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# Voluntary Insurance for Ensuring Risk-Free On-the-Go Banking Services in Market Competition: A Proposal for Bangladesh

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## Abstract

In 21<sup>st</sup> Century business world, services are carried out in multifaceted, competitive and rationality manner that are characterized by evolving many factors, which are often unpredictable. On-the-go banking is a product in financial sector. However, it faces serious pitfalls being it riskiness. Bank customers compete for time-saving options. On *contrary*, PCBs compete for marginalizing its operating costs for enhancing its revenues. On strategic tactics, PCBs targets city customers in multi-facets including offering incentives for enhanced usages of on-the-go banking. Influencing customer's intention, attitude and behavior in banking, PCBs also offers *incentive under market system* along with often *informational asymmetry*. However, it causes exploitation. In most cases customers don't read terms & conditions of services. They don't save contract-copy. These weaknesses cause abuses. Customer faces hidden charges, *extra* fees, account hacked. Addressing the issue, *Voluntary Insurance Option* is proposed where PCBs 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.

**Keywords:** Private commercial banks (PCBs), on-the-go banking, digital banking, voluntary insurance program, digital-dilemma, hidden fees, heist or hacking bank accounts.

**JEL Classification Code:** D01, D11, D18, M15, M21.

## 1. Introduction

The 21<sup>st</sup> Century business world, especially, service sector is carried out in a multifaceted, competitive and rationality manner that is characterized by evolving many factors that are very often unpredictable. It is the era of business-mentality-society where people behave rationally without emotion. Thus, effective utilizations of Information Technology (IT) can play important roles in today's market competition on promoting products of service-sector for sustained revenues. Financial, especially, banks sector is no exception digitized or on-the-go banking is known to be a vital product of services in financial market. It is widely documented in literature (Rahman, 2017; Dobbs & Gull, 2014) that the IT facilitation of banking services in practices is becoming significantly profitable to parties involved in the 21<sup>st</sup> Century era. In the digital banking era, customers are

competing for a comparative time-saving-option and service providers are competing for a comparative option that can effectively marginalize its operating costs and then enhance revenues.

Researchers mostly agree that the said business motto as a foundation, Private Commercial Banks (PCBs) are today more desperate than ever before in any open economy market competition globally (The Financial Express, 2015). On the same token, on-the-go or digital banking is beneficial to customers because it allows savings in the form of monetary cost and time values to the users. Conventionally, it has been accepted in literature as noted by Turban and Greening (2000), Thornton and White (2001), Al-Amin (2010) and Wagemaker, Verkaik, Boortman and Davids (2013) that digital banking can ensure a quickly response to complaints and deliver improved services without customer's bank-premises-visit.

With this win-win setting for the service-provider (producer) & service-receiver (customer) in financial sector, banks and subsidiaries such as bKash, Western Union etc. are competing within the sector and beyond globally, which is the ultimate reward of the 21<sup>st</sup> Century. In order to sail

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through tough competition and to sustain revenues, PCBs are engaging more than that of other kinds bank on adoption of IT in its business operation (The Financial Express, 2016). PCBs are making the most of economic lull by devoting resources to learning more about its customers' needs, wants, and expectations of their banking relationships. Rahman (2015) in his report reviews the determinants of bank selection by educated age group population in Bangladesh. He concluded that since IT utilization is more appealing to educated young generation than that to older ones, PCBs are targeting customers in city areas for potential customers.

Nothing is wrong with this business motto in any competitive market as long as the practice fits in within regulations and missions of central bank, in case of Bangladesh, the Bangladesh Bank. However, PCBs has stepped up taking further advantages of this global transitional move by promoting a range of electronic services for generating additional incomes (The Financial Express, 2016). Many PCBs are offering incentive for enhanced usage of on-the-go services. However, it is not free of criticism. To make the "incentive offer" to be trustworthy and effective win-win, after evaluation of responses of educated-age-group bank-customers in Bangladesh, Rahman (2016, 2017) proposed a unique approach 'incentive under market system' along with informational symmetry in banking-services.

Because of having limitations in digital progression geographically and of poor educational level & bottleneck socioeconomic factors in society of rural areas of any developing countries like Bangladesh, on-the-go banking is still a luxury to the majority of population. With this limitation, all PCB branches are located in city. Thus its monetization process appears to be a 'money-making-machine' where customers are becoming victims as it was reported by Rahman (2016) in a review report in literature. The question is: how so?

