bKash *vs.* Bank-led Option: Factors Influencing Customer's Preferences – Does it Warrant *Voluntary-Insurance*-Policy for Rapid-growth Digital-banking in Bangladesh-economy?

Akim M. Rahman[1]
Canadian University of Bangladesh, Dhaka, Bangladesh
Email: akim_rahman@hotmail.com
https://orcid.org/0000-0002-8162-555x

ABSTRACT

In today's *technology-driven* world-economy*,* banking-services have been modernized where customers compete for comparative time-saving-options. Bangladesh, a developing country, is no exception. Besides traditional banking, Agent-banking, bKash, Western-Union etc. serve new-way financial-services. But, in *21st-Century* business-mentality *era*, many factors are unpredictable. Strict laws & application can marginalize the magnitudes of *Perceived-risk* where developed countries are ahead of developing countries. But it does not guarantee risk-free digital-transaction where developing countries are vulnerable. It might have led a slower growth of digital-banking in countries like Bangladesh. Dealing with determinant *Perceived-risk*, current author proposed *Voluntary-Insurance* policy (Rahman, 2018) that deserves to be scrutinized. Using Factor Analysis and Hypothesis Testing on customers' opinions helps identifying factors that have undermined the growth-trend of bank-led digital. Attributes "Phone call confirmation" has influenced customer's preference using bKash. "No transaction fee" has influenced using bank-led digital. Addressing risk-factors, *Voluntary-Insurance* in place can ensure secured digital-banking that can enhance growth of usages digital-banking.

JEL Classification: C0, C1, C4, D0, D1, D9

Keywords: Bank-led digital, digital-transaction, bKash, *Voluntary Insurance*, digital-banking, percived risk-factor

1. INTRODUCTION

In today's world of *technology-driven society and human-connectivity era*, service sector has been expanded and modernized vigorously. Here people rationally behave without emotion. Thus an effective utilization of IT, *especially*, ICT advancement can play significant roles in

[1]   Akim M. Rahman, Ph.D. (USA), Assistant Professor of Economics, School of Business, Canadian University of Bangladesh, Rangs RL Square, Pragati Sharani (Biruttam Rafiqual Islam Avenue, Dhaka 1212, Bangladesh. Phone: +880 1783339956 and +880 1572210263; WhatsApp: Dr. Akim M. Rahman Or Phone No. +880 1783339956.

market-competition on promoting new products of service-sector for sustained revenues. This new and increasing value is what will keep service-sector, *especially*, banking-sector is growing in many countries such as Bangladesh.

Underpinning the *motto*, financial, *especially*, banks sector is no exception where digitized or On-the-Go banking in multi-faucets is known to be the *latest* product (Tan and Teo, 2000). In this development, besides traditional banking, bKash, Ucash and Paypal, Western Union and business-cards etc. are few names that serve new way financial services globally. No matter whether customers use bKash or bank-led digital services, customers are competing for a comparative time-saving-option. On the same token, service-providers are competing for comparative option that can effectively marginalize its operating costs (Rahman, 2018).

With win-win prospect, the trend of digital-banking is currently growing faster than ever before in countries such as Bangladesh. Here bKash is dominating the trends, *despite* the fact there is a rapid growth of phone-facilitated-Internet usages with comparatively lower prices. Secondly, in-spite of ICT facilitations, bank-led digital banking has been increasing geometrically in developed countries. In *contrast*, bank-led users in developing countries such as Bangladesh have been moving cautiously and in slow phase where Agent-banking is the latest addition. This dual *dilemma* raises question: why so?

Answering the question posed, literature suggests that adaptation of On-the-Go banking has been a challenging issue for banks in many countries (Karjaluoto *et. al.*, 2002). Countless customers are not still using it due to important factors such as *lack of know-how* and *perceived risks involved* etc. (Rahman, 2018; Clemes *et al.*, 2012; Lee, 2009; Fichtenstein *et al.*, 2006). Findings identify the "perceived risk" as having significant and direct negative effects on customers' adaptation of On-the-Go banking (Lee, 2009; Kuisma, Laukkanen and Hiltunen, 2007; Polatoglu and Ekin; 2001; Tan and Teo, 2000).

Since we live in a world of business-mentality where many factors are often unpredictable, it is *palatable* saying – strict laws & its fullest application can marginalize the magnitudes of "perceived risk". On this matter, in today's world, developed countries are doing better and ahead of developing countries. But it does not guarantee an absolute risk-free On-the-Go banking even in developed countries. On risk issue, developing countries are vulnerable, which might have led a slower growth of bank-led On-the-Go banking in countries such as Bangladesh where mobile-led payment (bKash), is dominating trends of On-the-Go banking (Rahman, 2018).

In aim to deal with the determinant "perceived risk", current author has proposed in literature a proposal – *Voluntary Insurance* in banking services (Rahman, 2018). Under the proposal, bank will introduce "Voluntary Insurance" as a new product in digital-banking-services (Rahman, 2018) where customers will decide buying or not buying it. The proposal is deserved to be scrutinized empirically on how the customers feel about it.

Since bKash dominates the current trends of digital banking in Bangladesh, this *lesson-learnt* comparison study is used to scrutinize the proposal using opinion-survey of customers who are using On-the-Go banking in countries such as Bangladesh. It begins with carrying out factor-analysis of bKash and bank-led digital banking side-by-side. The findings of this study should be educational enhancing the growth of bank-led usage digital banking in world-economy country-wise such as Bangladesh, which can be an impetus for policy-adoption in a nation that wants to enjoy risk-free On-the-Go banking no matter where they reside.

