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VOLUNTARY INSURANCE FOR RAPID GROWTH BANK-LED DIGITAL-BANKING TRANSACTIONS: SEEKING ATTENTIONS FOR POLICY-DESIGN IN BHUTANESE-ECONOMY

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Abstract

It is well recognized that digital banking is an important product in today's financial sector country-wise. However, perceived risk-factors particularly, psychological risk-factor of customers and probable customers has been undermining the growth-trends of bank-led digital-banking country-wise where Bhutan is no exception. Even though provisions of financial services cover transactions of traditional banking services, it does not cover digital transactions. Attaching a new product - *Voluntary Insurance* - with a bank-led digital-banking service market can help to overcome the challenges, which can encourage probable customers too to use it. This new and increasing value is what will keep banking-business be growing, which can ensure risk-free digital-banking in Bhutanese-economy. It can ensure speedy growth trends of digital transactions. Once the VI as a product is in place, it will spread from bankers to customers and its growth trend (S-curve) will capture the growth of revenue or productivity against time. This growth trend will be slow as the new product sets itself up but at some point, it will be fast. So, the growth-trend of transactions will increase rapidly in Bhutanese digital-banking service-market. Over time, it will ensure Bhutanese to be cashless society. The goal of this study is to bring these VI policy recommendations to policymakers and bank-management's attention in Bhutanese financial-sector.

Key word(s): Bank-led digital-banking service-market, Perceived-risk factors, Voluntary Insurance, Akim's model, Cashless-society.

1. Introduction

In today's world, services are conducted in many-fold, competitive, and rational manners. In delivering these services, many factors are involved that are often unpredictable. Digital banking is an important product in today's financial sector even though provisions of financial services cover transactions of traditional banking services, but it does not cover digital transactions. Despite this reality, the digital-banking services are designed in multi-facets to reduce operating costs. However, it faces serious pitfalls, being it riskiness including psychological risk. Here customers compete for time-saving options. Banks compete to marginalize its operating costs then enhance its revenues. In most cases, customers do not read the terms and conditions of services. They do not save bank-contract copies and do not exactly remember the number of banking transactions or amount of each transaction in his / her account.

These weaknesses cause abuse. Customer faces perceived risk factors such as hidden charges, *extra* fees, account hacking.

Tackling the issues, *Voluntary Insurance* as a new product in digital-banking service-market in economy country-wise is proposed by Akim Rahman (Rahman, 2018), which is known as Akim's Model in literature. It can serve as a guidance to bank-management or policymakers of Bhutanese-economy for designing effective policies for ensuring absolute risk-free digital-banking services, which can ensure cashless society sooner than delaying.

However, no economy country-wise has yet introduced the VI new product in its digital-banking service market. On this scenario, the digital-banking service-market in Bhutanese-economy is no exception, even though Bhutanese economy like any other economy country-wise want to see cashless society sooner than delaying.

This study takes on the challenges to attract policymakers and management of financial sector in Bhutanese-economy for policy design so that the VI can be a new product in digital-banking service-market in Bhutan's economy soon.

2. Why is Bhutanese-economy?

The Kingdom of Bhutan is a country with a population of just about 780,000 where many are living in rural areas, many are semi-literate, many are with small businesses. With this socio-economic background, it has been decided to adopt digital banking as a tool to leverage the economy, which has been going on since year 2008 (DPSS, 2022).

With the inspiration and efforts of the King of Bhutan, the Land of the Thunder Dragon, embraces the Internet and technology for maximizing its potential to transform several aspects of society, including banking. In fact, given the size and population of Bhutan, it should have been quite easy to convert the whole country into a digital banking hub. But like many other countries, the Bhutanese-economy has been facing its own challenges.

The country's Internet connectivity, ready adoption of mobile banking, semi-literate citizenry, several small businesses including grocers and vegetable shop owners, overall people's psychological risk-factor undermines the progression of digital-banking services in Bhutan.