Firstly, customers and service-providers in banking process are engaged in some kinds of contract by nature of the business where paper documentation is a past, internet banking is modern and mobile phone banking is the latest of digital progression. With this technology development, banking business is becoming self-service where customers even do not read terms & conditions of services laid out in contract of electronic format and in most cases, they do not save & remember it for future reference. As reported by Reporter Lema (2017) in Insurance Journal, these weaknesses in digital banking including bKash, Western Union etc., in case of remittances, are causing to be exploited in competitive market with or without motivation of the vendor(s) in business. Secondly, getting hacked or heisted of bank-accounts is no surprising in today's financial

world where sometime crooked actions of some bank-employees influence the crime. The recent incident of Bangladesh Bank, 'Hacker hacked 81 Million Dollars' is an example, has put a huge monetary burden onto the society in aim to recover from the loss.

However, these abuses in digital services are causing a digital-dilemma – "undermine digital progression" where monetization process derives the living cost of the society to be higher as it was reported by Darlena Cunha (2014) in the Washington Post. Here customers are getting ripped off and service providers are becoming well off in the process.

In aim to marginalize the digital-dilemma in the long-run, this study takes on the issue of on-the-go banking services that currently faces serious pitfalls associated with it being riskiness. Exploring a secured risk-free on-the-go banking services in financial sector, this study proposes a scheme: Voluntary Insurance Option, which can be introduced as a new product by PCBs in financial market.

The remainder of the paper is organized as such: In Section II, relevant literature is reviewed. Section III addresses the questions: what is and why the digital banking. Section IV elaborates on fees, hidden charges, hacker hacks & heists bank accounts. Section V spells out the importance of the study. Section VI launches theoretical background of the proposal using the Theory of Consumer Choice & Behavior in Economics. Section VII introduces the model - Voluntary Insurance Program under the theory. Section VIII guides on implementing the proposal in practice: how does the model work? Section IX communicates on the effort of the current study. Conclusion is presented in Section X followed by references.

## 2. Literature Review

In today's globalized economy, as most print and e-print outlets report, new financial distribution channels such as ATMs and telephone, internet & wire-transfer banking such as b-Kash, Western Union etc. has rapidly been growing by materializing technology innovation & telecommunication. Developing alternative distribution channels in banking services is now crucial in terms of reducing costs, and improving competitiveness in financial market. It is also essential retaining existing customer and attracting new customers meeting their 21<sup>st</sup> Century banking needs. The transformation from traditional brick-and-mortar banking has further given opportunities to financial industries generating extra revenues by providing a range of electronic services that can be appealing to the customers. It has also caused extracting various hidden charges in the name of e-banking service charges through many bank branches globally. As reported by the Financial Express (2016) and Bankers

Association (2015), banks sector in Bangladesh is no exception and is not free from this accusation of hidden or extra charges. Despite having in place necessary provisions & assurance issued by the Bangladesh Bank (BB), the BB received 3,930 complaints from 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, which account for 55.98 percent of total complaints (The Financial Express, 2016).

On top of this, recent bank-account hacks or heists and the mismanagement of bank-loans & failure to recovery it, makes us to believe the concept "nobody can predict the future but smart people can plan ahead for it". On this viewpoint, having insurance on the issue can be prudent because it can allow insurance holder (customer) to have a contingency plan. However, as scientific studies suggest, the consumers must be aware of any new product before adoption for its effectiveness and fairness in a market competition (Bloemer, 1998). Thus it is an important factor that windows of awareness of all benefits & consequences to customers on any product attached to digital banking have to be created for ensuring economic efficiencies in market competition. So that the acceptance of this product can be seen and it continues usage of the product for betterness of individual, organization and the society as a whole.

Dobbs and Zuhair (2014) in their report reviews some of the empirical studies on decision process of customers' product selection. He found that customers go through a process of knowledge, persuasion, decision and confirmation before they adopt any products or services. Here individuals' beliefs, attitudes, intentions and behaviors are mostly influenced by customer's knowledge, own interests and feeling warm glow. The greater the level of awareness among customers, there will be higher adoption of digital banking. Beside awareness, particularly instant awareness, banks should perceive to be innovative with high quality & user friendliness meeting 21<sup>st</sup> Century customers' expectations. The use of innovated products is one of the three important characteristics for adoption from the customer's perspective (Dobbs & Gull, 2014).

Thus the competitions among the PCBs are increasing day by day for deriving sustained revenues in operation where marketing of financial products is now becoming an important concern. On the other hand, customers prefer utilizing digital advantages for cost-effectiveness in terms of money, time and for making their lives easier than before. This is all together is making people, at least the city people, to be mechanical in their life-styles. With these demands, urgencies and luxuries of using digital banking, customers often become victims. In contrast, thru digital services, PCBs turns out to be money-making-machine of the vendor(s) with or without its intention(s). This scenario gets

worse when PCBs introduces bonus system to its employee (s) based on his/her efforts on having signed up higher number of customers for self-service banking. In this case, there is a greater possibility seeing the monetization to be service driven where vendor's motivation influence significantly in the banking system.

