average, deprived access to basic utilities, and commonly excluded from participation in the social activities) can accept and use financial services by means of mobile technology. Another unanswered question is how accepting and using of technology as mobile financial services can nurture the well-being of the poor people. Mobile financial service is a tool that allows individuals to make financial transactions by using mobile phone technology (Jack & Suri, 2011; Kemal, 2018). Mobile financial services are being taken on board hastily across emerging markets as a key tool to advance the goal of financial inclusion (Adaba & Ayoung, 2017; Ahmad, Halim, Ramayah, & Rahman, 2013; Lal & Sachdev, 2015). It specifically allows the deprived group of people in society to be included in the financial transaction process using technology (Jack & Suri, 2011). Earlier, the deprived group of people in a developing or least developed countries had to transfer money through postal service or through a middle man as this group of people do not have access to the traditional banking system. According to a report published by Harvard Business School (2016), compiled by Technology and Operation Management Unit in the context of a developing country like Bangladesh, less than 15% of 160+ million populations have accounts at formal financial institutions whereas, over 68% of the population possess mobile phones. Therefore, mobile financial services have been ruminated as a social innovation initiative aiming to solve certain problems in the society (Urama & Acheampong, 2013). Conceivably, such mobile financial services can be labeled as a 'fin-tech' social innovation. 'Fin-tech' is an abbreviation for 'financial technology,' which refers to technology-enabled financial solutions (Gai, Qiu, & Sun, 2018). Factors such as necessity of money transfer, poor alternatives channels for domestic money transfers, the absence of retail-based alternatives with a broad network of service points (Mas & Morawczynski, 2009), widespread of mobile phone usage (Hughes & Lonie, 2007) have fueled the success of such 'fin-tech' (i.e. mobile financial services), particularly in the developing countries. As per the annual report by Groupe Spéciale Mobile Association (GSMA), mobile financial/money service(s) is now available in 93 countries; mobile money service providers are processing on an average of 33 million transactions per day, and registered user account of mobile money service grew by 31% crowding additionally 411 million on the year of 2015 (GSMA Report, 2016). The report has also identified that strong growth is swelling in new regions of the world, including South Asia where the population lacks access to a formal institution, technological infrastructure, public institutional support, affordability, but they possess technological device like mobile phone. Appallingly, South Asia alone accommodates a big chunk of the poorest population (more than half of the total poorest population of the world) who are living at the base of economic pyramid (BoP) (Rahman, Amran, Ahmad, & Taghizadeh, 2013). As said by Prahalad and Hart (2002), people who make equal or less than US\$ 2/day (based on Purchasing Power Parity, PPP) are being considered as a member of BoP segment. According to The World Bank (2015), the size of the BoP segment in the globe is about 2.4 billion, and out of them, South Asia region alone encompasses nearly half of the global BoP segment (1.08 billion). Presumably, this implies the fact that trapping in poverty would not hinder the embracement of technology even in the case of mobile financial services rather technology will enable to fight against poverty - the most pressing issue of the current time. Decades ago, the noble laureate and social entrepreneur Professor Muhammad Yunus foresaw that technology would be within the reach of the poor people around the world. According to Yunus (1998), poor or marginalized people are ready to accept and capable of using technology which will eventually alleviate poverty from the society and nurture the well-being of those who are at marginalized strata (at the base level of the economic pyramid). In fact, the United Nations has recently embraced 'ensuring well-being of all ages' as one of the goals in the

list of sustainable development goals (SDGs) (UNDP, 2015). Philosophically, well-being portrays what is being upright for a person in due course (Crisp, 2008) and is concerned about the ideal functioning (Ryan & Deci, 2001). As per the opinion of Sen (1999), well-being should be comprehended and measured based on a combination of functioning, or capability of being, or doing, with the goods to which they have access (Sen, 1984; Sen, 1999). In this conjunction, it is of interest, how acceptance and usage of technology as a platform for mobile financial services can influence the well-being of the deprived group of the society, and here is the novelty of this research remains. In recent literature, it has been revealed that usage of mobile money services has a traceable impact on economic well-being (Munyegeera & Matsumoto, 2016). Earlier research suggests that the usage of mobile phone has an instrumental effect on people's subjective well-being (Chan, 2015). In terms of readiness of technology, it has also been revealed that technology readiness and acceptance model influence the well-being of the marginalized group (Rahman et al., 2017). However, this study has targeted bKash entrepreneurs in Bangladesh who are using mobile financial services to find out what behavioral factors trigger this deprived group of people to accept and use such technology. Therefore, the research questions of this study are:

- (1) What are the factors that influence the behavioral usage of mobile financial services among marginalized stratum of the society?
- (2) Does behavioral usage of mobile financial services influence subjective well-being?

Previous studies have carried out on unified theory of acceptance and use of technology (UTAUT) in different research settings (Im, Hong, & Kang, 2011; Jeyaraj & Sabherwal, 2008; Khalilzadeh, Ozturk, & Bilgihan, 2017; Magsamen-Conrad, Upadhyaya, Joa, & Dowd, 2015; Šumak & Šorgo, 2016) other than well-being. To comprehend the acceptance and use of technology among the marginalized strata, this study has embarked on the UTAUT2 model developed by Venkatesh, Thong, and Xu (2012). The UTAUT2, which emerged from UTAUT model, aspires to explain users' intention to use technologies and their subsequent usage behavior (Shin, 2009). This study sits at the confluence of two different streams: technology acceptance and use of technology and the subjective well-being in the context of marginalized strata in the society. Therefore, the objective of this study is to investigate the influence of UTAUT2 model on subjective well-being in the setting of agents of 'bKash' mobile financial services, whereas, the agents are also micro-entrepreneur from the marginalized group in Bangladesh.

Adjoining the two different theoretical perspectives from two different streams e.g. UTAUT2 model and subjective well-being is the novelty of this research and a notable theoretical contribution to an interdisciplinary juncture. This paper has proceeded from the conventional phenomenon of UTAUT2, which explains only users' intentions to use an information system or technology and subsequent usage behavior. The finding of the current study revealed the positive trend that the usage behavior of information technology improves the well-being of an individual. This warrants the incremental extension of our knowledge by framing two domains e.g. UTAUT2 and subjective well-being into a single domain. Along with the theoretical contribution, the study also suggests implications for policy and practice. Together with other factors, usage of mobile financial services i.e. bKash in developing countries have potential to contribute to human development in many other ways than just financial prosperity and increased mobility of money. Even though the main purpose of bKash mobile financial service is to provide easy access to the financial transaction by people from any social stratum, this study has shown that it has potential to enhance ICT skills, spur intention to use mobile financial services, and achieve a state of well-being. Approach to ensure the well-being of the underprivileged stratum is still fragmented among the policymakers and practitioners. Increasing the usage behavior of such mobile financial services might improve the well-being of the individuals in the society. Thus, policymakers, social development activists, and mobile financial service providers need to devise strategies that can intensify the intention and usage behavior of mobile financial services. In fact, further development of the mobile financial services by the practitioners

may provide access to wider resources which would contribute to greater development of the society.

2. Theoretical background

2.1. Unified theory of acceptance and usage of technology

With the pace of continuous evolution of technologies (Hanclova, Rozehnal, Ministr, & Tvrdikova, 2015), several theoretical models have been constructed by numerous scholars to explain users' acceptance and use of new technologies from different disciplines, such as psychology, sociology, and information systems. These theoretical models are: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (Koca & Usluel, 2007; Venkatesh, Morris, Davis, & Davis, 2003; Wang & Shih, 2009; Wong, Russo, & McDowall, 2012).