With the Royal Monetary Authority of Bhutan (RMA), the Bank of Bhutan (BoB) is committed accelerating digitalization of the national economy and finance by expanding participants in multi-faucets. So, the BoB has been issuing licenses and setting up regulatory framework as needed for setting up digital banks in Bhutan as a separate and distinct category in the banking business. Like in many countries, the aims of this ongoing efforts of Bhutan are a) promoting financial inclusion b) supplying credit access to unserved and underserved c) providing affordable/cost effective digital financial services d) encouraging application of financial technology and innovation in banking e) fostering new set of customer experience and f) developing further digital eco-system.

Despite the enabling regulatory environment, the response to and adoption of mobile wallet have been slow but has caught up recently with the Bank of Bhutan launching ‘BoB Chharo’. In the light of the ongoing technical integration to removing interoperability frictions, an open Application Programming Interface (API) has been made available to enable fund transfers between the bank account and the wallet account through Bhutan Immediate Payment System (BIPS). Gauging by the ongoing effort, T-Bank and TashiCell present exciting promises to roll out the wallet services.

Table 1: Payment Transaction Comparison – Q2 2021 and Q2 2022						
Instrument	Q2, 2021		Q2, 2022		% Change	
	Volume in “000”	Value in ‘00000’	Volume in “000”	Value in ‘00000’	Volume in “000”	Value in ‘00000’
Mobile & Internet Banking	7,270.10	9,282.20	36,282.79	122,512.39	33.05%	54.53%
QR Code Payments	6,565.32	6,566.78	18,888.74	17,563.80	187.70%	167.46%
Payment Gateway	318.87	213.23	667.77	365.77	109.42%	71.54%
Wallets	422.19	173.75	1,380.84	446.90	227.07%	157.21%
Electronic Fund Transfer	42.89	20,869.89	71.43	23,097.18	66.55%	10.67%
ATM	1,080.27	20,869.89	71.43	23,097.18	66.55%	10.67%
PoS	0.60	2.10	0.28	2.82	-53.69%	34.07%
Domestic Payment	5,818.01	177,418.58	57,977.26	226,394.48	61.87%	27.60%
Regional payment	1.12	4.38	4.86	18.15	33.42%	14.44%
International payment Gateway (IPG)	8.68	413.09	9.64	226.41	11.07%	- 45.19%
Source: Quarterly Payment System Report Q2, 2022 (April to June), Department of Payment and Settlement Systems (DPSS), Royal Monetary Authority of Bhutan						

On the other hand, the state-owned telecom, owing to the already extensive network footprint and considerable number of mobile subscribers, is in a better position to take advantage of mobile financial services more quickly and hence expand financial inclusion. Moreover, the telecommunications sector appears to have reached stagnation in terms of new product innovations, which is evidenced by the waging price wars between the two telecoms; therefore, mobile financial services offer new business opportunities. However, Bhutan has long been struggling with supplying an affordable and user-friendly banking experience to its huge population (Robinson, 2020).

Despite these obstacles, the payment transactions in Table 1 shows a progressive outcome on total transactions made through various digital payment channels operated by the RMA and the 6 banks at domestic, regional (India), and international level from April to June 2022 in Bhutan.

As compared to the 2nd Quarter of 2022, the following can be summarized (DPSS, 2022).

- a. Domestic payments saw an overall increase of 61.87% by volume and 27.60% by value.
- b. Regional payments saw an overall increase of 333.42% by volume and 314.44% by value. This increase is mainly because of the increase in Ru Pay issue transactions. There was no Ru Pay acquiring transactions recorded in the second quarter of 2022.
- c. International payments saw an overall increase of 11.07% by volume. However, there was a decrease of 45.19% by value. The SWIFT transactions are the transactions that are carried out at the bank level and do not include RMA's transactions.

The domestic payments recorded a total of 57.97 million transactions comprising of intra and interbank domestic transactions worth Nu 226.39 billion during the 2nd quarter, 2022 (DPSS, 2022). There is an increase of 61.87% by volume and 27.60% by value as compared to the second quarter, 2021. The increase in volume of domestic payments in the second quarter 2022 is mainly contributed by an increase in the transactions of wallets, QR code payments and payment gateway transactions. Similarly, the increase in value is mainly due to the increase in the transactions of QR Code payments and wallets of 167.46% amounting to Nu 10.99 billion and 157.21% amounting to Nu. 273.15 million, respectively. It also shows the comparison of these transactions with the same quarter of the previous year, Q2 2021.