Since the severity of the concern is undermining the digital progression at least in Bangladesh, in a study carried out by Rahman (2016), the following seven out of fifteen factors found to be critical that influences the digital-dilemma. The eight critical factors are:

- i) Service quality maintained
- ii) Security ensured
- iii) Confidentiality maintained
- iv) Reliable service
- v) Users were instantly alerted to consequences
- vi) Hidden charges evolved from Self-service banking
- vii) bKash is hassle free for money remittance

Since we live in an era of "business mentality" where individual's beliefs, attitudes, intentions and behaviors are influenced mostly by self-interests and by other factors such as social pressure, respect or warm glow etc. (Andreoni, 1989, 1990). Warm glow in this context is defined as an increase in utility resulting from enjoying modern life-style embedded with on-the-go banking in addition to utility generated by having risk-free (insured) banking services. In this study, warm glow is considered to be a selfish motive, akin to "impure altruism" introduced by Andreoni's model (Andreoni, 1989, 1990).

As added in literature by Rahman (2017), these aforementioned factors cannot be addressed by the efforts of a single party, such as PCBs or the customers, but a joint-effort is warranted. In aim to preserve efficiency in cases of joint-efforts for achieving common goals, a competitive market-system must be in practice where parties involved will have opportunities to maximize its self-benefits (Rahman, 2017). These studies as foundation, the current study takes on the issue of digital dilemma for securing risk-free on-the-going banking services in financial sector globally and proposes a model: Voluntary Insurance Option as a product of banks sector. It is expected that under the program, on-the-go banking services will reward a safe & risk-free environment where parties involved will enjoy the opportunity to maximize its interests and utility. Since the proposal in this study is one of a kind and since it was not introduced in literature before, this proposition is expected to be an addition to behavioral intention theories in literature where comments are welcomed.

### 3. What is On-the-Go or Digital Banking? Why Is It?

On-the-go or digital banking entails the ability for a customer to carry out banking activities through Internet using mobile phones or web-browser and computers. It is a modern way of offering normal banking experiences straight to customers automatically rather visiting bank branches and waiting in bank lobby. It can be in various forms such as Internet, Telephone, PC, SMS, debit & credit card(s), western union banking and bKash banking etc. Most rapidly growing forms of banking are the Online, western union and mobile banking. The major functions of this banking are withdrawal cash, bills-payment, transferring of money within and outside of a country and account balances enquiries etc. In the latest development of mobile banking, the remittance can be sent via mobile where after receiving money (via mobile), the third party will use its credit card, namely Master Card, to credit the amount to targeted account in recipient country and so forth.

These all are done in a fingertip what used to be done or obtainable where people had to be physically present in bank lobby and wait in queues. By so progression in financial sector, banks are competent cutting off its operating costs, meeting customers' needs and trying to keep up with global changes for progression in human society. On the same token, customers are saving its time, money and feeling "warm glow" to be able to use digital banking services.

### 4. Fees, Hidden Charges, Hacking & Heist of Bank Accounts

PCBs are ripping off customers by refusing to pay decent interest rates on current accounts and hitting people with overdraft fees. Rahman (2015; 2016) detected the existence of unfair charges by the PCBs in practice. Here the PCBs are charging yearly service fees up to TK. 500.00. PCBs are pushing for rights to routinely charge up to TK15.00 a month to cover a fixed number of cash machine withdrawals, direct debits, standing orders and checks. Charges for going overdrawn for two days per month without permission range from TK 100.00 to TK 1000.00 a year. Even customers with authorized overdrafts may rack up significant charges with PCBs, including HSBC, BRAC and Dutch-Bangla etc. where its' charging rate could be 19.9 percent or higher, which is significantly higher than that of many credit cards and personal loans.

No matter what country we live in the globe, people prefer better & convenient services and comfort in life style with

limited resources and therefore, they pay more or less of fees & charges for the services in any competitive market. However, these fees & charges appear to be severe when the population of that county is not educated enough and are not familiar with the consequences of self-service banking etc. The financial sector in Bangladesh is no exception when it comes "fees & charges, hacking etc. the recent Bangladesh Bank Acct heisted and lost 81 million dollar is a bright example of how severe the digital banking services worldwide.