However, to understand how technology is adopted, Venkatesh et al. (2003) empirically have compared the above mentioned eight models. By using data from four notable organizations, they have compared these eight chosen models through within-subjects, longitudinal validation process. Grounded on conceptual as well as empirical similarities across models, Venkatesh et al. (2003) have formulated a unified model. By apprehending the essential elements of previous different models (Table 1), they have further refined and integrated into a new model with the name of 'UTAUT.'

In fact, UTAUT has become a broadly used model to enquire the applications of ICTs in several areas, such as, mobile banking (Zhou, Lu, & Wang, 2010), mobile payment (Gerpott & Kornmeier, 2009; Wang & Yi, 2012; Yang, Lu, Gupta, Cao, & Zhang, 2012), e-government (Gupta, Dasgupta, & Gupta, 2008; Schaupp, Carter, & McBride, 2010; Wang & Shih, 2009), mobile phone technologies (Lu, Yao, & Yu, 2005; Park, Yang, & Lehto, 2007; Wang & Wang, 2010; Zhou, 2011), e-recruiting (Laumer, Eckhardt, & Trunk, 2010), Internet banking (AbuShanab & Pearson, 2007; Riffai, Grant, & Edgar, 2012), and health information systems (Duyck et al., 2010; Kijisanayotin, Pannarunothai, & Speedie, 2009).

UTAUT model embraces four crucial determining factors of *behavioral intention* and/or *use behavior* with respect to the acceptance of new technology, e.g. performance expectancy (PE), effort expectancy (EE), facilitating conditions (FC) and social influence (SI). Eventually, by incorporating three new constructs, such as habit, hedonic motivation, and price value, Venkatesh et al. (2012)

Table 1. Sources of UTAUT constructs from different theories/models.

UTAUT constructs	Original constructs	Theory/model
Performance expectancy	Perceived usefulness	TAM/TAM2 and C-TAM-TPB
	Extrinsic motivation	MM
	Job-fit	MPCU
	Relative advantage	IDT
	Outcome expectations	SCT
Effort expectancy	Perceived ease of use	TAM/TAM2
	Complexity	MPCU
	Ease of use	IDT
Social influence	Subjective norm	TRA, TAM2, TPB/IDTPB, and C-TAM-TPB
	Social factors	MPCU
	Image	IDT
Facilitating condition	Perceived behavioral control	TPB/ DTPB, C-TAM-TPB
	Facilitating conditions	MPCU
	Compatibility	IDT

Notes: (TAM = Technology Acceptance Model; TRA = Theory of Reasoned Actions; TPB = Theory of Planned Behaviour; C-TAM-TPB = Combined TAM and TPB; MM = Motivational Model; MPCU = Model of PC Utilization; IDT = Innovation Diffusion Theory; SCT = Socio-Cognitive Theory).

Source: Venkatesh et al. (2003).

have extended the UTAUT model to UTAUT2 in consumer context (consumers' acceptance and use of technologies) to reduce the pitfalls of UTAUT. These three additional constructs are based on the amendments of the TAM and the UTAUT model by Venkatesh et al. (2003), technology usage (Burton-Jones & Straub Jr, 2006), the extended TAM (Van der Heijden, 2004), the notion of habit (Limayem, Hirt, & Cheung, 2007), and the continuance of ICT usage (Thong, Hong, & Tam, 2002). In fact, these amendments with extensions suggested in UTAUT2 confirmed a significant enhancement in the capacity to explain the variability in behavioral intention (increased from 56% to 74%) and usage behavior of technology (increased from 40% to 52%) compared to UTAUT (Venkatesh et al., 2012).

2.2. Subjective well-being

Recently, a paradigm shift has been observed among the different schools of thoughts regarding the welfare of the people. At this moment of time, well-being has been frequently conceived as substitutes for, or complements to typical income-based economic welfare measures (Angner, 2010). Scholars have opined that fulfilling basic human needs and self-respect leads to well-being (Nussbaum, 2011), whereas many prominent scholars have argued that well-being should be determined by means of combining the functioning or ability to attain the functioning or ability to do something (Sen, 2004). In the well-being scholarship, subjective well-being is on the spotlight while measuring the quality of life. The works on the subjective well-being typically focus on the approach and the motives of positively experiencing a life grounded on the cognitive decisions and affective reactions (Diener, 2009). According to Diener et al. (2016), subjective well-being is the people's inclusive assessments of their lives and their emotional experiences and explicit feelings that manifest how people are responding to the events and circumstances in their lives.

The concept of subjective well-being believed to be influenced by the capability approach theory (Sen, 2004). The capability approach theory considers the way of elevating people's lives rather than people's financial opulence (Rahman et al., 2013). According to Robeyns (2005), the capability approach theory suggests the effective ability of people to do something worthwhile. The research work by Crabtree (2007) has listed out the basic capabilities of human, and they are the ability to lead a meaningful life, the ability to do something, having a fruitful life, the ability to get involved in leisure activities, and the ability to sustain such life. However, scholars have observed that subjective well-being differs among different groups of people in the society (Twenge, Sherman, & Lyubomirsky, 2016). In addition, the current stream of research also indicates that subjective well-being is predicted by a diverse range of factors, such as business performance (Rahman, Amran, Ahmad, & Taghizadeh, 2016), social support (Gallagher & Vella-Brodrick, 2008). On the other hand, a recent study has revealed that usage of Facebook reduces the subjective well-being of individuals (Verduyn et al., 2015). However, the central theme of subjective well-being is to lead a life with contentment where capabilities are wielded exclusively (DeHaan, Hirai, & Ryan, 2016).

3. Research setting

This research has been piloted among the micro-entrepreneurs from the marginalized stratum that basically act as registered agents for transferring money legitimately to the clients of bKash mobile financial services in Bangladesh. Being a private limited company, bKash is offering mobile financial services to the citizens of the country. A local commercial bank, name BRAC bank, owns 51% shares of bKash while the rest of the shares are held by three other institutions namely, International Finance Corporation (IFC), the Money in Motion LLC (USA), and Bill & Melinda Gates Foundation. According to a research finding, bKash mobile financial services offer a phone-to-phone money transfer option and cash-out option at the lowest cost compared to any other mobile financial services in the world (Amin, 2014). As a result, bKash has made the way to hold the majority of the market share (95%) of the mobile financial services business in Bangladesh. On the other hand,

as a single mobile financial services company, M-Pesa of Kenya captures 55% of the market share among others (Realini & Mehta, 2015). bKash mobile financial service enables money transfer through mobile handphone for the citizen of the country, with a hope to achieve inclusive growth. Specifically, it has influenced the lives of the micro-entrepreneurs who can easily transfer money without having access to financial institutions. Micro-entrepreneurs now can easily and instantly pay their bills, send money to their hometown, and repay the dues to the stakeholders i.e. whole seller (Hossain & Mahmud, 2016).

4. Conceptual framework and hypothesis development

This research aims to identify the factors that affect the acceptance and use of technology among micro-entrepreneurs (in this study, bKash agent) in Bangladesh, leading to their well-being. This study deploys the modified UTAUT2 model as a basis for developing the conceptual framework (Figure 1) due to its robustness and explaining the power of variance in usage intention and behavior. However, the construct hedonic motivation has been excluded from this conceptual framework due to its inherent characteristics, which are not suitable in this context of the study. According to Venkatesh et al. (2012), hedonic motivation is the pleasure or fun resulting from the usage of technology. The targeted respondents of this research usually adopt the technology in order to facilitate their business as a necessity rather as fun or pleasure.