In Q2 2022, mobile and internet banking dominated the domestic payment space followed by QR code payment in terms of volume and in terms of value, paper cheques and electronic fund transfer follow it. Although mobile banking and QR code payments are one channel, it is segregated because it is independently integrated with separate settlement accounts. As shown in the chart above, the share percentage of QR payments is increasing higher than the other channels, including mobile banking.

With this traditional *dilemma* in practice, the BoB, commercial banks etc. are trying to ease the woes of the customers by improving access to financial services (DPSS, 2022). They still struggle with completely unlocking the untapped potential of digital transformation in the country. Not to mention that not a single traditional domestic bank has developed an end-to-end digital operation yet (DPSS, 2022). This might have linkage with peoples' psychological factors that has been undermining the growth-trends of digital transactions in Bhutan financial sector.

3. Objectives of the study

This study continues with the following objectives

- a. To introduce Voluntary Insurance for ensuring growth of total risk-free digital-banking services in Bhutan economy.
- b. To examine how the VI policy be productive to Bhutan economy.

4. Methodology

This study uses the Theory of Consumer Choice & Behaviors (Rahman, 2019) for establishing the basis of the VI proposal in Bhutan economy. So, that it can be attractive or motivational to

policymakers for relevant policy-design in Bhutanese-economy.

5. What is *Voluntary Insurance*? How can it work in the digital-banking service market?

The way it would work is because the customer's participation will be voluntary. Insurance will be attached to a customer's account if the customer wants it for secured digital-banking services. Since the VI program will be designed as a way of transferring the risk away from its premium-payers, it will ensure premium-payers with a sense of certainty. Here premium-receivers will take *extra* measures for ensuring risk-free digital-banking services. For example, ATM Card or Credit Cards can be protected by setting up two identifications such as password and a finger-scan. Suppose a customer wants to use an ATM card where accessing his account, the customer will have to use two identifications namely own setup password and previously chosen finger-scan say his thumb or forefinger scan. Here scanning fingers in addition to password can be connected to the ATM system, which will make digital banking secure. Overcoming the risk of *heist* or hacker's access to bank accounts, under the proposal, similar own set up identifications can be usable. In global banking cases such as remittances, the program can ensure risk-free digital banking services. Since customers' psychological risk-factor undermines growth-trends of e-banking in Bhutanese-economy, adding the VI product in digital-banking service-market can overcome this *dilemma*. In this e-banking -service-market of Bhutan-economy, customers will have choices either signing up for it or not signing up for it but can have access to e-banking services.

From a service-provider's side, service-provider can offer rebate or other benefit to customers for attracting more customers to use digital-banking services. It is just like giving and take. This is because having a higher number of digital transactions can reduce the operational cost of banking services.

Alternatively, the banking sector can include the VI policy under the current FDIC provision that most banks have in practice globally. It will cover and ensure that the digital-banking services are fully insured or covered just like FDIC insures deposits according to the ownership category in which the funds are insured and how the accounts are titled. It will ensure the digital transactions are secure and safe, which will attract the probable customers of e-banking services to use digital transactions as needed. This is because here customers will psychologically feel secure and safe to their cash inflows and outflows in digital-banking service-market in financial sector country-wise.

6. Application of Akim's Model – *Voluntary Insurance* as a new Product: Theoretical Justification in case of Bhutanese digital-banking Service-market

It is clear now that the perceived-risk factor plays an influential role in setting the stage for the proposal, the VI policy option – the *Akim's Model*, which will facilitate the VI as a new product in digital-banking services-market in any financial sector country-wise such as Bhutan,

Figure 1 illustrates the risk preferences of a risk-averse banking-customer. It is palatable to assume that e-banking-customers are risk-averse, i.e., they prefer certainty to uncertainty when it comes to banking services.