Therefore, Bangladesh is one of those countries that struggle coping with this digital dilemma. With the fact, since it is difficult to know publicly about total amount of fees & hidden charges received by PCBs thru e-banking, few PCB Staff were interviewed on selected factors of this study and they were asked on fees & hidden charges whenever it was appropriate (Rahman, 2016). The fees and hidden charges evolved from self-service banking can be summarized as follows

As reported by Rahman (2016), most common hidden charges of Self-service banking are

1. Non maintenance of monthly or quarterly average account balance
2. Money transfer charges when account is involved with another bank
3. Debit Card annual fee
4. ATM usage charges for exceeding certain numbers of usages
5. Email / SMS alerts charges in the future
6. Bank statement charges if customer asks for a statement
7. Charges for Debit Card decline due to insufficient funds
8. Charges for international usage of debit card or credit card

### 5. Importance of the Study

The results of this research may be of potential value to banking sector, policy practitioners including Central Banks globally and to other researchers, especially, to social scientists. Based on the factors found to be influencing user's decision on self-service usage banking, the study may provide recommendations for banks about changes needed in order to accelerate user adoption of the services offered. The findings can also be helpful to banks on overcoming the causes of slow adaptation of mobile banking, which can influence its economic development. Furthermore, social scientists may find the results useful for their study of human behavior, motivational factors that influence it,

importance of informational symmetry and how they may affect attitudes toward the adoption and use of an innovative service.

Lastly, this study proposes adding a new product with the set of products in digital banking. The proposed product is "Voluntary Insurance", which should be available and linked with on-the-go banking services, which was missing in relevant literature till now. Since the proposal or findings of the current study is expected to be an addition to behavioral intension theories, the theoretical background of the proposal is required to be sound and stand-alone for its validity. Therefore, rather merging with literature review, the theoretical background of the proposition is chosen to be standalone section as follows in designing the structure of this research paper.

Survival of the fittest: what can be done in this scenario?

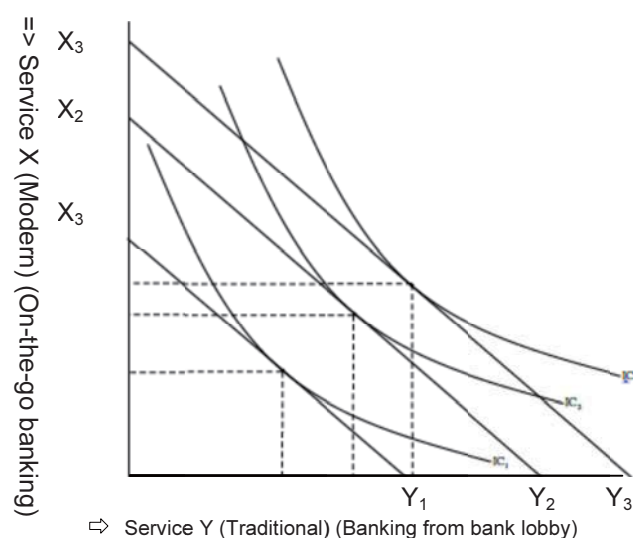
## 6. Theoretical Background: Theory of Consumer Choice & Behavior in Economics

### 6.1. Consumer Choice and Utility Maximization

Rational customer choices play a significant role in the study of microeconomics. It serves an important role in explaining the proposed model, voluntary insurance program in digital or on-the-go banking services in market competition of banks sector. The concept of customer choice in microeconomics helps to examine various bundles of two goods or services to which a customer is indifferent given a budget constraint. Understanding what bundles of banking-services a customer would be indifferent between is very important for understanding when a customer would be likely to participate in the proposed voluntary insurance program. More specifically, a bank customer would likely to participate in the said program in an aim to be certain on receiving risk-free digitized or on-the-go banking-services. The magnitudes of customer's knowledge on probable consequences of the on-the-go banking in market competition globally can be proportional to the magnitudes of choices for being risk-free in practice. In other words, along with monetary affordability, the best knowledge of the customer on consequences will enormously convinced the customer to participate in the proposed program. Here a better knowledge on consequences would lead to a higher participation in the proposed program in the digital banking-services, which would facilitate banks sector in multi faucets. Facilitation for increased digitized or on-the-go banking-services in practice can lead the banks to marginalize its operating cost significantly in one hand. On the other hand,

it allows contributing to the technological progression globally for the better-ness of the human kind in society.

Figure 1 represents an Indifference Map of a bank-customer who can choose banking-services that is either digitally facilitated (modern banking-services) or not digital (a mode of traditional banking-services). Here the choices of using digital banking are for maximizing the purpose that has convinced the customer choosing the digital services. Similarly, the choices of using traditional (non digital) banking are for maximizing the purpose that has convinced the customer choosing the traditional banking-services.