2. LITERATURE REVIEW

In today's banking, beside traditional-banking along with digital-banking services, new financial institutions such as bKash, Western Union and Alternative Delivery Channel (ADC) products have rapidly been growing (Lallmahamood, 2007; Rahman, 2018). In this progression,

today we see only digital-banking branches with limited or full banking-services in many developed countries (Rahman, 2018; balance.com). In full service digital-banking branches, customers can meet all its needs just like any traditional banking setup. Developing these distributional channels in banking services is now crucial in reducing operating costs, improving competitiveness in financial market and retaining exiting & attracting new customers. However, with ICT advancement, banking services are now carried out in a multifaceted, competitive and rationality manner that is characterized by evolving many factors that are often unpredictable. It faces serious pitfalls being it riskiness. It has caused extracting various hidden charges in the name of e-banking service charges through many bank branches globally. As reported by newspaper: the Financial Express (2016) banks sector in Bangladesh is no exception and is not free from this accusation of hidden or extra charges. Bangladesh Bank (BB) received 3,930 complaints from customers of the PCBs and non-banking financial institutions in FY 2015 against 4,476 in FY 2014. The highest numbers of complaints were received against PCBs that accounts 55.98 percent of total complaints (The Financial Express, 2016).

It is worthwhile noting that customers' accounts' money or deposits in bank accounts are insured by provisions in most developed and developing countries. However, customer's digital-services, transactions etc. are not covered. For example, customers' bank deposits are protected by Bank Deposit Insurance Act-2000 or Bank Amanat Bima Ain 2000 in Bangladesh. Under this act, all scheduled banks including foreign banks operating in Bangladesh are brought under the provision. But it does not cover perceived-risk evolved from On-the-Go banking system. This provision is very common and it is no different in banking system in other countries' either. On the same token, several empirical studies identify perceived risk as having a significant negative and direct effect on consumers' adoption of On-the-Go banking (Lee, 2009; Kuisma *et. al.* 2007; Polatoglu and Ekin; 2001; Tan and Teo, 2000). The security/privacy risk, as one of the main dimensions of perceived risk, appears to be the most inhibiting factor in the adoption of On-the-Go banking (Lee, 2009; Rotchanakitumnuai and Speece, 2003).

Addressing the *dilemma* in financial sector globally, the current author proposed in literature (Rahman, 2018) having "Voluntary Insurance" as a product of banking sector in operation. This addition to behavioral intention theories in literature, *especially*, literature in subject area of *entrepreneurship and innovation management* is now well recognized. But for policy-adoption purposes, policy-practitioners may prefer to know how bank-customers feel about it. Thus this study focuses on factor "perceived risk" and the policy-option "Voluntary Insurance" recommendation using opinion-survey of On-the-Go banking customers. Here Bangladesh-economy is chosen as a case study where its GDP is over 7.50 percent, which is one of the highest growth rates in world-economy for many years now.

3. OBJECTIVES OF THE STUDY

The primary objective of this study is to cross-examine current author's earlier proposal "Voluntary Insurance" (Rahman, 2018), using customer's opinions. The objectives are:

1. To identify & categorize feature / factor(s) that has impact on preferences using bKash or bank-led option when a customer faces decision choice in completion digital banking
2. To examine how the focal option influences customer's decision when customer faces bKash or bank-led option in completion digital banking needs
3. To examine how customers feel about having *voluntary insurance* policy in place for ensuring risk-free digital-banking in a nation's economy such as Bangladesh-economy.

4. ELABORATION OF CONCEPTS FOR BETTER UNDERSTANDING

4.1. On-the-Go or Digital-banking: What is it?

Bank-led payment or mobile-led payment or a combination of the two is known as "On-the-Go or digital banking in today's world-economy of business-mentality where people behave rationally without emotion. For further clarity, by using a computer or mobile device, On-the-Go banking involves managing bank accounts, transferring funds, depositing checks and paying bills etc. Most banks and credit unions, beside traditional services, let customers access their bank accounts *via* the internet. Online bank branch, on the other hand, is typically one that customer access only through the internet, which may facilitate all services or a part of it. On the same token, mobile banking typically operates across major mobile providers in a country through one of two ways: SMS messaging and Mobile Web. It is similar to online account access from a home-based computer or mobile-phone. This option allows for checking balances, bill payment and account transfers simply by logging into the user's account.

4.2. bKash, Ucash, Paypal and other alternate banking such as bank-card business etc.: Few names that help new way financial services

Like in many countries, today world-economy, *especially*, banks sector is operated providing services in multi-faucets meeting customers' needs. Besides bank branches, the *bKash, Ucash and Paypal and alternate banking such as card-business etc.* are the latest of the progression where customers use them for banking-services no matter where they reside. For example, bKash and many in Bangladesh act as a catalyst for economic development of unbanked population by providing banking-services.

Alternative delivery channel (ADC) in digital banking services

Beside this progression, at present, Bangladesh Bank (BB) has also undertaken a multi-faucet projects in building up modern payment automation infrastructure (Amin, 2018) where Bangladesh Automated Clearing House (BACH) is the *latest*. It has replaced traditional system of clearing bank drafts, checks, pay orders etc. with automated system. Under non-cash payment instruments various ATM cards as credit card, debit card transactions are popular, especially in the urban areas (BB, 2017). Currently, 51 banks are operating card business in Bangladesh. Here interbank ATM transactions of 49 banks and POS transactions of 39 banks are being routed through National Payment Switch Bangladesh (NPSB).

However, it is an undeniable fact that certain negative practices of digital-banking are committed by internet criminals and fraudsters due to the ignorance of both bankers and customers (Harris & Spencer, 2002). So security concern is one of the major obstacles in electronic banking (Feinman *et al*., 1999). Cyber security, IP protection and real time payments will likely be the top risks. These are the common *scenarios* of banking sector in world-economy.

4.2.1. bKash: What is it? Why is it?

