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Wave Retail Banking Effect on Customer Satisfaction in Retail Supply Chain in Bangladesh

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Abstract-The study explores the various facets of different wave retail banking models, including their merits, demerits are security issues, to share the wave retail wave banking implementation in Bangladesh. Apart from that, this research evaluates the current status and preparedness of banks to facilitate wave retail banking in Bangladesh. To developed smooth operation and application of wave retail banking in Bangladesh. This research focuses only on renown Banks in Bangladesh. This trend contributes towards the anticipated growth of wave financial information services, funds transfer, bill payment and presentation, account management and customer service solutions. Therefore, this research use the Unified Theory of Acceptance and Use of Technology (UTAUT). Also, To conduct the study primarily as well as secondary data have been collected 100 users of the bank account holder in Dhaka city were interviewed to know about their interest about cashless wave banking in the retail market. In order to analyze the data, we use SPSS for pilot test and PLS for data analysis. The elaborate the current wave retail executing infrastructure of Bangladesh. Also, understand the awareness and readiness of customers satisfaction regarding wave retail banking in retail market supply chain management. This study creates a sensation among the bank and consumer satisfaction in the use of wave retail banking.

Keywords: Wave retail banking, Trend contribution, facts, SCM

1 Introduction

Apart from the developed countries, the developing countries are experiencing strong growth in the wave retail banking [17]; [39]. The Wave retail banking has grown significantly over the past several years, particularly in the developed countries, where many financial institutions now offer some form of wave banking for their customers [1]; [40]. Wave retail banking provides financial services to unbanked communities efficiently at affordable cost without a branch network [26]; [35]. Banking and financial services, such as cash-in, cash-out, merchant payment, utility payment, salary disbursement, foreign remittance, government allowance disbursement, ATM money withdrawal through wave retail technology devices, i.e. wave local phone, is called wave retail banking [3]; [27]. Wave retail banking enables wave retail phone users to access essential financial services even when they are miles away from their nearest branch or home computer [34]; [28]. Wave retail banking has already flourished in the Philippines, Brazil and Africa like other parts of the world [41]. In the United States, about 10 percent of consumers, 1.7 million people currently use their retail sopping to conduct bank transactions [36]; [37]. In Japan, nine out of 10 people have wave retail card for retail shopping, and in countries like Italy, Norway, Sweden, United Kingdom, Saudi Arabia and Malaysia the market penetration of wave retail banking has already exceeded 100% [2]; [38].

1.1 Wave retail banking and retail supply chain

Wave is a company that offers small business financial services and applications by banks. Wave has its headquarters in Toronto, Canada's Leslieville area. The New Software by Wave makes it faster and easier to pay for mobile billing and acceptance of card payment [22];[19];[36].

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Traditionally, retail banks have concentrated on procurement in a region or business field. However, few banks have adopted supply and demand management approaches through businesses successfully. Consequently, few banks have achieved the maximum cost savings that strategic supply offers and wave banking [44]; [32]. Supply chain financing provides short-term finance for leveraging both the buyer and the seller's working capital. Supply chain finance uses corporate approaches to maximize working capital, generate market liquidity, wave banking facility to retail consumer [18]; [11]. The bank deals with the customer instead of depending on the provider's creditworthiness.

2 Literature Review

Wave retail banking around the world becomes popular day by day. It is changing dramatically in south Asia. The USA leads to wave banking for customer service.

2.1 Wave retail banking in the USA

Some of the major U.S. banks such as Bank of America, Citibank, Wachovia, Washington Mutual, Wells Fargo, and ING Direct – are providing wave retail banking services that give one access to his/her accounts wherever he/she is [3]. Like regular online banking, the wave retail service allows consumers to transfer funds, check balances, make bill payments, and look up branch locations from their wave retail devices. Though this concept is new, bankers expect that attract new service will catch on with consumers. Wave retail banking is an obvious extension of online banking as smart cards get more powerful and begin to mimic computers [11]; [42]. Bank of America and Wachovia both offer a browser-based service, which is a simplified version of the online site that fits within a cell phone and PDA screen. Any customer that has Internet access on their cell phone can log on to their accounts by typing the banks URL into their wave retail browser. The Wave retail banking services of Citibank are called 'Citi Wave retail'. It is a downloadable application. Customers need to log on to citi.com/Citi wave retail on their computers and download Citi Wave retail to their cell phones. The app then resides on the phone. A user can access his/her account anytime. To generate interest in the wave retail service, banks and wireless providers are teaming up [5]. The Wave retail banking market has grown significantly over the past several years in the United States, where many financial institutions now offer some form of wave retail services for their customers [16]. Although more U.S.A. consumers currently use retail banking for retail shopping facility [17].