Performance Expectancy (PE) is postulated as the extent to which using technology will ensure benefits to consumers in doing particular activities. Based on this concept, it is expected that upon their belief(s) to have positive outcomes of using technology, individuals will engage themselves in using technology (Yang, 2010). According to Venkatesh et al. (2003) performance expectancy is the strongest predictor of intention to use technology. In the same line, other studies have also identified similar results, and their results show that performance expectancy is to be found as the most significant determinant of behavioral intention (Alalwan, Dwivedi, & Rana, 2017; Wang & Yi, 2012). For instance, Baptista and Oliveira (2015) found that performance expectancy significantly influenced people's intention to use mobile bank services. As bKash is a technology-based mobile financial services, the bKash agents might believe that using such services will generate a positive outcome in their business activities. Therefore, this study proposes that performance expectancy

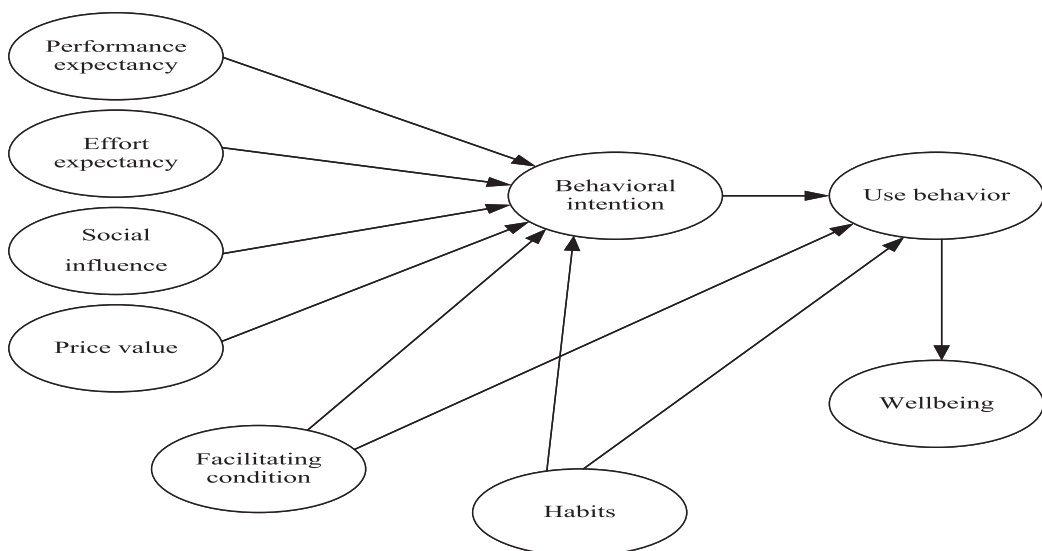


Figure 1. Conceptual framework.

predicts the behavioral intention of bKash agents at the time of using mobile financial service technology.

H1: Performance expectancy positively affects the behavioral intention of the bKash agents.

Effort expectancy (EE) stands for the degree of ease associated with consumers' use of technology (Venkatesh et al., 2012). This concept is similar to the perceived ease of use of TAM (Zhou et al., 2010). Literature also shows that the more users gain knowledge and confidence through experience, the more they perceive a system easier to use (Hackbarth, Grover, & Mun, 2003). Furthermore, users will be encouraged to use a system if they discover this system as effortless to be adopted (Tarhini et al., 2016; Zhou et al., 2010). In the previous studies, it has been validated that effort expectancy leads towards the intention of using mobile banking (Lin, 2011), mobile coupon adoption (Jayasingh & Eze, 2009). Notably, bKash is mostly used by the marginalized segment of the society, which barely had a chance to use technology before. Therefore, in the context of bKash mobile financial services, it is postulated that if the bKash agents find bKash easy to use, they will become more willing to use it to conduct the financial transactions. We, therefore, hypothesize:

H2: Effort expectancy positively affects the behavioral intention of the bKash agents.

Social Influence (SI) has been defined as the degree to which friends and family influence an individual to use a certain technology (Venkatesh et al., 2012). This concept is quite similar to the concept of subjective norm in the theory of reasoned action (TRA) (Zhou et al., 2010). Nysveen, Pedersen, Thorbjørnsen, and Berthon (2005) found in their study that the perceptions of those who were important for an individual would influence the individual's behavioral intention. Findings of numerous studies have showed that social influence is the most significant predictor of behavioral intention (Khalifa, Cheng, & Shen, 2012; Tarhini et al., 2016; Yang et al., 2012; Yu, 2012) and has been the most tested construct (out of four original constructs of UTAUT) in the context of m-commerce, m-payment, and m-banking (Slade, Williams, & Dwivedi, 2014), and mobile entertainment (Leong, Ooi, Chong, & Lin, 2013). The bKash agents are treated as a deprived group of people in the society, and they have been earning a lower income. To make any decisions for their own lives, they have to depend on the opinions from the social surroundings (e.g. family & friends, acquaintances). As bKash is a technology based mobile financial services, the agents supposedly should have influence from the environments which may lead towards the willingness to use bKash mobile financial services. Based on the above discussion, we hypothesize:

H3: Social influence positively affects the behavioral intention of the bKash agents.

Price value is one of the dimensions of perceived value whereas other dimensions are emotional value, social value, and performance/quality value (Hsiao, 2013). In UTAUT2, Price Value (PV) is defined as 'consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them (Venkatesh et al., 2012). The price value is determined as the difference between the total perceived benefits and the total sacrifice, including the monetary cost to the purchaser (Zeithaml, 1988). In the stream of study, Venkatesh et al. (2012) have argued that when the benefits of using technology are higher than the monetary cost, the price value creates a positive impact on intention to use technology. Deng, Mo, and Liu (2014) conducted a study on mobile health services adoption in China and found that perceived price values significantly influenced the consumers' intention to use services. Similarly, a good number of studies have shown price value as a significant predictor of behavioral intention in different ICT services (Alalwan et al., 2017; Venkatesh et al., 2012). For bKash agents, apart from monetary cost, time and efforts also are considered as their sacrifice in relation to the benefits they perceive. Hence, current research proposes that price value is a meaningful determinant of behavioral intention of bKash agents at the moment of using technology. Thus, we hypothesize:

H4: Price value positively affects the behavioral intention of the bKash agents.

Facilitating Condition (FC) is the consumers' perceptions regarding the available resources and supports to perform behavior (Venkatesh et al., 2012) which is similar to the concept of perceived behavioral control of the theory of planned behavior (TPB) (Zhou et al., 2010). In the original model of UTAUT, Venkatesh et al. (2003) found facilitating conditions that affect use behavior but not behavioral intention. However, in the consumer context, Venkatesh et al. (2012) modified UTAUT2, incorporating a straightforward association between facilitating conditions and behavioral intention and found such relationship as significant. Other researchers have found that facilitating conditions significantly affect both intention and usage behavior (Escobar-Rodríguez & Carvajal-Trujillo, 2014; Nair, Ali, & Leong, 2015). To use the bKash mobile financial services, the bKash agents need to have certain skills, such as installing, configuring, and operating bKash software, connecting to the internet and bKash main server, keeping accounts related information in the bKash system, installing other applications related to bKash in the mobile phone, and knowledge about the mobile phone operators. These skills will create greater behavioral intention to use the bKash mobile financial services. Hence, this study proposes that facilitating condition is a significant predictor of behavioral intention and use behavior of bKash agents at the time of using technology. Therefore:

H5a: Facilitating conditions positively affect the behavioral intention of the bKash agents.