Bangladesh is a *three-tire*: rural, urban and city based country with 70% of its population resides in rural areas where the access to formal financial services is difficult. But these are the people who are in most need of such services, either for receiving funds from loved ones in distant locations. These people are needed a safe convenient and affordable means of transferring money to and from the cities to the villages. So Brac, the biggest NGO, has come up with the idea of mobile banking in *parallel* to bank-led digital-banking where less than 15% of Bangladeshis are

connected to the formal banking system. However, over 68% of the population of Bangladesh has mobile phones. Taking advantage of mobile-phone popularity & affordability, Brac introduced bKash Ltd. in year 2010.

The ultimate objective of bKash is to ensure access to a broader range of financial services for the people of Bangladesh. It has focused to serve low-income general people of the country by providing services that are reliable, convenient and affordable. Mobile banking is the perfect platform for Bangladesh to take financial services to the country's largely unbanked population in an efficient and low-cost manner. The most common product offerings of MFS includes account opening, cash-in, cash-out, money transfer, bill payment, salary disbursement, foreign remittance and the like. Underpinning the theme of *entrepreneurship and innovation management*, BB introduced efficient off-branch Mobile Financial Services (MFS) in 2011. Since then, MFS has seen exponential growth due to the proliferation of low-cost mobile phones and increasing network coverage throughout the country. However challenges such as digital literacy, limited competition and security concerns remain an issue in taking the next step towards greater financial inclusion (Fin Tech Magazine, 2017). In 2017 there were 58.6 million registered customers in total, however, only 23.1 million are active (Bangladesh Bank, 2017)

4.2.2. How does bKash work?

With service fees, bKash provides MFS allowing customers to send, receive, and pay money using their mobile phones or thru agents. Send and receive money, or make payments the fastest way. bKash enables customers to send money to anyone using an advanced technology available on his or her own mobile phone. The recipient can receive money instantly bKash agent or by having own bKash account. Even if customer does not have the required amount in his or her bKash account, someone else can easily send him or her amount in times of needs.

4.2.3. How secure is bKash in operation?

As a service-provider, bKash promises its user's benefits such as fast, affordable, secure, convenient and nationwide. On security issue, here every transaction is based on personal identification number (PIN) which is secured as claimed. By terms & conditions, any incorrect transactions in using bKash, all responsibilities lie with the customer or sender. This is because the customer himself or herself inputs the recipient's account number and amount of money and also s/he confirms the transaction by providing the PIN. Similarly, if customer uses agent-help transaction, bKash has no authority to reimburse the customer without any direction of the court, or the consent of the recipient. Service charges will be deducted from sender account balance. If a customer uses a bKash-agent, then cost can be paid instantly or it can be deducted from recipient's payment. Customer faces same *dilemma* in reality, if there is any *error* or misuse.

4.3. Perceived risks in digital-banking: What is it?

The concept of risk is organized around the idea that customer behavior involves risk in the sense that any customer action may produce consequences that they can not anticipate with anything approaching certainty (Bauer, 1967). Perceived risk is powerful in explaining a customer's behavior because customers are more often motivated to avoid mistakes than to maximize utility using digital-banking (Mitchell, 1999; Rahman, 2018). Risk is often present in choice situation as customers cannot always be certain that a planned uses of digital-banking will achieve satisfactory goals. Online shoppers perceive greater risk when paying Online bills even though goods are non-standardized and often sold without warranties (Zeithaml, 1981; Murray *et al.*, 1990). Underpinning today's reality, perceived risk is regarded as being a composite of

several categories of risk. Eight types or components of perceived risk in case of digital banking have been identified (Featherman and Pavlou, 2003; Lee 2009) in literature. They are

i)   Security / privacy risk

It is a kind of threat where a fraud or hacker may get unauthorized access to online-bank user's account and acquire sensitive information such as username, password, credit card / debit card information etc. and misuse it. Overall, system reliability is an important.

ii) Financial risk

It is a kind of threat where monetary loss could take place due to transaction error or bank account misuse.

iii) Performance risk

It is a kind of annoying where unexpected breakdown or disconnection from the Internet can take place.

iv) Psychological risk

It is a kind of threat when something goes wrong with Internet banking transaction and customer feels frustrated. Also sometime customer feels shamed

v)   Customer dispute

It refers to the possibility of getting into dispute with digital-service-providers or Online seller or with individual or group that has caused the problem. It may warrant legal cases.

vi) Social risk

It refers to the possibility that using Internet banking may result in the disapproval of one's family, friends or work group (Lee, 2009). It happens when family member or friend or work group signed on as the guarantor.

vii) Time risk

When using Internet and completing transaction takes unexpected longer time or server down, then customer become frustrated losses time. On scheduled payment issues, sometime customers are penalized for late transaction completion.

viii) Alternative delivery channels – Credit card or ATM card or Dual currency card or Cash by code or PIN fraud

5. VOLUNTARY INSURANCE IN DIGITAL-BANKING

Under Voluntary Insurance Program, customer's participation is absolutely voluntary and insurance will be attached to customer's account, if customer wants it. Under the program, the bank will take *extra* measures for ensuring risk-free on-the-go banking services. For example, ATM Card or Credit Cards can be protected by setting two identifications such as password and a finger-scan. Suppose, a customer wants to use ATM card where in order to access his account, the customer will have to use two identifications namely own setup password and previously chosen finger-scan say his thump or forefinger scan. Here finger scan in addition to password can be connected to the ATM system, which will make the on-the-go banking services to be enhanced secure. In aim to overcome the risk of heist or hacker's access to bank accounts, under the proposal, similar own set up identifications can be used. In global banking cases such as remittances, a third party can introduce the program and provide services so risk-free on-the-go or digital banking can be ensured.

