International Journal of Engineering & Technology, 7 (4.38) (2018) 1358-1361

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

The Gap to Involve the Banking Cheques into Green Banking: Review and comparison about the contribution of Electronic Clearing Cheque System, Remote Cheque Deposit Service and Electronic Cheque Service in the Green Banking

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Abstract

Green banking is going to lead the banking sector into 21st century, which is much needed in saving the world. The purpose of this paper is to address the gap in involving the banking cheques into green banking, by spotting the light on the environmental practices which are applied in Electronic Clearing Cheque System (ECCS), Remote Cheque Deposit Service (RCD) and Electronic Cheque Service (ECS) and the gaps in each. To achieve the purpose reviews and comparison in different aspects have been done which are related to ECCS, RCD and ECS. In addition, to guide the argument about the fact behind the death of paper cheques, especially after launching ECS which changed the direction of this argument. The findings could be used to help the banking in cheques field to go greener through focusing on investing in electronic cheque payment methods and improve the electronic cheque capabilities in the banking sector.

Keywords: *Green Banking; Electronic Clearing Cheque System; Remote Cheque Deposit Service; Electronic Cheque Service; E-Cheque; E-Check*

1. Introduction

The awareness in environmental issues requires the banks to involve themselves more in green banking, which is defined as "means of promoting environmentally friendly practices and reducing the carbon footprint from banking activities" [1-2]. Moreover, adopting the green banking bring various benefits to the banking sector [2]. Such as, achieving a sustainable growth, protecting the environment, and giving a positive image about the banks to their society [2].

The cheques represent one of the payment methods in the banking sector, a cheque is a certified document signed by the drawer and addressed to the bank /drawee requesting to pay a specific amount on their behalf to the beneficiary /payee or bearer on demand [3]. Various systems and services have been used in the banking sector to serve different stages in dealing with banking cheques. Such as Electronic Clearing Cheque System (ECCS), Remote Cheque Deposit Service (RCD) and The Electronic Cheque Service (ECS). However, each of them comes up with its own benefits and to take a step towards green banking.

2. Methodology

To address the gap to involve the banking cheques into green banking, two objectives were set: First, spotting the light on the environmental practices which are applied in ECCS, RCD and ECS and the gaps in each. Second: Guide the argument about the fact behind the death of paper cheques. To achieve the first objective a set of secondary data as banking websites, literature reviews which are related to ECCS, RCD and ECS have been done, followed by a comparison between them in different perspectives. For achieving the second objective literature reviews as secondary data which are related to green banking and the argument about the death of paper cheques have been done. Finally, achieving the objectives leads to a set of recommendation which guides the banks and their clients in cheques banking field to get involved in green banking.

3. Review About Electronic Clearing Cheque System, Remote Cheque Deposit Service and Electronic Cheque Service

A. REVIEW OF ELECTRONIC CHEQUES CLEARING SYSTEM

The mechanism of ECCS starts when the beneficiaries deposit the original cheques to their banks [4], Special scanners with MICR reader are used to take an electronic image for the paper cheque and its data [4]. The electronic image will be passed to the ECCS system for processing the electronic image of cheque instead of the real paper cheque [4]. In the central bank clearing centre, if there is any infraction in the electronic image, the electronic image will return to the beneficiary bank [4]. Otherwise, the electronic image will be sent to the drawee bank [4]. The drawee inspects the health of the data which is mentioned in the cheque [4], especially regarding the amount of the cheque and the signature of the drawer. After that, the drawee bank sends a response to the

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central bank clearing centre, whether positive or negative [4]. The clearing cemtre on its behalf will inform the beneficiary's bank about the response [4]. Jordan and Qatar are examples of countries which is using ECCS [5].

B. REVIEW OF THE REMOTE CHEQUE DEPOSIT SERVICE

Some of the banks in different countries have served a cheque imaging deposit service remotely. This service enables the bank's customers to take a picture or scan for a signed physical original paper cheque, then send it to their banks, without any need to physically deliver the cheques to their banks [1][6-7]. The banks accept the digital images of the paper cheques and use them in clearing the cheques. USBANK and Bank of America are examples of these banks which is offering the mobile cheque deposit service through using smartphones [6-7]. In addition to many banks in USA offer the remote/mobile deposit cheques service, other countries have offered it such as RBC Royal bank in Canada [8], and Barclays bank in United Kingdom [9].

C. REVIEW OF ELECTRONIC CHEQUES SERVICE

The Hong Kong Monetary Authority HKMA launched the electronic cheques service on 7th December 2015 [10]. The electronic cheques are considered as an electronic document which is used for online transactions to substitute the paper cheque [11-12]. The E-Cheque is designed electronically to imitate the components of paper cheque design [12]. HKMA declared in the initial stage that nine banks offered E-Cheque issuance service which include Agricultural Bank of China, Bank of China /Hong Kong, Chiyu Banking Corporation, Fubon Bank /Hong Kong, Hang Seng Bank, Nanyang Commercial Bank, The Bank of East Asia, The Hong Kong and Shanghai Banking Corporation and Wing Lung Bank [10]. The issuance of E-Cheque is required from the clients to log in to their internet banking account, then select E-Cheque issuance service [11-12]. After that they have to input the payee name, cheque date and cheque amount in figures, then the E-Cheque will be generated by the bank with the digital signature [12]. Finally, the E-Cheque needs to download and send it to the payee through email in PDF format [11-12]. Depositing of E-Cheque requires from clients to log in to their internet banking account, then select E-Cheque deposit service [11-12]. After that they have to choose the deposit account then upload the E-Cheques which they have received [11-12].