H5b: Facilitating conditions positively affect use behavior of the bKash agents.

In UTAUT2, Venkatesh et al. (2012) introduced the construct *habit* (HT) as a predictor of both behavioral intention and use behavior of technology in response to a critique of behavioral intention as the key predictor of technology use. In several studies, the habit has been used as a predictor of technology use by operationalizing in different ways. According to Kim and Malhotra (2005), 'habit' can be compared to 'prior behavior' whereas Limayem et al. (2007) defined 'habit' as the degree to which people tend to exhibit behaviors automatically and spontaneously because of learning and that is what has been operationalized in the UTAUT2 model in context of technology. Previous studies have confirmed habit as a significant predictor of both intention and use behavior of a technology (Baptista & Oliveira, 2015; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Nair et al., 2015). In the context of this study, it is argued that bKash agents possess the tendency to use routinely the mobile financial services because of learned behavior which represents the notion of *habit*. Thus, this study proposes that habit is a significant predictor of behavioral intention and use behavior of bKash agents at the time of using mobile financial services through bKash technology.

H6a: Habit positively affects the behavioral intention of the bKash agents.

H6b: Habit positively affects use behavior of the bKash agents.

Consistent with all psychological theory based models, it has been argued that behavior of an individual is foreseeable and affected by individual intention (Yu, 2012), and UTAUT2 supports the notion that behavioral intention has a considerable influence on the rate of technology usage in the form of action behavior (Venkatesh et al., 2003). Behavioral intention is a measure of the likelihood of doing something rather than a measure of their actual behavior (Wu & Wang, 2005). The effect of behavioral intention on use behavior has gained longstanding support (Venkatesh et al., 2003). Moreover, several studies also have confirmed the significant influence of behavioral intention over use behavior of a technology (Baptista & Oliveira, 2015; Im et al., 2011; Tarhini et al., 2016). Therefore, this study also proposes that individual behavior can be a significant predictor of use behavior of bKash agents. Therefore, we hypothesize:

H7: Behavioral intention positively affects use behavior of the bKash agents.

The fundamental theme of subjective well-being is to lead a life with contentment; whereas the capabilities are wielded exclusively (DeHaan et al., 2016). Scholars have noted that subjective well-being is people's comprehensive judgements of their lives and explicit feelings that demonstrate

how people are responding to the events and circumstances in their lives (Diener et al., 2016; Williams & Shepherd, 2016). The current stream of research indicates that subjective well-being is predicted by a diverse range of factors, such as business performance (Rahman et al., 2016), social support (Gallagher & Vella-Brodrick, 2008), and online cultural capital (Lee, Chung, & Park, 2016). A study conducted in China by Gao, Li, and Zhu (2014) has revealed that there is a positive relationship between user's phone (smartphone) usage and subjective well-being, and found that it is possible to predict subjective well-being by phone (smartphone) usage behavior with an accuracy of 62%. Another study by Chan (2015) has found that mobile phone usage is positively related to various indicators of subjective well-being. On the other hand, a recent study has revealed that usage of Facebook reduces the subjective well-being of individuals (Verduyn et al., 2015). When the bKash agents use the bKash mobile financial services for their livelihood, to use such technology becomes prerequisite capability. The more they will be using the bKash mobile financial services, the more their capabilities will be exercised. Perhaps, a higher rate of usage will yield subjective well-being for the bKash agents. Assuming the fact, we believe that behavioral usage of bKash mobile financial services has a substantial influence on nurturing the subjective well-being of the bKash agents in Bangladesh. Hence, our last as well as the most contributory hypothesis is:

H8 Use behavior of bKash mobile financial services positively affects the subjective well-being of the bKash agents.

5. Research methodology

The study is quantitative in nature, and it uses a structured questionnaire as the prime research instrument to collect data from the bKash mobile financial services agents in Bangladesh. The measurement items for the UTAUT2 constructs were adapted from Venkatesh et al. (2012), and the items of subjective well-being were adapted from Diener et al. (2010) (measurement items are provided in Appendix 1). Each item was measured with a five-point Likert scale, the value of which ranges from 1 (strongly disagree) to 5 (strongly agree); whereas usage behavior was measured with five response alternatives starting with none to most aligned with Venkatesh et al. (2012). The research carried out back to back translation between English and Bengali language, and the accuracy as well as clarity of the translated items was validated by three experts. In the next stage, a pretest was carried out to make sure the validity of the questionnaire, taking help from six bKash agents and three researchers in the field of micro-entrepreneurship by the use of convenience sampling method. Based on the feedback from the respondents of the pretest, the questionnaire was modified and made ready for the survey.

There are more than 5000 registered bKash agents; each of them are also micro-entrepreneurs, and they are operating their businesses in the 8 divisional headquarters of the country (Bangladesh Bank, 2012). In this study, bKash agent is the unit of analysis. Considering the context of the study, the study has used purposive sampling technique. In total, 960 structured questionnaires were distributed among the bKash agents by 16 well-briefed enumerators throughout the 8 divisional headquarters, using the drop-off/pick up (DOPU) method. Three hundred and sixty responses were finally considered as usable for the data analysis, standing on 37.5% of response rate.

The duration for the distribution and collection of the questionnaire was two months. Presence of non-response bias was checked, comparing the first and last 10% of the responses on all the main constructs by using a Mann–Whitney U-test as followed by Zhang et al. (2011). The statistical insignificant result confirmed the absence of non-response bias. The result of Harman's single factor test (Podsakoff & Organ, 1986) indicates that the first factor explains 20.25% of the variance, which is less than 50%, as per the recommendation by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). Furthermore, seven factors explain 56.35% of the aggregated variance, which is more than the suggested cutoff value of 50%. Thereby, common method bias was found not be an issue for this study.

In this research, 55% of the respondents were between 21 and 30 years old. The respondents' age ranged between 31 and 40 years is 34.4%. The majority of the respondents (96.7%) were male, and this reflects the male domination in the Bangladesh market. 35% of the respondents were single/unmarried whereas 65% of the respondents are married. In terms of education status, the majority of the respondents obtained Higher Secondary School certificate (36.4%), followed by 30.3% passing of Secondary School Certificate. In terms of the family members of the respondents, 28.9% of the respondents have more than 5 family members. The Family members consisting of five holds were 28.9%. Focusing on the years' usage of mobile phone, it was found that 32.6% of the respondents were using mobile phone for the last 7–9 years; 25.8% of the respondents were using mobile phone for the last 10–12 years. On the other hand, 31.7% had been using bKash mobile money services for the last 3 years, and 29.7% were using this service for the last 4 years.

6. Data analysis and result

The theoretical research model of this study was examined using a variance-based technique, Partial Least Squares, with the SmartPLS 3.0 software (Ringle, Wende, & Becker, 2015) for analyzing the data. This is a convenient and statistically powerful technique (Henseler & Fassott, 2010), considered for numerous research situations (Rahman, Amran, Ahmad, & Taghizadeh, 2015), and suitable for assessing complex models with many constructs (Chin, 1998). Following the guideline of Anderson and Gerbing (1988), the two-step approach was conducted. First, the reliability and validity of the measurement model were examined. Then, the assessment of the structural model and the testing of hypotheses were performed.