Under the proposal, bank sector will introduce it as a product of bank-services. Transferring risk away from customer will benefit both PCBs and bank-customers. This product can attract new customers who were on the brink using digital banking but just felt it was too risky. This model can facilitate the parties involved for increasing usage of on-the-go banking-services while customers can maintain optimal utility of usages.

5.1. The economics of *Voluntary Insurance* in Digital-banking

It is clear now perceived-risk factor plays an influential role in setting the stage for the proposal, *Voluntary Insurance Option in On-the-Go banking services*. It is palatable to assume that On-the-Go banking-customers are risk-averse, *i.e.*, they prefer certainty to uncertainty when it come banking. Figure 2 illustrates the risk preferences of a risk-averse banking-customer.

In a world of uncertainty, a customer's actual utility that he receives from digital services will never fall on the TU (X) but rather on the chord (the bold line) as shown in Figure 1. X_g, in Fig. 1, represents a service outcome in which customer may use a certain level of service X while X_f represents a negative outcome in which customer may use less of service X. As long as there is a level of uncertainty that a customer may not use X_g units of service X, the utility that this customer receives will lie somewhere on the chord (the bold line) in figure 1. Here the chord represents expected utility (EU) of using service X, which lies in the concavity of the curve because it is the average probability that the customer will use service X or not. As a result, an individual will never receive TU (X_a) but rather EU (X_a).

Figure 1
Risk Aversion Scenario
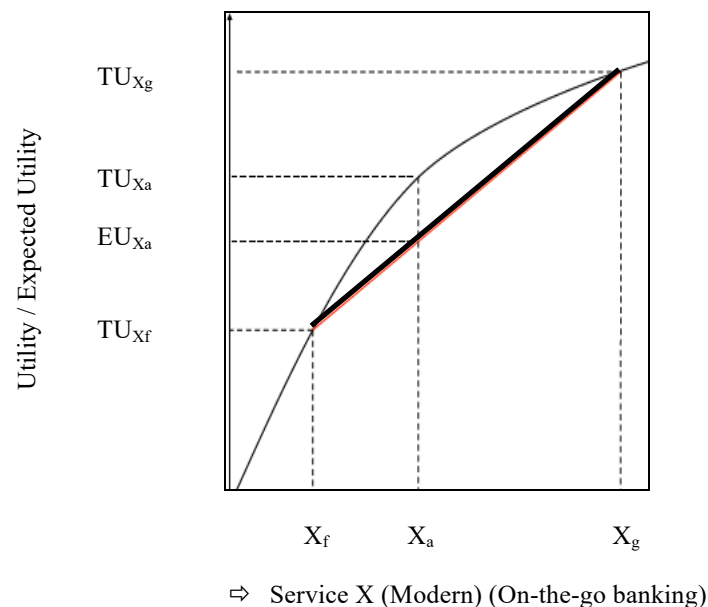
Source: (Rahman, 2018).

5.2. Why it is essential? Why now?

Some customers may not use the On-the-go banking-services simply because they do not want to or they are not obligated to do because of, I would say, inherent risk involvement using the services. This is *especially* true for the relatively new and older aged traditional minded customers. This is because they may not have skills in using the services that more young generation have. Secondly, the Financial Express (FE) (2016) reported in its news-page that there was a growing number of complaints relates to digital banking. It concluded that these complaints have been undermining the progression of digital banking and causing huge monetary losses and making the approach to be inefficient in operation. As a result, it is essential that a system be instituted that will give customers a sense of enhanced security for increased digital banking services. The fact is that insurance was developed as a way of transferring the risk away from its premium-payers. The primary goal of insurance is to provide the premium-payers with a sense of certainty, which is

almost always preferred to uncertainty. With the maxim of an insurance program, implementation of the proposed model: *voluntary insurance program* can ensure an enhanced security of digital banking services no matter what country or economic system we live in.

Thus, as a foundation, the proposal is expected to be helping all users including new ones to achieve its optimal utilization, which will allow them to grow. On the same token, it can ensure a significant contribution to economic growth with win-win slogans of parties involved. The proposal facilitates a new product in market-system in world-economy where customers will have choices to purchase it or not when they open their bank accounts.

6. MOBILE-LED VS. BANK-LED TRANSACTIONS: A COMPARISON

A comparison between bKash option, *mobile-led transaction* and bank-led option, *bank-led transaction*, in digital banking services, is carried out to identify factors that has resulted a higher trend of usage of bKash than that of bank-led option in Bangladesh. More specifically, the outcome of this comparison is assumed to be served as a *lesson* or *lesson learnt* for better understanding of factors that has resulted a higher trend of bKash usage in Bangladesh.

Like bank-digital-services, bKash promises its users to make life easier & comfortable by offering attractive service-products. A customer can open bKash account for self-services whenever s/he wants it. *Alternatively*, customer can go to bKash-agent for services. In both cases, customer is charged service-fees for each transaction. Currently charging rate is TK 20.00 per TK 1000.00 no matter whether it self-service or bKash-agent services. However, in case of bank-led digital-services, customer is required to access by himself or herself, which requires some sort of proficiency using Internet where payment clearance can be time consuming. Here transaction is absolutely *free of charge*, which is different from bKash. In Bangladesh, bKash serves more than three crore customers. There are over two lacs bKash-agents located around Bangladesh. In comparison of usages, the trend of bKash is growing geometrically. However, trend of usage of bank-led option is growing *mathematically* – very slowly, despite the fact that bank sector promotes it desperately curtailing the magnitudes of its operating cost. This *dilemma* raises question: why so?

To answer the question posed, this section begins with comparing two options namely bKash and bank-led digital based on its attributes so that customer's preferences in choices can be understood. It can further be instrumental in diagnosis on the issue whether perceived-risk factor has overall played significantly undermining the growth of the trend of bank-led digital banking. Since both options have feature SMS, this study ignores using the SMS feature in aim to narrow down the size.