THE ARGUMENT ABOUT THE DEATH OF PAPER CHEQUES

In 2014, the argument about the death of paper cheque was considered as a kind of an exaggeration [3] [16]. First, due to many reasons Vines et al., (2012) mentioned that use of cheques represents a flexible banking payment method in such a way that electronic payments do not offer [16]. Second, the provisions which are made to limit the physical delivery of the cheques by relying on the cheques image as a replacement of original paper cheque document [3], that is exactly what is happening in RCD and ECCS, but not in ECS, which is a paperless cheque service that uses an electronic cheque not a scanned or electronic image of paper cheques. Hence, ECS was launched on 7th of December 2015 [10], the argument took a new direction after it, as ECS is considered as the first electronic cheque banking service which offers requesting, issuing and depositing service using electronic banking cheques without the existence of the physical paper as evidence.

4. Comparison Between the Electronic Cheques Clearing System, Remote Deposit Service and Electronic Cheques Service

The aspects of comparison	ECCS	RCD	ECS
The purpose of the system/service	Clearing the paper cheques	Remotely depositing of paper cheques	Requesting, issuing and depositing electronic cheques
Technique of the cheque transmission	Electronic image of scanned paper cheque	Electronic image of paper cheque	Electronic cheque itself
Existence of the paper cheque	There is a physical existence of the paper cheque	There is a physical existence of the paper cheque	Paperless service, no use of physical paper cheques.
Time and place of depositing	Via banks branches during the banks working days, in the specific bank working hours.	Any time of any day, anywhere.	Any time of any day, anywhere.
Statistical study	"A study by electronic Cheque clearing house organization (ECCHO) found that the banks with (10) billion dollars assets, will save (7) million dollars as a result of clearing the cheque electronically, and banks with (1000) billion dollars will save (260) million dollar per year" [13].	US bank Redstone Credit Union has enabled to save 90% of the cost for processing each cheque by offering the mobile deposit transaction [14]. This has minimized the cost of a branch transaction from $4.00 to $0.40 for each cheque [14].	Chief Executive in Hong Kong Monetary Authority, Norman Chan mentioned that "If half of the paper cheques are replaced by E-Cheque, we save 18 million sheets of paper or 1,800 trees, which in turn reduce 130 tonnes of carbon dioxide emission every year (equivalent to the size of 28 standard swimming pools)."[15]
Additional Advantages	Saving the consumed time, money and efforts between the different banks side, which are involved in cheques clearing.	Saving the consumed time, money and effort from both sides, banks' employees and payees, which are involved to complete the depositing transaction of a physical paper cheque.	Saving the consumed time, money and effort from both sides, banks and banks' clients including payees and drawers, which are involved in requesting, issuing and depositing transactions.

5. Environmental Practices Which Are Applied in Eccs, Rcd And Ecs And The Gaps In Each.

Name of Service/ System	Activity Type and Environment Mode	The Environmental Practices	The Positive Effect of Activity	Gap in Practices to Involve into Green Banking
ECCS	Activity type: Clearing. Mixed paper/ electronic scanned cheques environment.	ECCS oversteps the physical movement of paper cheques between payee bank, drawee bank and clearing house by using the scanned electronic image of paper cheques instead of moving the original paper cheques.	Minimize the air pollution caused by using vehicles to move the paper cheques between different parties for clearing.	ECCS serves just the clearing operation of banking cheques. ECCS keeps paper cheque which is considered as a source of the scanned electronic cheque image.
RCD	Activity type: Depositing. Mixed paper/ electronic image cheques environment.	RCD oversteps the physical delivery of paper cheques when payees visit banks to deposit the paper cheques, the banks accept the digital images of the paper cheques and use them in clearing.	Minimize the air pollution caused by vehicles when payees use them to visit banks.	RCD serves just the depositing operation of banking cheques. Keeps the paper cheque as a source of the electronic cheque image.
ECS	Activity type: Requesting, issuing and depositing. Electronic / paperless cheques environment.	ECS ends the physical existence of paper cheques and the need of cheque book.	Fully paperless Cheque service which helps to save the trees. Minimize the air pollution caused by frequent visit of payees and drawers to banks, as a result of using electronic channels to deliver and receive the electronic cheques.	ECS serves requesting, issuing and depositing of electronic banking cheques only. ECS has been applied under some constraints, the electronic cheque in ECS is not negotiable or transferable as well as it is not allowed to cash it [12].

6. Conclusion

The following conclusion is drawn from the previous reviews, comparison and the previous argument. First, due to the electronic/ paperless cheque which has been experienced in banking sector in Hong Kong since 2015 [10], this experience creates the possibility of shifting the paper cheque users to electronic/ paperless cheque payment method by using electronic version of banking cheques, hence the argument mentioned that use of paper cheques represents a flexible payment banking method in such a way that electronic payments do not [16]. This will guide the banks to take care of offering electronic banking cheques services in such a way to keep the flexibility which clients find in paper cheques. This will lead to suggest on how to make the use of the electronic cheque as flexible as the use of the paper cheque as a banking payment method that makes it efficient. Second, to encourage the paper cheque client to shift into an electronic paperless cheque payment method, some additional advantages from using the electronic channel should be gained by the clients, for example archiving capabilities of electronic cheque details, and solving some problems which paper cheque users may face while using the physical paper cheque. Third, according to the environmental practices which are applied in ECCS, RCD and ECS the continuous development in the electronic cheque banking services have involved banks and their clients into green banking by minimizing the air pollution, in addition ECS ends successfully the consumption of paper cheques in its service. Fourth, banks around the world should invest more in the electronic cheque and improve its capabilities to let banking cheque field go greener.

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