In a world of uncertainty, a customer's actual utility that the customer receives from digital-banking services will never fall on the TU (X) but rather on the chord (the bold line). X_g stands for a service outcome in which a customer may use a certain level of service X while X_f stands for a negative outcome in which customers may use less of service X. If 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 stands for 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).

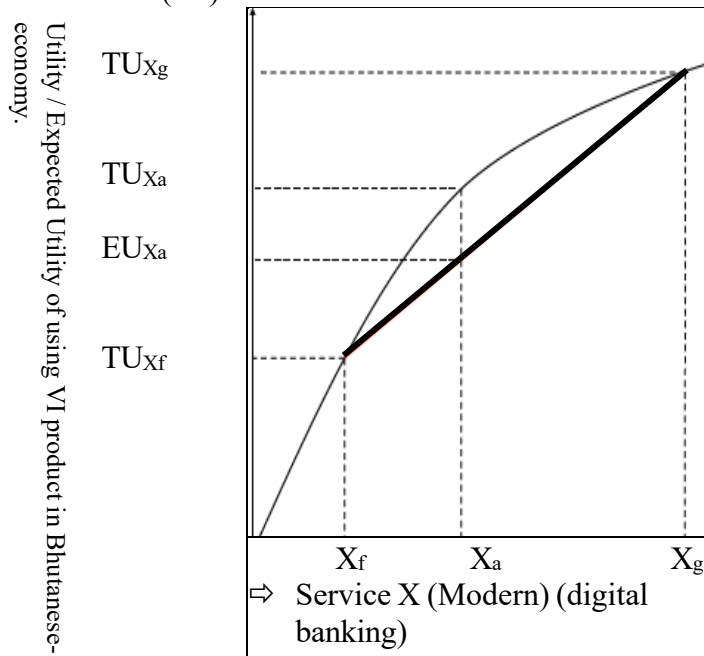


Figure 1: Risk Aversion Scenario in Bank-led Digital-banking Services in Bhutan Economy

Prospects of the VI in Bank-led Digital-banking Service-market in Bhutanese-economy

Once policy-practitioners recognize the importance of the proposed VI product under Akim's model and introduce banking-provisions authorize the VI as a new product, it may spread from bankers to customers in Bhutanese-economy. This process of life cycle of the VI product can be described effectively using the "S-curve".

Lifecycle of the VI product under S-curve connecting with Bhutan-economy

In Fig 2, this S-curve maps the growth of revenue or productivity against time.

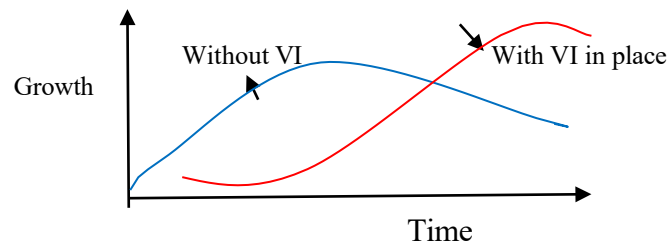


Fig 2: Impacts of VI product in Bhutan economy
Figure Source: Author's creation

In the early stage of this progression, growth will be slow as the new product sets itself up. At some point, customers will begin to demand. So, the product growth trends will increase rapidly.

These new incremental changes to the product will allow growth to continue. Toward the end of its life cycle, the growth will slow down and may even begin to decline. In later stages, no amount of new investment in that product will yield a normal rate of return (Kaplan, 2017; Akerlof, 1970). However, it will set up a secured bank-led e-banking through bankers who introduce this new product, which can present a Cashless Bhutan-society soon.

This successive S-curve will come along to replace traditional banking and will continue to drive growth trends upward where the VI is likely to have “product life” i.e., i) a start-up phase ii) a rapid increase in revenue and iii) eventual decline. But it will never get off the bottom of the curve and will never produce normal returns. In these advances, it will play vital roles presenting a secure system of bank-led e-banking, which needs to be attracted by probable customers.

How can VI products be appealing to customers & probable customers of e-banking services?