Also, in Table 1 A: indicates features of bKash and bank-led Digital where (+) sign indicates that corresponding feature positively influences customer's preference for the corresponding option. Conversely, (–) sign indicates corresponding feature negatively influences customer's preference for corresponding option. In comparison, features of bKash vs. bank-led Digital in Bangladesh-economy are spelled out in Table 1 where (+) sign indicates that the attribute positively influences customer's preference for the corresponding option. Conversely, (–) sign indicates that the attributes negatively influences customer's preference for the corresponding option.

Table 1
Attributes Comparison of bKash *vs.* bank-led Digital Banking

Determinants or features	bKash digital banking	Influence	Bank-led-digital	Influence
Transaction fees (TF)	Yes	(–)	No	(+)
Access Internet (AI)	Not necessary	(+)	Yes necessary	(–)
Know-how-skill (KS)	Very rare	(+)	Yes	(–)
Agent services (AS)	Yes (if needed)	(+)	No (if needed)	(–)
Bonus (Bo)	No	(–)	Yes	(+)
Ph-call-confirmation (PC)	Immediately, if wanted	(+)	Not immediately	(–)
Perceived risk	Very low	(+)	High	(–)
Security risk (SR)	No	(+)	Yes	(–)
Privacy risk (PR)	Yes (agent on Trans)	(–)	No	(+)
Financial risk (FR)	Unless sender's errors	(+)	Yes	(–)
Performance risk (P-R)	Very low	(+)	Yes net down	(–)
Psychological risk (PsR)	No	(+)	Yes	(–)
Social risk (SoR)	No	(+)	Yes	(–)
Knowledge required (KR)	Somewhat	(+)	Yes	(–)
Self image (SI)	Low	(–)	High	(+)

Source: Author's assessment & design.

7. METHODS AND DATA COLLECTION

The survey *questionnaire* in this study was designed to carry-out Factor Analysis and then develop Hypotheses and test them in choice problem: whether bKash or bank-led digital, when a customer is decided to go with On-the-Go banking. It is expected that the Factor Analysis identifies feature(s) of two options (bKash and bank-led) and then categorize its position for comparison based on its importance in customers' preferences. In Testing Section, hypotheses are developed and then used the collected data for statistical testing.

This study used both types of data, primary and secondary. The primary data was collected through a structured questionnaire. Whereas, secondary data was collected from books, textbooks, online articles, journals, etc. The number of participants in the survey was total 200 where all of them were users of On-the-Go banking – using either bKash or bank-led or both of the options. Participants were randomly chosen with the *criterion*: whether they use On-the-Go banking services. It was a face-to-face interview and the questionnaire was given to the intended participant who meets the *criterion*.

For Factor Analysis, Likert five – point scale was used with (1-Excellent, 2-Good, 3-Average, 4-Poor, 5-Very Poor) of each feature as identified above. Here data are separately tested for its appropriateness for factor analysis.

For hypothesis development & testing, respondents were informed that they would be presented alternatives and asked to indicate their preferences based on feature(s) of options. It was emphasized that there was no right or wrong answer. The researcher was interested only in "personal preference" of the participants. Then the scale that was later used for measuring the relative attractiveness of the alternatives was explained briefly.

7.1. Factor analysis

In comparative exploratory factor analysis, feature(s) that significantly contributes to the growth-trends of bKash and of bank-led digital-banking in Bangladesh-economy are identified. Here Factor Analysis is used as a technique to reduce number of features and then categorized based on its positions for both options. The statistical tools SPSS and Excel were used for data analysis.

In this analysis, number of features or factors is determined by Eigenvalues (E_v). If calculated $E_v > 1$, it considers the corresponding factor and if $E_v < 1$, corresponding factor is not considered. According to Variance Extraction Rule, it should be more than 0.7. If variance is less than 0.7, then we should not consider that a factor. The KMO and Bartlett's Test was used to check appropriateness of factor analysis, here results of reliability was considered bigger than 0.7. And Bartlett's Test of Sphericity was less than 0.05. The following table shows the KMO and Bartlett's Test conducted for the present study

Table 2
KMO and Barlett's Test

KMO and Barlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.88
Barlett's Test of Sphericity	Chi-square approx	1138.081
	df	36
	Significance	0.000

Source: Author's calculation.

According to results obtained from Table 2, KMO is 0.88 which is above the acceptable level, which approves the appropriateness of this analysis for the study (Kaiser, 1974).

Table 3
Total Variance where "Vari" and "Cum" denote variance and cumulative respectively

Total Variance Explained												
bKash digital						Bank-led digital						
Factor/ feature	Initial Eigenvalues			Extraction sums of squared loadings			Factor/ features	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% vari	% cum	Total	% vari	% cum		Total	% vari	% cum	Total	% vari	% cum
PC	1.991	22.127	22.127	1.991	22.127	22.127	TF	2.947	35.864	35.864	2.947	35.864	35.864
AS	1.448	16.090	38.217	1.448	16.090	38.217	Bo	1.210	14.725	50.589	1.210	14.725	50.589
KS	1.125	12.499	50.716	1.125	12.499	50.716	SI	1.00	12.169	62.578	1.00	12.169	62.578
AI	1.880	12.005	62.740	1.880	12.005	62.740	KS	0.661	8.044	70.802	0.661		
PR	0.970	10.783	73.523				AI	0.625	7.606	78.408	0.625		
SR	0.693	7.704	81.227				AS	0.525	6.389	84.797	0.525		
PsR	0.666	7.361	88.588				PR	0.456	5.549	90.346	0.456		
Bo	0.562	6.243	94.831				SR	0.432	5.257	95.603	0.432		
TF	0.465	5.169	100				PC	0.361	4.393	100	0.361		

Source: Author's calculation.