2.2 Wave retail banking in Europe

In Europe, a wave retail penetration rate around 80% and Germany is the largest European wave retail market with 50 million wave retail users [5]. German banks distribute their products via multi-channels [10], [12]. According to Forrester's Research, 84 % of German consumer's use of Automatic Teller Machines (ATM) - the most popular transaction channel. Banks have recognized the trend and reacted with strategic alliances. For instance, large private banks such as Commerzbank, Deutsche Bank, Dresdner Bank and the Postbank have established an association called "cash group". This enables bank customers to withdraw money without paying extra fees at 7,000 ATM's throughout Germany (Cash group). Similar alliances have been made among saving banks as well as co-operative banks [13].

In Europe, Wave retail banking trends are like those in the United States—as many as 12 percent of Europeans who are online take advantage of Wave retail banking [15]. However, adoption rates remain low and, at this time, it is predominantly used for simple SMS (Short Message Service) text messages. A much smaller number, only 4 percent, are accessing wave retail banking [7]. Online banking is utilized by only 30 percent of consumers [16]. On the other hand, 52 percent of them still rely on traditional physical branch services to satisfy their banking needs – even though automated channels such as ATM's or online banking offer lower transaction fees [17].

In Germany, to access Wave retail banking services, customers should own a wave retail handset. All the banks have websites that can be viewed from any device, independently of the wireless service provider. A research study [5] on Wave retail banking services offered by the top 100 German banks found that surprisingly only 14 German financial institutions allow their clients to interact via the wave retail channel. Three out of these 14 offered very simplistic SMS-notification services. Most banks do not charge customers extra fees for SMS services [18].

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2.3 Wave retail banking in South Korea

In terms of the evolution of services being offered on wave retail applications, South Korea is showing the way. The big push came when LG Telecom Ltd., the smallest of Korea's three-wave retail service providers, teamed up with the Kookmin bank to launch the 'Bank on' service [19]. Under this scheme wave, retail users were able to use smart chips embedded in cell phones for accessing all the transaction and enquiry-based services. The chip-based service automated the authentication of users when they obtained their bank's financial assistance to make the whole process much faster and convenient [20]. The icing on the cake came with the ability of these chip-enabled cell phones to be used simultaneously as cash cards. By October 2004 there were already about 100,000 infrared readers adapted to take payment directly from wave retail phone handsets in Korea. Users can now use their cell phones to pay for everything, from restaurant bills, travel tickets, merchandise and even haircuts [9].

2.4 Wave retail banking in India

A study found that Reliance Infocomm India rolled out its CDMA network, (at the time the wave retail market in India was still in its infancy, data services and handsets supported Java [45]; [21]. The Reliance application platform, also known as R-World brought Java compatibility even to the lower end phones [30]. Reliance used a novel way to overcome the memory limitations of lower-end wave retail phones, which hampered the deploying of multiple standalone J2ME based clients. Instead of storing applications statically on their cell phones, users access a single menu-based app called R-World, which connects them to the Reliance servers [10]. Using the menu-based user interface, wave retail users select the application, which they want to run and download them over-the-air to their cell phones [22]; [34]. These applications are then executed locally on the wave retails. From mid-2004 Reliance tied up with two of the famous private sector banks, HDFC and ICICI, to provide a host of their enquiry and transaction-based wave retail banking services through its R-World environment [23].

3 Theory

The underpinning theory of this study is UTAUT2 (Unified Theory of Acceptance and Use of Technology) models to measure technology adoption, wave retail, trust, innovation and customer satisfaction [31]; [32]; [33].

3.1 Theoretical Framework

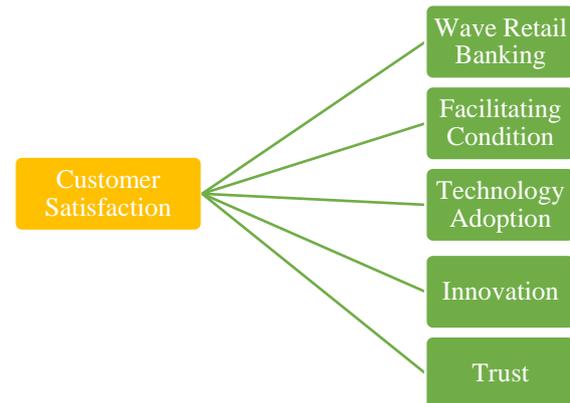In this section, we demonstrate the theoretical framework of this study

Figure 1. Theoretical Framework

3.2 Hypothesis

H1: Wave retail banking and customer satisfaction has a positive relation in retail supply chain management

H2: Facilitating Condition and customer satisfaction have a positive relationship in retail supply chain management.