**Figure 1:** Indifference Map

This indifference map indicates the various bundles of service X and service Y that the customer is indifferent between. Specifically, here X represents a digital banking-services and Y represents a non-digital banking-services in market competition. In this case, service Y is traditional by nature and it is risk-free, however, it does ensure meeting the 21<sup>st</sup> Century banking needs in human life-style. Furthermore, the traditional banking does not make the customer to feel warm glow. Conversely, service X is a modern approach and it is full of risks. But it definitely ensures meeting the 21<sup>st</sup> Century banking needs in human life-style. Here the risk means possibilities of losing money or getting imposed additional or unreasonable costs including hidden charges & fees etc. to customer's account. In recent months or years, this severity is going further including revenue-driven unethical charges & costs evolved from hacking theft, cyber attacks on customer or organization or corporate account. In an evidence based studies on a product say X, which is a reward of modern lifestyle, Konow (2006) concluded that usage of this service

X can make for some customers to feel “warm glow”, however, it cannot be achieved when a customer chooses to use service Y in life-style.

In this scenario, bank customer may desire service Y while service X is being digital to the customer, which is full of risk. However, this customer misses the benefits of using on-the-go banking services. Secondly, the choice Y put the customer in traditional approach, which may identify the customer as backdated, which is conflicting to feeling “warm glow” to some customers. These scenarios raise question: what would a rational customer do in a competitive market economy? (See Figure 3 for more specific example)

Rational customers are always making decisions to maximize their utility, or choosing the bundle of service where their indifference curve lays tangent to their budget constraint  $BC_1$ ,  $BC_2$ , or  $BC_3$  shown in Figure 3. The budget constraint represents an individual’s marginal rate of substitution or how much of service Y they would have to give up getting more or additional service X while still maximizing their utility. In banking-service scenario, the budget constraint represents customer’s marginal rate of substitution or how much “risk-free” or “warm glow” services the customer would give up to use more digital banking-services. Any point to the left of the budget constraint will leave the individual with utility lower than what their budget constraint will allow them to achieve. Conversely, any point to the right of the budget constraint is not feasible given an individual’s budget constraint.

Understanding a customer’s indifference maps is vital to understand their willingness to prefer using the digital banking-services in this study. For some customers, there may not be any way to compensate them enough to the point where they are maximizing their utility. This is where the discussion of “warm glow” becomes a vital factor. For some customers, utility may still be maximized even if they can’t use risk-free services. This is a result of the sense of knowing that they are no longer backdated using bank-services no matter what age group they are in. They feel that they are successfully coping up with changes for betterness of their life-styles as well as for human kind. They also feel “warm glow” in such way contributing to the progression technology and they have done their duty in enhancing the facilitations for other members of human society.

## 6.2. Risk and Uncertainty

Risk and uncertainty play a very influential role in setting the stage for our proposal, Voluntary Insurance Option in banking services. For the purpose of this paper, it is assumed that bank-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-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).  $X_g$  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).

The chord represents the 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 ( $X_a$ ).

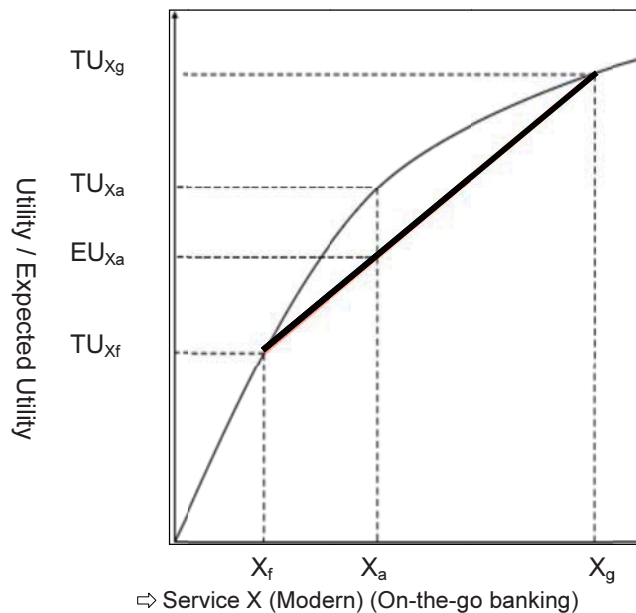


Figure 2: Risk Aversion Scenario

## 7. Voluntary Insurance Option for Risk-Free Digital Banking Services

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. As a foundation, our proposal is aimed at helping all users including the new ones to achieve an optimal utilization of on-the-go services, which will allow them to grow. So, what is it? How does it work?

The proposal should be known as a Voluntary Insurance Program in the 21<sup>st</sup> Century market competition of financial sector. Since customer's participation is absolutely voluntary, under the program, 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 that risk-free on-the-go or digital banking can be ensured.

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 this 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 economy we live in.