From Table 3, Total Variance, and the Rotated Component Matrix of two options, bKash and bank-led digital show the most important features in choice-decision corresponding to option(s). Loading factors show the importance of the specific feature(s) of the option(s) for the customers during their choice decision process. Eigenvalues show variance explained by that particular feature out of the total variance. From the commonality column, we can see that our first feature of bKash option explains 22.127% variance out of the total whereas first feature of bank-led option explains 35.864% variance of the total. For clarity, "phone call confirmation" is the most important factor in choice-decision of bKash. However, "no transaction fee" is the most important factor in case of bank-led option. Similarly, *factor to factor* comparison can be extended in aim to understand a customer's choice-decision when it comes bKash or bank-led.

7.2. Lessons *learnt*: can bKash shed lights for bank-led digital progression?

Using *factor to factor* comparison, it would not be overstated saying that security is undermining the trend-growth of bank-led option. On the same token, "transaction fees" most significantly discourages customer not to use bKash. On bank-led option, no facilitation of "phone call confirmation" most significantly discourages customer not to use bank-led. This *factor to factor* comparison can be extended using the calculated data statistics in Table 3.

8. CUSTOMER FACES A CHOICE-DECISION: WHETHER BKASH OR BANK-LED

Once consumer has decided to use On-the-Go banking, consumer then faces a choice-decision: bank-led or bKash for digital-banking in Bangladesh-economy. In classical preference theory, each consumer is assumed to have a well-defined preference order or utility function such that consumer selects from his or her choice set the alternative that offers the highest utility. Underpinning the theory, a group of researchers suggested that normatively equivalent procedures for assessing preferences lead to the same preference order (Tversky, Sattath, and Slovic, 1988). However, another group of researchers proposed "features that are unique to the focal option should also exert a greater influence on preferences" (Houston, Sherman, and Baker (1989). That is, when a person is comparing one alternative with another, the relative preference for the focal option depends on whether the focal option has "unique good features" or "unique bad features".

On the topic, literature further suggests that preferences are often sensitive to the particular task and context characteristics (Payne, Bettman, and Johnson 1992). In this line, in literature, Dhar and Simonson suggested, "attractiveness and choice probability of an alternative can be enhanced by making it the focus of a comparison (focal option) with a competing alternative" (Dhar & Simonson, 1992). For *clarity*, the choice probability can be influenced by alternative about which customers have information in memory.

This study uses Dhar & Simonson (Dhar & Simonson, 1992), proposition in case of a customer's preference between bKash and bank-led for digital banking services in Bangladesh-economy. Based on factor analysis (above), it first identifies "focal option" that makes distinct bKash or bank-led from one another when customer decided On-the-Go banking services.

Table 4
Feature(s) that can be considered as Focal in preferences of bKash or bank-led

Determinant(s) or feature(s)	bKash digital-banking	Bank-led digital-banking
Confirmed by phone (CP)	Immediately, if wanted	Not immediately even wanted
Transaction fees (TF)	Yes	No
Access Internet (AI)	Not necessary	Necessary
Agent services (AS)	Can be done by AS	Can't be done by AS
Perceived risk		
Security risk (SR)	No	Yes
Psychological risk (SR)	No	Yes
Social risk (SoR)	No	Yes

Sources: Author's assessment based on calculation using Factor Analysis.

In Table 4, seven factors are identified to be crucial, which can be used as "focal feature or factor" in this study. However, customers are likely to *contrast* the desirability of features of bKash as well as of bank-led services. In that case, "how much more or less attractive of bKash or bank-led" is not expected to have much impact on the comparison process (Alba, Hutchinson, and Lynch 1991). Thus, it can be predicted that changes of focal option in comparisons between bKash and bank-led digital with externally available descriptions will not influence relative preferences for these alternatives. Accordingly, descriptions of determinant AI and CP may not be effectively influencing relative preferences. Thus, AI and CP determinants of "focal option" are excluded in this study.

8.1. Hypothesis development and testing

Clarification in the above discussion leads to following hypotheses:

H_1: In a judgment task on whether bKash or bank-led, facilitation of immediate "phone call confirmation with recipient" addresses the issue of perceived risk in digital banking.

H_{1a}: An alternative that serves as the focal option in a comparison (as in H_1a) subsequently has a higher choice probability than it would have if the other alternative were the focal option.

H_2: In a judgment task on whether bKash or bank-led, "transaction can be completed by AS" in customer's memory tends to increase bKash's but to decrease bank-led's attractiveness.

H_3: In a judgment task on whether bKash or bank-led, "security risk" in customer's memory tends to increase bKash's but to decrease bank-led's attractiveness.

H_4: In a judgment task on whether bKash or bank-led, "psychological risk" in customer's memory tends to increase bKash's but to decrease bank-led's attractiveness.

H_5: In a judgment task on whether bKash or bank-led, "social risk" in customer's memory tends to increase bKash's but to decrease bank-led's attractiveness.

H_6: In a judgment task on whether bKash or bank-led, "transaction fees" in customer's memory tends to reduce bKash's but to increase bank-led's attractiveness.

H_7: In judgment task where insurance policy is subscribed by the user, "bank-led digital is insured" memory tends to reduce bKash but to increase bank-led's attractiveness.

As noted briefly in Methods & Data Collection Section, the respondents were further informed that they would be presented alternatives in different categories and asked to indicate their preferences. It was emphasized that there were no right or wrong answers and the researchers were interested only in the personal preferences of the participants. Then the scale that was later used for measuring the relative attractiveness of the alternatives was explained briefly.

Each choice problem presented two options that were identified by their names – bKash or bank-led digital. Here respondents were asked to assume they had to choose between two options. In this setup cost-incurs and quality of services of each option are comparable and known to the chooser. However, on perceived risk factor issue, choosers were expected to have information about the alternative in memory but probably no pre-formed preferences between them.