H3: Technology adoption and customer satisfaction has a positive relation in retail supply chain management

H4: Innovation and customer satisfaction has a definite link in retail supply chain management

H5: Trust and customer satisfaction has a positive relation in retail supply chain management

4 Methodology

To conduct the study primary as well as secondary data have been collected 100 users of the bank account holder in Dhaka city were interviewed to know about their interest in cashless wave banking. Stratified random sampling is used to talk to customers. Table-1 below describes the sampling method.

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Table 1. Determination of Sample Size

MNO	Market Share (%)	Customer Interviewed	Male	Female
Brac Bank	43	32	20	12
City Bank	17	24	16	8
Eastern Bank	19	16	10	6
Dutch Bangla	7	12	8	4
Jamuna Bank	2	8	6	2
Islami Bank	12	8	4	4
Total	100	100	64	36

Source: BIBM, 2018 (Bangladesh institute of business management)

4.1 Measurement Items

Several questions were asked to the users of wave retail shopping for customer satisfaction regarding wave retail banking. Following graph summarizes the output.

Table 2. Measurement Items

Variable	Items	Adapted From
Trust	I believe it will help to eliminate corruption	
	I think it will help to grow savings	
	I want tot to enjoy it	
Innovation	I don't know what wave banking is	
	I like to visit the bank branch/ ATM	
Technology Adoption	I can't find enough information about it	
	My bank does not offer it	
	It's complicated to use	
Wave Retail Banking	I afraid to use it	
	It is so easy to process to the retail transaction	
	Is it secure for you	
	I don't know the costing	
Facilitating Condition	I don't know my bank offer this facility	
	I see it is not fascinated to me	
	I see no value to use it	
	I see this is effective for retail shopping only	
Customer satisfaction	I am satisfied with it	
	It fulfils my desire	
	It is fascinated to me	

4.2 Tools

SPSS for pilot test and PLS for data analysis. To assess model structure, [31] proposed a catalogue of criteria since PLS path model does have global goodness-of-fit rules [32]; [33]. The implementation of these criteria encompasses a two-stage process, e.g. (i) assessment of the outer model and (ii) assessment of inner model [31]. The external model is known as the measurement model, and the internal model is known as the structural model [33].

4.3 Data Analysis and Result

From the graph, people have mixed reaction about wave retail banking. About 55% respondent said that they have no idea about Wave retail banking and its use. Moreover, they are afraid of the security of their money. Around 62% respondents believe that it will

help to develop our country and corruption may be eliminated. 42% of the respondents said that they have no definite knowledge about the technology. About 38% of them are not aware of the benefits also. Most of them said that yet they haven't heard about this new banking technology. In this scenario, it's not surprising that over 52% of the respondent think that it is complicated to use. While interviewing, it was found that awareness about Wave retail banking services was higher among urban people. While overall awareness remains very low, people are keen to try out wave retail banking. 15% of the respondents evinced interest in the services. Given the convenience factor—the fact that Wave retail banking can be used from anywhere in the country as long as one can send and receive SMS'—15% were interested, and 32% thinks that it will increase savings habit.

5 Discussion

The wave retail technology options allow a variety of choices when implementing Wave retail Financial Services [25]; [43]. Options range from technologically secure end-to-end implementations to less secure options that do not have full-wave retail to banking system security [26]; [45]. It is possible to offset the increase in risk caused by using less secure wave retail technologies by introducing operational controls [24]; [44].

Given the lower levels of wave retail handset technology prevalent in many developing countries, transformational Wave retail banking can be accomplished by a careful appraisal, introduction and management of operational controls (including user education) necessary to offset the higher technical risks inherent in choosing ubiquitous but less secure technologies [27]; [46]. Moving to prudent and adjusted security models requires a proportionate regulatory framework within which to ensure on-going and active supervision of risk management [28]; [47].

In the case of Bangladesh, with all respects, adjusted wave retail security model will be the best selection. But with the advancement of technology, increased customer knowledge, availability of smart wave card for the retail facility can be achieved through weave banking.

5.1 Limitations
Financial institutions should be aware of the types of potential threats that can affect their Wave retail banking services [29]. These include Cloning, Hijacking, Malicious Code, Malware, Man-in-the-Middle Attack, Phishing, Redirecting, SMiShing, Spoofing and Vishing [9].

6 Conclusion
Wave retail banking is most often performed via wave retail facility in the retail market or shop. The local market shopping queue will be minimizing through wave banking. Customer doesn't have to wait for the payment queue. Precisely big shopping complex it has seen that they suffer for very time-consuming cash payment. However, the retail wave will solve all the money transaction problem very fast and secure. Wave retail creates a new sensation for customer satisfaction and cool service for retail shopping.

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