The rate of using of digital-banking service-choice along with VI product depends on many factors. The efforts of the service-providers of the VI product in the bank-led digital-banking service-market can be in multi-faucets. They are as follows:

1. Perceived benefits of signing up with VI product e-banking account by the customers
2. Promotional efforts on the VI product benefits
3. Price or cost for the VI product services in digital-banking service market
4. Offering rebates on a certain number of digital-banking transactions in a week or month
5. Promotional efforts of the bank or VI providers in ensuring risk-free e-banking services
6. Compatibility with existence standards and values
7. VI product management's strategies to promote the message to customers and probable customers in the digital-banking service-market.

7. Goal of the current effort: How can the VI product be helpful in a competitive market?

The goal of this proposal is to bring the issue to bank-management or policy-practitioners' attentions so that the proposed VI new product is in digital-banking service-market in Bhutanese-

economy. This raises questions: how can this VI product be instrumental to the banking sector and to human society? Why is it important? Why now?

Answering the questions posed, it is palatable to claim that transferring risk away from customers will directly help both the private commercial banks (PCBs) and customers. It can attract new customers who were on the brink using digital banking but just felt it was risky. The model can ease the customers with incentives for increasing usage of digital-banking services while securing the best utility of it.

Any new product, *obviously* a legal one, is the lifeblood of business, companies, and societies. It can ease a few ways such as: ensuring new value for customers, improved society, and continued existence of the company in competitive market.

The VI in service-operations can ensure risk-free e-banking, which can guarantee elevated self-service-banking activities in any economy (Rahman, 2022). This can be beneficial to customers because it can ensure savings in the form of cost and time. Thus, customers will flock to it when they use banking services. By *extra* advancement of ICT usage, the banking sector can be further competent, cutting down its operating costs, meeting customers' needs and keeping up with global technological changes.

With this *win-win* setting for producer & user of the product in *digital-banking*, the financial sector country-wise such as Bhutan no exception. To sail through tough competition and to sustain revenues, financial sector in countries such as Bhutan are engaging more than that of other kinds of bank on adoption of IT in its operation (Dept of Payment & Settlement System, 2022). However, it has failed reaching out to a major part of customers in case of digital banking in countries including Bhutan.

8. Future study directions

The directions for future study

- i. Whether the amount of insurance premium has any impact on the probability of the VI policy adoption in banking sector in Bhutan economy?
- ii. Conducting an empirical study where data statistics should be on customers and probable customers' opinions on the causes of slow growth-trends of transactions in Bhutanese economy.
- iii. Conducting a test whether the insurance premium or the cost for the VI has impacts on the possibility of the VI policy adoption in Bhutan economy.

9. Conclusion

Now having VI as a new product in e-digital services can be an impetus to meet today's banking challenges, which have been undermining the growth trends of the number of transactions. This new and increasing value is what will keep banks or firms be growing, which can ease Bhutanese-economy booming. If there is no new value to offer the customer, a bank or firm wilts and eventually dies. New products and services are the lifeblood of any bank or firm. Without them, firm, or bank withers on the vine and either dies or is absorbed by another firm.

Thus, society is well-served by the continuance of these companies from the employment of individuals who work there or are consumers. They support society at large in the form of taxation and charitable giving. Companies and civilizations have little choice but to grow and improve if they want to move from survival to thriving. The new products and services created and provided by companies of all sizes supply the mechanism for this growth and improvement. It can ensure speedy growth trends of digital transactions. Once the VI as a product is in place, it will spread from bankers to customers and its growth trend (S-curve) will capture the growth of revenue or productivity against time. This growth trend will be slow as the new product sets itself up but at some point, it will be fast. So, the growth-trend of transactions will increase rapidly in Bhutanese digital-banking service-market. Over time, it will ensure Bhutanese to be cashless society.

So, the question is: can bank-management or policy-practitioners of Bhutan plays role for better-ness of its modern-society when it comes E-digital-banking services?

The answer to the question posed is, YES, where efforts of policymakers and bank-management in Bhutan can play significant role for the better-ness of its economy as well as for its society there, which can ensure cashless society soon.

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