After reading each problem, subjects were asked the following question: "On the scale below, please indicate how much more or less attractive to you is [the focal option]? (circle the appropriate number)." Following Dunning and Parpal (1989), this study uses a 19-point scale from –9 to +9.

Figure 2
Example of a Focal Option Manipulation in preferences of bKash vs. bank-led

Using On-the-Go banking services, you have choices to use bKash or bank-led digital

1. On the scale below, please indicate how much more or less attractive to you is bKash?
   (Circle the appropriate number).

bKash less attractive											**bKash more attractive**							
Much less			Slightly less									Slightly more				Much more		
–9	–8	–7	–6	–5	–4	–3	–2	–1	0	1	2	3	4	5	6	7	8	9

2. How much more or less do you prefer to use bank-led digital?

bKash less preferred											**bKash more preferred**							
Much less			Slightly less									Slightly more				Much more		
–9	–8	–7	–6	–5	–4	–3	–2	–1	0	1	2	3	4	5	6	7	8	9

3. Assume that both are equally available to you, which one would you choose (Check one)

Bank-led digital   ( )   bKash   ( )

Source: Authors creation for hypothesis testing.

Above the left or right side of the scale (from –9 to –1 or from 1 to 9), the heading was "[focal option] less or more attractive," respectively. The identity of the focal option was manipulated between subjects, such that each option was the focus of the comparison in one version. The next item that responded was, "How much more or less do you prefer the [focal option]?" A scale similar to the attractiveness measure was used, with the headings "[focal option]" less or more preferred" above the scale. Finally, the two options were listed (in the same order in both conditions) and subjects were asked to indicate the one they would choose.

Table 5
Phone call confirmation and its effects in preferences of bKash vs. bank-led

	Problem: bKash or bank-led for digital banking: **Phone call confirmation is Focal Option**			
	bKash is reference (n = 86)		bank-led is reference (n = 85)	
Average	3.3[a]	bKash more	1.3	bank-led digital more
Attractiveness	(0.51)		(0.6)	
Average	3.3[a]	bKash more	1.10	bank-led digital more
Preference	(0.54)		(0.62)	
Choice	67%	bKash	47%	bKash
	33%	bank-led digital	53%	bank-led digital

[a] The difference between conditions is statistically significant at the 0.05 level.

Source: Author's calculation.

Effect of focal option manipulation on preferences in memory-based comparison (Standard errors in parentheses).

Results

Results are summarized in Table 1. Consistent with H1, on facilitation phone call, tended to rate higher attractiveness and their preference for bKash that served as focal option. In accordance with these ratings and H_1a, each approach of On-the-Go banking services, a 20% (t = 2.7 and $p < .05$) greater share when it was the focal option than when the other approach was the focal option. A majority of subjects who received bKash approach preferred bKash, whereas a small majority of those with bank-led focus preferred bank-led digital.

Table 6
Transaction completed by AS and its effects in preferences of bKash vs. bank-led

	Problem: bKash or bank-led for On-the-Go banking: **Completed by AS – Focal Option**			
	bKash is reference (n = 86)		bank-led is reference (n = 85)	
Average	4.5[a]	bKash more	0.5	bank-led digital more
Attractiveness	(0.52)		(0.69)	
Average	4.2[a]	bKash more	1.30	bank-led digital more
Preference	(0.71)		(0.62)	
Choice	78%	bKash	62%	bKash
	22%	bank-led digital	38%	bank-led digital

Source: Author's calculation.

Effect of focal option manipulation on preferences in memory-based comparison (Standard errors in parentheses).

Results

On transaction completed by AS, the focal option again influenced the ratings and choices 16% share increase, (t = 2.3, $p < .05$) as predicted.

Table 7
Security risk and its effects in preferences of bKash vs. bank-led

	Problem: bKash or bank-led for On-the-Go banking: **Security risk – Focal Option**			
	bKash is reference (n = 86)		bank-led is reference (n = 85)	
Average	0.2[a]	bKash more	2.9	bKash more
Attractiveness	(0.69)		(0.58)	
Average	0.1[a]	bKash more	2.9	bKash more
Preference	(0.68)		(0.61)	
Choice	52%	bKash	75%	bKash
	48%	bank-led digital	25%	bank-led digital

Source: Author's calculation.

Effect of focal option manipulation on preferences in memory-based comparison (Standard errors in parentheses)

Results
Similarly, in case of security risk, the focal option had a statistically significant effect on both the ratings and subsequent choices as hypothesized (27% share increase, $t = 3.4$, $p < .05$). Similar results can be seen in case of "psychological risk" (H_4) and "social risk" (H_5).

Table 8
Transaction fees and effects in preferences of bKash vs. bank-led in digital banking

	Problem: bKash or bank-led for On-the-Go banking: **Transaction Fees – Focal Option**			
	bank-led is reference (n = 86)		bKash is reference (n = 85)	
Average	3.49[a]	bank-led more	0.8	bank-led digital more
Attractiveness	(0.48)		(0.52)	
Average	3.7[a]	bank-led more	0.9	bank-led digital more
Preference	(0.60)		(0.54)	
Choice	72%	bank-led	61%	bank-led
	28%	bKash	39%	bKash

Source: Author's calculation.

Effect of focal option manipulation on preferences in memory-based comparison (Standard *errors* in parentheses)

Results
Finally, on transaction fees as focal, the effect of the focal option on the ratings, as predicted by H_6, was statistically significant and the effect on choice probability, 18%, was marginally significant ($r = 1.5$, $p < .10$). The transaction fees discourage using bKash in most cases.