6.1. Measurement model

The convergent validity is confirmed through the factor loading, average variance extracted (AVE), and composite reliability (CR) as suggested by Hair, Hult, Ringle, and Sarstedt (2014). Four items were dropped due to the low loading (HT4, WB4, WB7 and WB8). The factor loading of the items was above 0.6; the AVEs of all the variables were higher than 0.5; and the CR was above 0.7 (Hair, Hult, Ringle, & Sarstedt, 2013) – indicating the fulfillment of the convergent validity for measurement scale (Table 2).

After assessing convergent validity, the discriminant validity was tested (the degree to which items distinguishing among constructs or measure distinct concepts) by the heterotrait-monotrait ratio of correlations (HTMT), as suggested by Henseler, Ringle, and Sarstedt (2015), based on the multitrait-multimethod matrix. In the HTMT, there are two criteria; first, if the HTMT value is greater than HTMT_{.85} value of 0.85 (Kline, 2015), or HTMT_{.90} value of 0.90 (Gold, Arvind, & Segars, 2001), discriminant validity is questionable. The second is testing the null hypothesis (H0: HTMT \geq 1) against the alternative hypothesis (H1: HTMT < 1), and if the confidence interval holds the value one (i.e. H0 holds), this suggests a lack of discriminant validity (Henseler et al., 2015). As shown in Table 3, all the values are below the threshold level, HTMT_{.90}, and also the HTMT_{Inference}. Furthermore, in any of the constructs, the confidence interval did not display a value of 1. Hence, this demonstrates that discriminant validity has been established.

6.2. Structural model and hypotheses testing

In order to evaluate the structural model (path relationship), R^2 value, beta, t -values via a bootstrapping procedure (resampling of 5000), the predictive relevance (Q^2), and the effect sizes (f^2) were examined as recommended by Hair et al. (2014). The path coefficients results are shown in Table 4 and Figure 2.

The R^2 value for behavioral intention is 0.450 and for 'use behavior' is 0.508, and this is somewhat similar to the previous findings (i.e. Venkatesh et al., 2012; Yang et al., 2012). The model also explains

Table 2. Results of measurement model.

		Loading	CR	AVE
Performance expectancy	PE1	0.846	0.86	0.606
	PE2	0.792		
	PE3	0.726		
	PE4	0.745		
Effort expectancy	EE1	0.830	0.902	0.697
	EE2	0.814		
	EE3	0.876		
	EE4	0.818		
Social influence	SI1	0.802	0.838	0.566
	SI2	0.775		
	SI3	0.803		
	SI4	0.612		
Facilitating condition	FC1	0.768	0.825	0.542
	FC2	0.739		
	FC3	0.739		
	FC4	0.696		
Price value	PV1	0.777	0.844	0.643
	PV2	0.837		
	PV3	0.790		
Habits	HT1	0.731	0.795	0.565
	HT2	0.741		
	HT3	0.781		
Behavioural intention	BI1	0.825	0.886	0.722
	BI2	0.890		
	BI3	0.833		
Use behavior	UB1	1	1	1
Subjective well-being	WB1	0.709	0.835	0.504
	WB2	0.715		
	WB3	0.730		
	WB5	0.659		
	WB6	0.732		

Note: AVE (Average Variance Extracted) = (summation of squared factor loadings)/(summation of squared factor loadings) (summation of error variances).

CR (Composite reliability) = (square of the summation of the factor loadings)/[(square of the summation of the factor loadings) + (square of the summation of the error variances)].

17.3% of the variation in subjective well-being, and this is above the value as recommended by Cohen (1988).

According to Hair et al. (2014) it is required to inspect the change in the R^2 value to get the effect size (f^2). Typically, a specific exogenous construct from the model is omitted to see the change in R^2 . If the omitted construct has a substantive impact on the endogenous constructs, it will make a substantive change in the R^2 . The result of the f^2 is given in Table 4. In this regard, Cohen (1988) suggested the effect size of 0.02 (small), 0.15 (medium), and 0.35 (large). The results indicate that only performance expectancy on behavioral intention has less effect size (0.016), even though the relationship is significant; therefore, performance expectancy cannot be considered as a good predictor of behavioral intention. Habits on behavioral intention have also null effect size (0.000). Finally, the effect size of behavioral intention on use behavior is less (0.014), indicating no effect size as well.

In addition, blindfolding procedure was carried out to examine the predictive relevance of the model (Table 4). According to the researchers, the model has predictive relevance for a particular endogenous construct if the value of Q^2 is larger than zero (0) (Hair et al., 2014; Ramayah, Yeap, Ahmad, Halim, & Rahman, 2017). Based on the results, the Q^2 values for behavioral intention ($Q^2 = 0.315$), use behavior ($Q^2 = 0.490$), and well-being ($Q^2 = 0.084$) are more than 0, and this demonstrates that the model has adequate predictive relevance.

Figure 2 shows that except one, all direct relationships are significant. Performance expectancy ($\beta = 0.119$ and $p < .05$), effort expectancy ($\beta = .173$ and $p < .01$), social influence ($\beta = 0.225$ and $p < .01$), facilitating condition ($\beta = 0.183$ and $p < .01$), and price value ($\beta = 0.330$ and $p < .01$) have significant

Table 3. Heterotrait-Monotrait (HTMT).

	BI	EE	FC	HT	PE	PV	SI	UB	SWB
BI									
EE	0.491 CI.90 (0.384 0.589)								
FC	0.506 CI.90 (0.413 0.595)	0.276 CI.90 (0.182 0.379)							
HT	0.231 CI.90 (0.126 0.356)	0.092 CI.90 (0.077 .201)	0.454 CI.90 (0.338 0.573)						
PE	0.500 CI.90 (0.4 0.595)	0.690 CI.90 (0.601 0.77)	0.277 CI.90 (0.174 0.388)	0.160 CI.90 (0.126 0.262)					
PV	0.625 CI.90 (0.51 0.742)	0.275 CI.90 (0.167 .392)	0.293 CI.90 (0.186 0.413)	0.176 CI.90 (0.123 0.293)	0.293 CI.90 (0.196 0.41)				
SI	0.563 CI.90 (0.475 0.649)	0.353 CI.90 (0.252 .455)	0.429 CI.90 (0.312 0.546)	0.325 CI.90 (0.218 0.446)	0.413 CI.90 (0.315 0.514)	0.274 CI.90 (0.186 0.381)			
UB	0.374 CI.90 (0.293 0.45)	0.135 CI.90 (0.066 .218)	0.740 CI.90 (0.681 0.795)	0.637 CI.90 (0.535 0.729)	0.154 CI.90 (0.08 0.245)	0.177 CI.90 (0.087 0.286)	0.301 CI.90 (0.203 0.395)		
SWB	0.230 CI.90 (0.143 0.334)	0.079 CI.90 (0.08 0.176)	0.291 CI.90 (0.191 0.396)	0.583 CI.90 (0.476 0.686)	0.132 CI.90 (0.101 0.244)	0.098 CI.90 (0.093 0.197)	0.225 CI.90 (0.155 0.336)	0.478 CI.90 (0.403 0.547)	

Table 4. The results of structural model.