## 8. How Does the Proposed Model Work?

How the proposed model works is that while opening a bank account, individual may choose the option of digital services by signing up along with the insurance program. Signing up with insurance program is absolutely voluntary. Here the participant will be paying say 1.00 TK as insurance premium monthly. This amount of the premium is an additional to the yearly bank-service fees that are charged by many banks in most of the countries including Bangladesh. By signing up, the bank and the customer (on-the-go service receiver) get into the contract where the customer now finds his on-the-go services to be protected, which ensures the

customer to be risk-free. Taking another example of applications of the model is that in case of remittances, customer, if not a bank account holder, may choose the option of the program and pay instant premium so that the remittances can be covered under the program.

Rather detailing on how the program would work, at this stage it is important to discuss the risk-free preferences and the internal forces driving and individual's decision to participate in the program. First of all, for the sake of this model, we will assume that all individuals are risk-averse. That means, they will always prefer a certain outcome to an uncertain outcome. Additionally, this model will ensure extra utility to those individuals who get a sense of "warm glow" from using the digital services. This is because, warm glow is defined as an increase in utility resulting from enjoying modern life-style embedded with digital banking in addition to utility generated by having risk-free (insured) banking services. Warm glow individuals get utility simply from the act of using it. Thus, once access is confirmed and usage is made, 'warm glow' individuals have received their maximum utility and they are indifferent between traditional and modern banking services. Conversely, customer, who does not feel 'warm glow' but uses secured digital services, would gain utility from knowing that their access to digital are risk-free and then from using the services. Based on ideas of risk-aversion and utility maximization, it can be stated that if the program can transfer the risk away from the customer, the customer will have more incentive to use digital services, which can contribute to digital or IT progression globally, which can be a win-win for human kind.

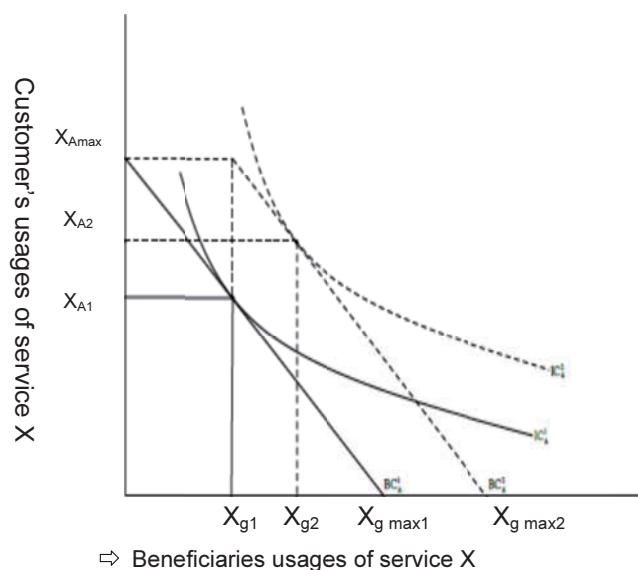
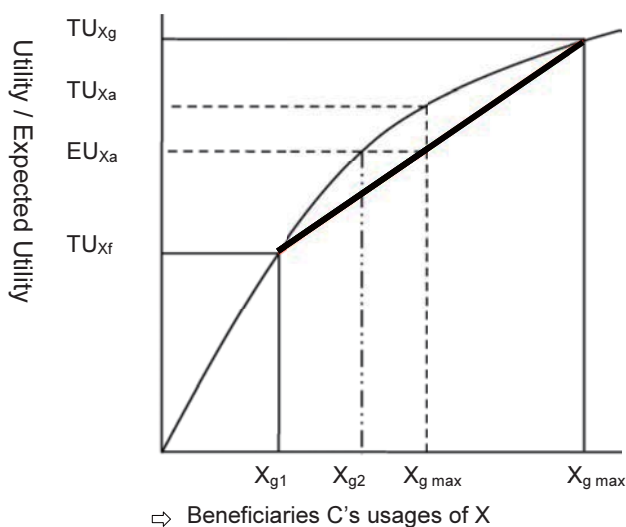


Figure 3: Insured A's budget & Indifference map

To begin our model, let us assume that Figure 3 represents customer-A's indifference curve. Here customer-A has a budget constraint of  $BCA_1$  (without participation in the program) or  $BCA_2$  (with participation in the program).  $ICA_1$  and  $ICA_2$  represent the various bundles that customer-A is indifferent between, where customer-A can either consume  $X_{A1}$  or  $X_{A2}$  but never get ripped off in the digital banking system. This is allowing beneficiary (the society as a whole) to consume  $X_{g1}$  or  $X_{g2}$  of X services. Here  $X_{g1} < X_{g2}$ , this is because digital services progression continues. The customers as a group of whole (where some signed up with program and others not) can consume  $X_{g1}$  where  $X_{g1} < X_{A1}$ . This is because of customer-A's participation in the program, the number of users of risk-free digital services progresses and the IT innovation continues as a result of now few customers use traditional banking. The society as a whole (where some are signed up and others not) consumes  $X_{g2}$  and customer-A consumes  $X_{A1}$  when the customer-A participate in the program where  $X_{g2} < X_{A2}$ .