Table 9
Insured bank-led digital banking and its effects in preferences of bKash vs. bank-led

	Problem: bKash or bank-led for On-the-Go banking: **bank-led is Insured – Focal Option**			
	bank-led is reference (n = 86)		bKash is reference (n = 85)	
Average	5.49[a]	bank-led more	0.8	bank-led digital more
Attractiveness	(0.78)		(0.28)	
Average	6.7[a]	bank-led more	0.9	bank-led digital more
Preference	(0.60)		(0.54)	
Choice	82%	bank-led	61%	bank-led
	18%	bKash	39%	bKash

Source: Author's calculation.

Effect of focal option manipulation on preferences in memory-based comparison (Standard errors in parentheses)

Results
This is the case where respondents were ensured that their bank-led digital is fully ensured. If anything goes wrong, it will be addressed by the insurance company to whom the customer is paying insurance premium through his or her bank account for secured digital banking. On bank-led is insured, the effect of the focal option on the ratings, as predicted by H_7, was statistically significant and effect on choice probability, 31%, was marginally significant ($r = 1.5$, $p < .10$).

9. GENERAL DISCUSSION

Customers of a product are assumed to have well-defined attitudes & preferences for alternatives offered to them. It is no different in case of preference for a product of bank-services namely b-Kash or bank-led option, when a bank-customer decides to go with On-the-Go banking in Bangladesh-economy. It is also well recognized that changing consumer's preference, marketers can employ various means of persuasion (Fishbein and Ajzen 1975; Petty, Cacioppo, and Schumann 1983). For example, in banking sector, banks may offer rebate or bonus for enhancing digital-banking. These together, it would not be overstated that customers' preferences are often fuzzy and uncertain (Payne *et. al.*, 1992), making them susceptible to various other influences. It is no exception in case of customer's preference for bKash or bank-led option in completion of digital-banking. So the proposed *Voluntary Insurance* policy in place can contribute significantly to the rapid-growth of bank-led or any other digital banking in Bangladesh-economy.

Table 1 show that bKash and bank-led options in digital banking services have its own distinct properties that distinguish one to other even though they both provide digital banking services. Since the growth of usages of bKash in Bangladesh-economy is growing faster than that of bank-led, this study first constructs a Comparison (Table 1) of the two based on its attributes and then classify these attributes based on customer's *priority* so that focal option can be identified.

In factor analysis, Table 3 and Table 5 clearly show that bKash secures the highest place in preferences when it come confirmation *via* phone call and know-how-skill, *in contrast*, the bank-led standouts with *last* position in preferences. On factors namely transaction fees, convenience for location, bonus for digital banking and self-image, bank-led secures the highest place in preferences, *in contrast*, bKash standouts with last position in preferences. On perceived risk

factor, both options play poorly where some cases bKash does better than that of bank-led. Despite having higher incurred-cost for using bKash, the bKash has been dominating the growth- trend in economy of Bangladesh for a while now. This is because it has facilitated the confirmation matter, i.e. security issue at least by placing phone call immediately. And the bank-led option has been suffering to grow faster than that of bKash even though it does not require any costs in operation.

In aim to verify the claim, a question relates to "Voluntary Insurance" was incorporated into the questionnaire where Voluntary Insurance as an attribute was used as a focal option. Here respondents were ensured that because of Voluntary Insurance in place, there is no risk at all where insurance company is obligated to take the burden to its fullest. The results indicate that shifting the focus of risk factor alternative to Voluntary Insurance can enhance alternative's perceived attractiveness. Here usage of bank-led over bKash option increases when customers face On-the-Go banking services in world-economy such as Bangladesh-economy.

If the proposed Voluntary Insurance policy were in place, then the user of On-the-Go banking service would have secured the perceived risk, which would have been stored in memory but had no pre-formed preferences between them. The result in Table 9 clearly shows that after assuring securities in multi-faucets in digital banking, the focal option had statistically significant effect on both the ratings and subsequent choices as hypothesized.

10. CONCLUSION

In today's *technology-driven* world-economy*, service sector, like many others, banking-sector has been expanded and modernized. On the same token, customers are competing for a comparative time-saving-option that can effectively marginalize its operating costs no matter where they reside. Bangladesh-economy is no exception where besides traditional banking, bKash, Ucash and Paypal, Western Union etc. are few names that serve new way financial services globally. Like in many countries, since many factors are often unpredictable, it is *palatable* saying – strict laws & its fullest application can marginalize the magnitudes of "perceived risk". On this matter, in today's world, developed countries are doing better and ahead of developing countries. But it does not guarantee an absolute risk-free On-the-Go banking even in developed countries. On risk issue, developing countries are vulnerable, which might have led a slower growth of bank-led On-the-Go banking in countries such as Bangladesh where mobile-led payment (bKash), is dominating trends of On-the-Go banking (Rahman, 2018). In aim to deal with the determinant "perceived risk", current author has proposed in literature a proposal – *Voluntary Insurance* in banking services (Rahman, 2018), which deserves to be scrutinized and this study takes on the challenge. Using Factor Analysis, Hypothesis Development & Testing where growth-trend of bKash helps to single-out factors that have undermined the growth-trend of bank-led digital banking."Phone call confirmation" has influenced customer's preference using bKash, on the other hand, the features, "no transaction fee" has influenced positively using bank-led On-the-Go banking. Finally, findings indicate that shifting the focus of risk factor alternative to Voluntary Insurance can enhance alternative's perceived attractiveness. Here usage of bank-led over bKash option increases when customers face On-the-Go banking services in world-economy such as Bangladesh-economy. If the proposed Voluntary Insurance policy were in place, then the user of On-the-Go banking service would have secured the perceived risk, which would have been stored in memory but had no pre-formed preferences between them. It further ensures that after assuring securities in multi-faucets of digital banking, voluntary insurance policy in place can significantly affect the rating & subsequent choices in digital banking services.

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