Hs	Relationship	Beta	SE	t-value	Decision	R ²	f ²	Q ²
H1	Performance expectancy → Behavioural intention	0.118	0.052	2.247*	Supported	0.450	0.016	0.315
H2	Effort expectancy → Behavioural intention	0.173	0.055	3.141**	Supported		0.035	
H3	Social influence → Behavioural intention	0.225	0.046	4.929**	Supported		0.074	
H4	Price value → Behavioural intention	0.330	0.045	7.275**	Supported		0.179	
H5a	Facilitating condition → Behavioural intention	0.183	0.049	3.694**	Supported		0.049	
H5b	Facilitating condition → Use behavior	0.488	0.035	13.751**	Supported		0.381	
H6a	Habits → Behavioural intention	0.007	0.047	0.145	Not supported		0.000	
H6b	Habits → Use behavior	0.338	0.042	8.09**	Supported		0.209	
H7	Behavioural intention → Use behavior	0.089	0.041	2.188*	Supported	0.508	0.014	0.490
H8	Use behavior → Well-being	0.416	0.039	10.616**	Supported	0.173	0.210	0.084

relationship with behavioral intention. However, the relationship between habits and behavioral intention become insignificant.

Behavioral intention with $\beta = 0.089$ and $p < .05$, facilitating condition with $\beta = 0.488$ and $p < .01$, and habits with $\beta = 0.338$ and $p < .01$ have significant relationship with use behavior.

Finally, use behavior has been found to have a significant relationship with well-being. The results show that use behavior with $\beta = 0.416$ and $p < .01$ has a strong effect on well-being. Therefore, only H6a was not supported in this study.

7. Discussion

The current paper has embarked on the query regarding acceptance and use of technology by the bKash agents, who in fact belong to the marginalized stratum of a society in a least developed country. Furthermore, the effect of modified UTAUT2 model on the subjective well-being of the targeted group has been revealed, and this can be considered as a unique attempt known so far in the area of technology and development. It is distinctive because of the effect of technology on the individual's well-being has been acclaimed in this paper. The society of Bangladesh is inclusive of people

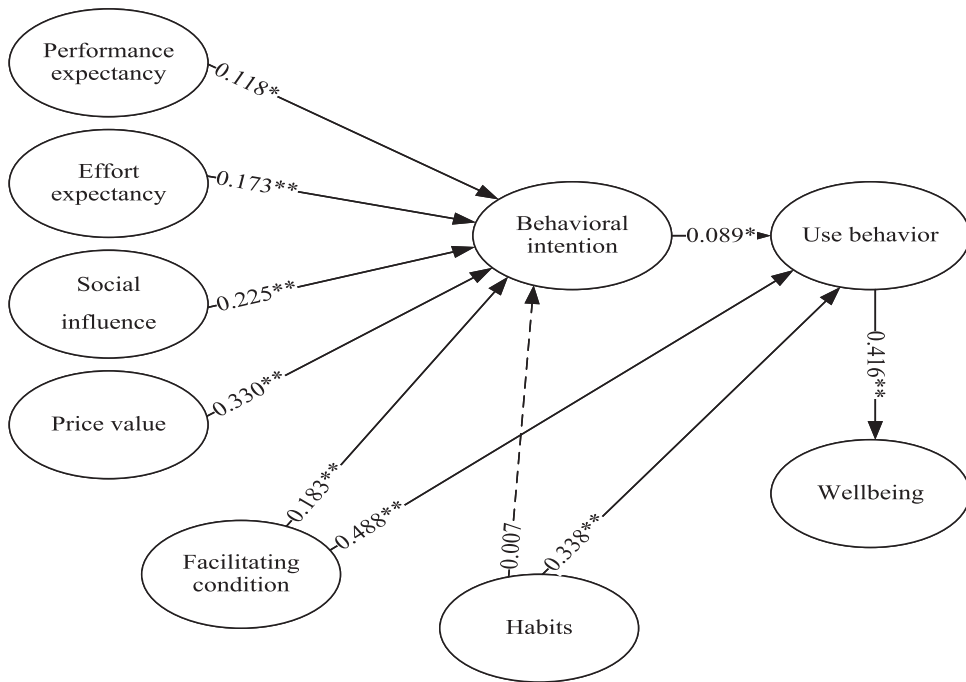


Figure 2. The results of structural model.

who are privileged and deprived of technological access. However, it is hoped that if the deprived group is provided with the technological access, they may accept and use the technology as the privileged groups of the society do; consequently, technology use may influence the well-being. With such prudence and inquisitiveness, based on structured survey questionnaire, the current study has made an empirical research effort with 10 hypotheses and was conducted among the 360 bKash agents in Bangladesh. The result has validated several earlier notions and also brought new insight into the current domain of knowledge. The UTAUT2 model in this study explains 50.8% of the variation in use behavior of mobile financial services, while behavioral intention explains 45% of the variation. These results are in fact in the same line with other studies, such as Venkatesh et al. (2012), Baptista and Oliveira (2015). In addition, while adjoining the subjective well-being with the usage behavior of UTAUT2 model, the empirical result indicates that the usage behavior has appeared to explain the subjective well-being with 17.3% of the variation.

This research model has validated five relationships of behavioral intention, namely performance expectancy, effort expectancy, social influence, price value, and facilitating condition. It has also been validated that facilitating condition, habits, and behavioral intention significantly predicts usage behavior in the context of 'fin-tech' users who are actually the bKash agents. However, most importantly, the current study has validated that the usage of bKash mobile financial services will ensure the subjective well-being of the bKash agents who are struggling every day to make a difference in their own lives.

As shown in the current study, the relationship of performance expectancy with behavioral intention is proved to be consistent with the previous studies, but obviously in different contexts (i.e. Tarhini et al., 2016). The bKash agents considered performance expectancy as a significant predictor. Apparently, the bKash payment system was found to be beneficial for the agents, and the respondents of this study believed that it was a tool that would increase their productivity. The effort expectancy relationship with the behavioral intention is also consistent with earlier research of Alalwan et al. (2017). As the bKash mobile financial service is easy to use and easy to learn, the relationship turned

out to be significantly positive. In the current context of the study, social influence is also an important predictor, and the result mirrors the previous study done in a different research setting by Zhou et al. (2010). In Bangladesh, the users of such 'fin-tech' service perceive that their family and friends believe in the bKash payment system and recommend to use such technology as a means for earning the livelihood. Furthermore, interestingly, price value resulted in as the most important predictor of bKash agents' behavioral intention. This clearly implies that price value issues get a noteworthy interest from the bKash agents to shape their decision to embrace or discard the mobile financial services. The cognitive tradeoff between the perceived benefits of bKash payment system and the monetary cost of using the system plays a very significant role in this research setting, and this is in line with few previous studies i.e. Alalwan et al. (2017) as well. As expected, facilitating conditions was empirically proven to be an imperative factor that influenced the behavioral intention of the bKash agents, and this outcome is consistent with other studies (i.e. Nair et al., 2015). As for the role of habit, the result has been detected in a different manner which has been proposed in the current study. In fact, the found result contradicts with a number of previous research where habit was found to be significant predictor (Escobar-Rodríguez & Carvajal-Trujillo, 2014; Venkatesh et al., 2012). On the contrary, in line with studies of Raman and Don (2013) and Ain, Kaur, and Waheed (2016), it is observed that in the study, the habit was found to have a positive but insignificant relationship with behavioral intention in this study. A conceivable reason for this insignificant relationship may be that the bKash agents are engaged with other venture activities as well. Therefore, it is not necessary for the bKash agents to make bKash payment system a habit in their day-to-day lives. In addition, other existing channels to transfer the money also have constrained the bKash payment system from becoming a habit for the agents. In this context, it can be said that using mobile financial services is not surely of something habitual. Therefore, the respondents of this study perceived that habit would not be a predictor of the behavioral intention.