As Hal R. Varian (1992) reports, using the Von Neuman-Morgenstern model for expected utility, it is possible here in this study to hypothesize the expected level of utility that an individual receives from participating in the program. Since there is a certain level of uncertainty, because not all customers are participating in the program, the utility that a participant receives from participating will lie somewhere on the chord (the bold lines) as the Figure 4 displays the scenario below.

However, before we move on we must return to the ideas of 'warm glow'. Also, we spell out here that this analysis addresses the ideas of 'altruism', 'impure altruism' and 'warm glow' factors separately.



**Figure 4:** Expected utility of an insured and Beneficiaries of digital or IT progression in society

This is because of the nature or characteristics of the good or service. Here service X (where X is risk-free because it is covered by insurance) is not a free good or service rather it is a private good or service. Thus, as a foundation of Andreoni's (1989) report findings, in this case, the 'warm glow' & 'impure altruism' arguments are very much relevant at least in case of risk-free services such as digital banking services. This is because consumers are getting ensured services or risk free services because they are paying for it. In contrast, the altruism ideas can be incorporated into here saying that the attitudes of this group of customers appear to be personal towards others. Here individual's utility function is consistent with non-warmly manner that possesses important social characteristics. As Konow (2006) reports that due to non-paternalism presence in practice, it is a result of altruistic social interactions with others. And in this case they are paying for services and its utility is coming from the usages of the services only.

The ideas of 'warm glow' is relevant and important because here customer will not fully feel 'warm glow' if he uses just digital but not fully secured digital services where risk-free services are not free of charges. Logically, uninsured digital-service-user will be always worried about running into rip-off or being hacked all the time, which is an opposite of being 'warm glow' environment. In this case, the individual's utility will accumulate from using the services and feeling warm glow of having digital and risk free services under the proposal.

The ideas of 'impure altruism' are a mix of 'altruism' and 'warm glow'. Some customers in digital banking may choose not to sign up for the voluntary insurance program but use the digital services. This is because simply say, they cannot afford it. Here they want to feel warm glow even though they know that the services not to be risk-free in general.

Therefore, this study analyses issues of utility & risk factors in cases of three groups of customers: i) customers who do not really care about 'warm glow' but want to have risk-free digital banking meeting their needs in daily lives ii) customers who do care about 'warm glow' and want to be risk-free in digital banking to meeting their daily needs iii) customers who want to have digital banking to meeting their daily needs and feeling 'warm glow' but do not want to spend money for being protective (not insured). Here

- i) Should be altruism  $\rightarrow$  evaluate others based on own preferences least care warm glow, as it is shown in Equation 1
- ii) Warm glow preference  $\rightarrow$  carry both, as it is shown in Equation 3
- iii) Digital but cannot effort insurance



The first group will always receive  $TU_{Xf}$  or  $TU_{Xg}$  because the only factor contributing to their utility function are that they use digital banking services, which carries no risk and how much of service X they are able to consume (see utility function equation 1 below). This is because the attitudes of the first group appear to be personal towards others. Here individual's utility function is consistent with non-warmly manner, which is a result of altruistic social interactions with others, a foundation as it was reported by Konow (2006) in his report.

The second group's utility function comprised of how much of service X they can consume as well as the beneficiary consume under the program after choosing to participate in the program. In this case, when people make decisions on private goods or services, there may be many factors influencing their decisions other than altruism. As Olson (1965) noted, people are sometime motivated by desire to win prestige, respect, friendship and other social & psychological objectives. Warm glow factor in human life has been acknowledged in literature, the most common approach has been to assume that preferences depend only on private consumption. The utility function, Equation 2, shows second groups' utility of usages of digital services along with its experiences of warm glow.

The third group is an 'impure altruist' where 'impure altruist' is essentially a hybrid of a pure altruist and an individual that experiences "warm glow" having digital banking services in meeting needs of life-style, which is shown below in Equation 3. However, this group does not pay for having protective digital services and thus they do not participate in the program. Therefore, individuals utility accumulate from usages of X services and from experience of 'warm glow'. Since the services received here is not insured or risk-free, the individual experiences a lower level of 'warm glow' that that of the second group who maximizes experience of warm glow.

Therefore, weighting the utility from digital usages, the second group's utility (i.e. expected utility) places first, then the third group's utility (expected utility) and then the first group's utility (expected utility) places the third position. Here mathematically, altruist's utility < impure altruist's utility < warm glow's utility. This is because the digital banking services is one of the rewards of the 21<sup>st</sup> Century where besides meeting needs of modern life-style, it is embedded with social status and monetary costs. Another reason is that it is a private services, not free good. Thus, better quality services can effectively be consumed or used by individual who can afford it where the most common approach has been to assume that preferences depend only on private consumption as it was pointed out by Olson (1965).

$$UD = U(X) + g(\theta) \quad (1)$$

$$UD = U(X) + f(\alpha + \theta) + g(\theta) \quad (2)$$

$$UD = U(X) + f(\alpha + \theta) \quad (3)$$

Where  $U(X)$  is the utility an individual receives from consuming service X,  $\alpha$  is participant's premium paid and  $\theta$  is the benefit that the beneficiary (customer) receives.

With the aforementioned setup, while a customer who does not care 'warm glow' issue (warm glow factor cannot influence his decision) will always receive utility  $TU_{Xf}$ . The utility that the customer who does not participate in insurance program but use the digital banking (not risk-free) will be between  $TU_{Xf}$  and  $EU_{Xa}$ . The utility that the customer who participate in the program will be  $EU_{Xa}$  and  $TU_{Xa}$ . Both impure altruist and warm glow group's utility will lie on the chord of the Figure 4. Here since the impure altruist's utility function also includes the utility they gain simply from experiences of warm glow, the impure altruist is going to receive more utility than the pure altruist. As long as the insurance policy pays enough back to the participant in the event of a failure, this gap will be filled giving participants (who wouldn't have participated without the voluntary insurance option) the necessary incentives to allow to use on the-go services while still maximizing their utility.

## 9. What Does the Effort for the Current Study Convey?

The intention behind the proposal in this study is to convey no dispraise of the work done or in any way to disparage the consumer behavioral theories which the passing generation of social scientists has elaborated. This effort is not to ridicule the great and admirable body of knowledge which the passing generation has brought under the hand of the science, especially, human behavioral science. But this effort is only to indicate the direction in which the inquiry in its later phases, not always with full consciousness, is shifting as regards its categories and its point of view. The discipline of life in the 21st Century society, particularly the digital life, strongly reinforced by IT, has divested our knowledge of non-human phenomena of that fullness of self-directing lives. It was once imputed to them, and now it reduces this knowledge in terms of incomprehensible causal sequences. It has thereby narrowed the range of discretionary teleological action to the human agent alone. Therefore, it is compelling our knowledge of human conduct, in so far as it is distinguished from the non-human, to fall into teleological terms. Food, pounds, calories, geometrically progressive procreation and

doses of capital have not been replaced by the equally ill-mannered denominations of habits, propensities, aptitudes, and conventions. And there seems to be no probability that they will be superseded in the future. But the discussion which continues to run in terms of the former class of concepts is in an increasing degree seeking support in concepts of the latter class where the intention of the efforts serves as a driving force for further progression. In this facet, the intention behind our proposal in the current study is no different and it opens up for discussion and welcomes comments.

In addition to carrying out preliminary comments to the proposal, a further study can lead to cross examine some hypotheses such as: whether and how strong on-the-go banking users respond to the proposal “voluntary insurance program in an attempt to ensure risk-free on-the-go banking services”, which can be introduced by PCBs?

## 10. Conclusion

While banks have done a relatively good job providing digital services, there is still some serious pitfalls related with it is the most important problem being the riskiness. Banks have overcome market failures, asymmetric information and issues with trustworthiness, but its customers and its lifelines are still facing considerable risk and uncertainty. In this day and age, when every penny matters to some individuals, banks need to do everything in its power to make itself more attractive to customer if it has any hope in surviving in market competition. However, in recent days, we have seen cyber attacks on bank accounts, for example, hackers in Bangladesh Bank cyber hacked about 81 million dollars.

While the model presented in this paper provides a solid starting point for making on-the-go banking services more attractive, the fact of the matter is that it is a very novel concept in need of further research. And so doing, we shall know whether or not it could be helpful overcoming an ever present risk in digital banking. However, with some work and the implementation of this model in banks as a way of gauging usefulness of digital banking, this model can be used by both large and small banks. This model provides potential customers with the necessary incentives to allow them to use digital services while maintaining their optimal level of utility. By transferring the risk away from the customer to the service-providers, potential customer's risk preferences will be swayed in a way that will benefit both the customer as well as the service-provider. By transferring the risk, potential customer will have an increased level of utility even in the event that the banks fail to secure. By so doing, the PCBs will be able to attract potential customers that

were on the brink of using digital banking but just felt as though it was too risky without having some sort of insurance.

As noted in many studies, like any new ideas, fine tuning and adjusting some of the concepts is necessary to create an effective tool to be used by service-providers. However, the model presented in this paper is well on its way to becoming a tool that every bank as well as customer should use on its path towards achieving long-term benefits, allowing banks to provide the services to its customers as it was initially intended to do.

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