This research model also has validated that behavioral intention, facilitating condition, and habits are the significant predictors of use behavior of bKash agents in the context of mobile financial service. In the same line with the previous research, it has been confirmed that behavioral intention leads to use behavior in the context of mobile financial services, and this is also seen as 'fin-tech' services. bKash agents consider bKash payment system to be a worthwhile and valuable tool for their business activities. These mobile financial services act as a potential platform for generating income for the marginalized stratum of the society. Considering these facts, it is observed that behavioral intention towards bKash payment system subsequently influences the usage of such 'fin-tech' services in the context of a least developed country.

The facilitating conditions operated as the actual behavioral control's proxy which directly influenced actual use (Ajzen, 2015). The relationship was highly supported due to the compatible and resourceful facilities that were provided freely to all the bKash agents, which, as a consequence, prompted their use of bKash mobile financial services. In fact, facilitating condition turned out to be the most influential predictor of usage behavior. The study result is also in agreement with findings of Escobar-Rodríguez and Carvajal-Trujillo (2014) and Zhou et al. (2010). Habit came out to be another significant predictor for use behavior even it did not influence the behavioral intention. Therefore, it is important to note that bKash agents see the habit as the most significant predictive factor of use behavior. This result goes along with the previous research such as Baptista and Oliveira (2015).

The current research attempted to contribute to exploring the relationship of use behavior and subjective well-being of the bKash agents, which is the central novelty of this paper. It is apparent that the usage of bKash mobile financial service not only adds on to the economic gain but also it ensures the subjective well-being of the bKash agents who in fact are from the deprived stratum of the society. With this statistical result, it can be asserted that mobile financial service indeed assists to shape our life in a better way. The usage of the bKash mobile financial service leads the bKash agents to have a purposeful and meaningful life. It allows creating a social relationship with the surroundings of the bKash agents. The usage behavior of bKash mobile financial service also creates self-confidence among the bKash agents. When the bKash agents send/receive money for

others, it creates a sense of satisfaction within them to see other's happiness. In this line, it can be concluded that use of bKash mobile financial service, which is predicted by a range of factors, does ensure the subjective well-being of the bKash agents, who are typically micro-entrepreneurs at the marginalized stratum. Therefore, bKash service can be referred to as social innovation which would possibly play a role in the advancement of the society.

8. Theoretical contribution and practical implications

8.1. Theoretical contribution

This research aimed to integrate two related theoretical perspectives of UTAUT and UTAUT2 in explaining the role of mobile financial services which possibly would bring about the well-being of users who are at the disadvantaged stratum of the society. Therefore, the present study claims to contribute significantly by adjoining two theories from two completely diverse contexts. As a matter of fact, there has been extensive research on the UTAUT and UTAUT2 which explains the users' acceptance and usage of technology on different settings and contexts (Herrero & San Martín, 2017; Raman & Don, 2013; Slade et al., 2014). However, there is a dearth of research regarding the outcome of the usage of technology in terms of well-being in the context of marginalized group in the society. Moreover, in this paper, we have departed from the typical phenomenon and single-mindedness of the outcome of the UTAUT2, focusing on an underprivileged stratum of the society. The result of this study suggests that usage of technology can be the instrumental tool to ensure the well-being of the deprived group. The more an individual uses a certain type of technology, the more possibility he or she benefits by the well-being. Specifically, usage of mobile financial services ensures the subjective well-being of individuals, even for those who are at the bottom echelon of the society. Furthermore, this study corroborates that performance expectancy, effort expectancy, social influence, price value, facilitating condition are the drivers for behavioral intention towards the mobile financial services. Subsequently, intention, facilitating condition, and habits significantly influence the usage of mobile financial services, which are also known as 'fin-tech' social innovation. In this line, the current study also assumed to contribute to the knowledge domain of social innovation, where the theory of acceptance and usage of technology and theory of well-being proved to play a far-reaching role. It is asserted that this study delivers more holistic insight into the acceptance and usage of technology and its consequences. We expect that this attempt will be a forerunner for future research in the area of acceptance and usage of mobile financial services.

8.2. Practical implication

The evidences that have been brought into light in this study are remarkably imperative for policy-makers, business executives, and scholars who are engaged with mobile financial services and entrepreneurship. M-Pesa in Kenya and bKash in Bangladesh have led the way to bring mobile financial services into the focal point among policymakers, managers, academicians, and researchers. In fact, the impressive acceptance and significant social transformation attributable to the usage of mobile financial services in Bangladesh, Kenya, The Philippines, and other countries have incited interest to do further research. Technology has demonstrated its significance by interjecting to raise the socioeconomic condition for a variety of clusters in the society. For example, the Village Internet Program of the Grameen Bank in Bangladesh, which is a technology-based program, has demonstrated a significant positive impact in the rural areas by reducing the poverty level. By superseding economic obstacles, the professionals in the technology and banking sector conceivably could realize the impact of mobile financial services like bKash on the social clusters.

Increased usage of mobile financial services, like bKash will assist to enact and improve existing financial behaviors and social norms tendency due to the presence of performance expectancy, effort expectancy, social influence, price value, and facilitating condition. Moreover, it is expected

that higher usage of mobile financial services will contribute to the contentment and capability development of the users, and this usage may lead to inclusive growth of the economy. Evidence from a study conducted in South Africa revealed that mobile banking users were wealthier and better educated compared to those who owned bank account (Donner & Tellez, 2008).

The results of the current study may provide an outline that usage of mobile financial services will enhance the economy as well the quality of life in the developing countries. Presumably, the nation will be benefited with the expectation that the prevalent use of bKash mobile financial services would be a desirable outcome for the unbanked in developing countries, like Bangladesh. Due to less transaction charge and lower processing fees, households in the society can save more money, which has a positive impact. Further, the households that currently do not have access to financial services will benefit from having a way to access them. It could change the family dynamics related to saving and sharing, and decision-making abilities. Active use of bKash mobile financial services may lead to indirect impacts, such as increased confidence, better standard of living, and higher family savings rates. From the macro-perspective, it might inject more money into the formal banking system as well as in the circulation of money in the economy.

Policymakers need to emphasize adopting mobile financial services for other public services purposes, such as payment of bills. Increased intention and usage behavior of mobile financial services will lead the users, particularly, the bKash agents to minimize financial cost and maximize the control over one's life. Relevant policy is required to inspire the use of mobile financial services and their usefulness. A large number of Bangladeshi laborers are working abroad, and it has been observed that those laborers face problems at the time of remitting money back to the country. Policymakers may encourage expat laborers to adopt the mobile financial services to remit money back to their home, and this might increase the well-being of their family members, themselves, and also the bKash agent. Policymakers and development organizations may also provide required training to increase the usage behavior of mobile financial services among the people from the marginalized stratum.

Based on the result of the study, it can be ascertained that managers in the mobile financial services also need to consider some features which drive the users to accept and use the technology. Hence, managers should ponder developing products or services that benefit the individuals as well as the society in total. Possibly, business executives in the industry may come up with advanced technology-based financial services, which offer higher utility and warrant ease of use. Whatever technology-based financial products or services are offered to the customers, they must be useful, productive, and very much of user-friendly. Even managers in this sector must design the services which allow the users to learn and adopt the system at the quickest possible time. As social influence was found to be an important driver for the acceptance of such services in this study, managers in other industries may also use the mobile financial services as a way for any type of transactions associated with products and services. Furthermore, considering the relationship of price value and behavioral intention, it is observed that price plays an instrumental role in accepting and using mobile financial services. Managers in the same industry or other similar industries must consider designing the price in such a way that provides good value for money. Managers may also devise a platform where users can obtain necessary information and knowledge about the mobile financial services which would be more compatible. The study also intends to suggest that managers should develop mobile financial services in a compatible manner which would also increase usage. In fact, the research suggests that facilitating condition influence to trigger usage behavior along with the habit. This study has also unearthed the impact of acceptance and usage of technology model on the subjective well-being of the micro-entrepreneurs who are residing at a disadvantaged segment of the society. Thus, organizations endeavoring to cause technology-based social transformation may contemplate the current study with the potential to deliver a diverse route for improving new products and services.

9. Limitations and future research

The study is not out of limitations and carries a few. The findings reflect the only usage of mobile financial services, which is yet to become a regular trend in Bangladesh. The context presumably leads to a limited generalizability. Since the study focused on mobile financial services, it is tough to generalize the results with other mobile phone or traditional financial service solely. Our respondents were mostly from young aged cohort and male. Mixed respondents across age groups and genders might have revealed a different scenario. Future research will be able to frame a larger sample which may be obtained, using stratified sampling or a quota sampling method to assure a certain distribution of demographic variables, such as age, gender. A generalized application of the UTAUT2 model, integrating subjective well-being would require a global data collection process for a more thorough validation. The research framework of this study may also be tested on a different context, such as social entrepreneurship/social business or among silver entrepreneurs. Researchers may want to look into the consumer well-being or employee well-being which would possibly be predicted by the technology usage.

In this study, we did not consider control variables, such as 'other existing channels.' Therefore, future research may attempt to consider relevant control variables at the time of testing the relationship. Moderating variables, such as environmental turbulence, also can be tested between the relationship of behavioral intention and use behavior.

It would also be of interest to see the reverse causality of the relationship from well-being to behavioral intention. This framework has been validated in a country where the presence of the use of technology is not yet at large. The framework validated by this study can also be tested in countries where mobile financial services are available and used by the individuals, such in the Philippines among the users of G-Cash, among the Kenyan users who are using M-Pesa.

10. Conclusion

There is extensive research on the unified theory of acceptance and usage of technology (UTAUT2) model in the field of information and technology. This paper attempted to see the probable contribution of the usage of technology and its importance towards the betterment of the society. As posited, it has been revealed that usage of technology does play a role in ensuring the well-being of the individual, particularly those who operate as micro-entrepreneurs and originate from the deprived segment of the society. This study focused on understanding how behavioral and social factors form the behavioral intention and lead to usage behavior; and subsequently create an impact on societal development. The paper also contributes to the issue of digital divide, and it can be claimed assertively that technology-based social innovation indeed is erasing the digital divide. It is also fascinating to observe that those who do not have access to banks or do not possess formal education certificates are now using technology at a smooth pace and participating in financial transaction. Perhaps that is the endowment of technology which acts as an enabler of all potentialities and opportunities.

Acknowledgements

Sincere thanks to participants who responded to the questionnaire.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendices

Appendix 1: Measurement items

Constructs	Item no	Item	Source
Performance expectancy	PE1.	I find bKash payment system useful in my daily life.	Venkatesh et al. (2012)
	PE2.	Using bKash payment system increases my chances of achieving things that are important to me.	
	PE3.	Using bKash payment system helps me accomplish things more quickly.	
	PE4.	Using bKash payment system increases my productivity.	
Effort expectancy	EE1.	Learning how to use bKash payment system is easy for me.	Venkatesh et al. (2012)
	EE2.	My interaction with bKash payment system is clear and understandable.	
	EE3.	I find bKash payment system easy to use.	
	EE4.	It is easy for me to become skillful at using bKash payment system.	
Social influence	SI1.	People who are important to me think that I should use bKash payment system.	Venkatesh et al. (2012)
	SI2.	People who influence my behavior think that I should use bKash payment system.	
	SI3.	People whose opinions that I value prefer that I use bKash payment system.	
Facilitating conditions	FC1.	I have the resources necessary to use bKash payment system.	Venkatesh et al. (2012)
	FC2.	I have the knowledge necessary to use bKash payment system.	
	FC3.	bKash payment system is compatible with other technologies I use.	
	FC4.	I can get help from others when I have difficulties using bKash payment system.	
Price value	PV1.	bKash payment system is reasonably priced.	Venkatesh et al. (2012)
	PV2.	bKash payment system is a good value for the money.	
	PV3.	At the current price, bKash payment system provides a good value.	
Habit	HT1.	The use of bKash payment system has become a habit for me.	Venkatesh et al. (2012)
	HT2.	I like using bKash payment system than other system.	
	HT3.	I must use bKash payment system.	
	HT4.	Using bKash payment system has become natural to me.	
Behavioural intention	BI1.	I intend to continue using bKash payment system in the future.	Venkatesh et al. (2012)
	BI2.	I will always try to use bKash payment system in my daily life.	
	BI3.	I plan to continue to use bKash payment system frequently.	
Use behavior	UB1	Usage frequency of the bKash mobile financial services per day	Venkatesh et al. (2012)
Subjective well-being	WB1	bKash lead me to purposeful and meaningful life	Diener et al. (2010)
	WB2	bKash makes me to believe that my social relationships are supportive	
	WB3	bKash drives me to be engaged and interested in my daily activities	
	WB4	bKash lead me to contribute to the happiness and well-being of others	
	WB5	bKash makes me believe that I am competent and capable in my important activities	
	WB6	bKash makes me believe that I am a good person and live a good life	
	WB7	bKash helps me to be optimistic towards my future	
	WB8	bKash broaden the scope to be respected by others in the society	

Appendix 2: Respondents profile

Respondents profile			
<i>Age</i>			
	Years	Frequency	Percent
	less than 20	5	1.4
	21–30	198	55
	31–40	124	34.4
	41–50	33	9.2
<i>Gender</i>			
	Male	348	96.7
	Female	12	3.3
<i>Marital status</i>			
	Married	234	65
	Unmarried	126	35
<i>Educational level</i>			
	Primary or less	23	6.4
	Secondary	109	30.3
	Higher secondary	131	36.4
	Honours/Degree	71	19.7
	Masters or above	26	7.2
<i>Family members</i>			
	2	9	2.5
	3	48	13.3
	4	96	26.7
	5	103	28.6
	Above 5	104	28.9
<i>Adoption profile</i>			
<i>Period of using mobile phone</i>			
	No. of years	Frequency	Per cent
	4–6	79	21.9
	7–9	117	32.6
	10–12	93	25.8
	13–15	49	13.6
	16–20	22	6.1
<i>Period of using b. mobile money services</i>			
	No. of years		
	1	56	15.6
	2	83	23.1
	3	114	31.7
	4	107	29.7

Appendix 3: VIF Result

	Behavioural intention	Use behavior	Well-being
Behavioural intention	–	1.182	–
Effort expectancy	1.543	–	–
Facilitating condition	1.241	1.272	–
Habits	1.134	1.111	–
Performance expectancy	1.566	–	–
Price value	1.107	–	–
Social influence	1.252	–	–
Use behavior	–	–	1
Well-being	–	–	–