FACILITIES MANAGEMNET AND INFORMATICS GOVERNANCE IN THE BANKING SECTORS

UPRAVLJANJE RESURSIMA I INFORMATIZACIJA U BANKARSKOM SEKTORU

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Abstract: *This project describes the impact of computerization in the banking sectors in United Kingdom. Banks are the institutes that play a key role in our financial life and they were created much further than the 'coins' themselves, however, little is understood about the computerized banking system. Ariwa and Medhat (2004) argued on the importance of meta-intelligent systems and knowledge management in delivering customer focused banking services and its competitive delivery using the distributed data-mining model to enhance quality of services provided to the customers and the businesses.*

Key words: *Internet Banking, Computerized Banking, Mobile Banking, Banking Security, Wireless Communications, Firewalls Security, Knowledge Management, Meta-Intelligent Systems, Distributed Data Mining, SMEs*

Sažetak:*Ovaj projekt opisuje utjecaj informatizacije bankarskog sektora u Velikoj Britasniji. Banke su institucije koje igraju ključnu ulogu u financijskom životu, te je to područje informatizacije bankarskog sustava slabo proučavano. Ariwa i Methat (2004) proučavali su važnost meta inteligentnih sustava i konkurentnost njihove distribucije koristeći dana-mining modele za poticanje kvalitete usluga klijentima i poslovnim partnerima.*

Ključne riječi: *Internet bankarstvo,informatizacija banaka, mobilno bankarstvo, Bankarska sigurnost, bežično komuniciranje, sigurnost vatrozidova, upravljanje znanjem, meta inteligentni sustavi*

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1. Introduction

The financial and the banking sectors are the most advanced and dynamic sectors of the British economy. (Carrington, Langguth & Steiner, 1997) They are a major issue connected with everyday life of individuals and businesses based in the UK or abroad. As the British economy was going through difficult times, this effected directly the performance and services provided by many banks.

Carrington, Langguth, Steiner, identified the major players in the United Kingdom banking industry as follows: Lloyds TSB, Barclays, Natwest and HSBC. They are known as the 'Big Four', as they handle about 80% of all the financial transactions and multichannel services. This was due to their involvement in the development of telecommunication, electronic data and mobile communication services with respect to "the increased capability of information systems which radically changed the scale, scope and economics of the whole banking sector". (Carrington, 1997).

In order to succeed in this competitive environment other banks had to install very high-developed computerized systems such as Wireless Local Area network (WLAN). Banks were able to offer new products and services to customers and business allies, due to investment in the mobile communication infrastructures, appropriate technology and business-based capabilities for delivering cost effective services. But traditional banks that operate on the high street uses online and phone facilities to enhance their service level agreement (SLA) such as renewing and updating customer's financial transactions. The banks value this approach as it supports their principles of operation by keeping their legacy systems and ensuring that they are consistently renewed and updated in order to deliver quality services to the customers. This is a key factor in order to remain successful in the banking industry, but it has its side effects as the 'gapological' concept was based on the so called 'half new' and 'half legacy' system which was not as effective and efficient as the new banks that implemented the entire new operating systems.

2. Brief history of Computerized Banking

When the computers were discovered they were useful to many different organizations. Computers were very useful to the banking sector in particular. It was the concept described as: "A device designed to execute mathematical operations or logical operations. These operations are performed automatically according to the sequence in which they are received. Computers are used primarily for high-speed processing of data. Computers are classified in many ways. However, the most important distinction is generally considered to be their processing power. Computers include as part of their basic design, separate functions:

a. Performing arithmetic operations and logical operations on data.
b. Controlling the flow of data
c. Moving and storing information
d. Interfacing with input and output devices."

(Woelfel, 1994)
Between 1960s and 1970s the British banks were applying Information Technology (IT) to their internal operations, such as transferring the accounting and record-keeping activities from branch ledgers on to centralized systems. The Bank of Scotland was the first bank in UK to install an IBM accounting machine and other British banks later adopted this technology. In late 70s the banks installed the partial automation of the cheque clearing process with MICR (Magnetic Ink Character Recognition) technology. This speed reader-sorter technology was installed due to the enormous amounts of cheques issued daily. As the social and economic expectations were changing rapidly it was a necessity that the banks operated at the expected levels.

From a research carried out by the Inter-Bank Research Organization (now part of APACS), they estimated that between 1976 and 1981 the percentage of adults with bank current accounts rose from 45 to 61 per cent. Due to the increase of the expectations and the increase of the number of customers banks invested a huge amount of money into the computerization of their services.

3. Banking Technology

Based on Arora, technology in banking has been used in 4 major ways:
i. To handle a greatly expanded customer base
ii. To reduce substantially the real cost of handling payments
iii. To liberate the banks from the traditional constraints on time and place and
iv. To introduce new products and services (Arora, 1997)

Goddard explains further that banks are involved with the introduction of new technology in four main areas:
1. Customer-facing technologies: Automated Teller machines (ATMs), Electronic Funds Transfer at the point of sale (EFTPOS), telephone banking centres, internet banking, e-commerce and e-card business and customer relationship management systems (CRMs).
2. Business management technologies: Data-warehousing, Data-mining, middleware and credit and risk systems.
3. Core processing technologies: Cheque processing statement insurance and interest and charging system.
4. Support and integration technologies: General ledgers, human resources systems and technology support systems.

(Goddard, 2001)

4. Automated Teller Machines (ATM)

ATMs are used to provide electronic banking services to bank customers. They are the basics of Electronic Funds transfer (EFT). These machines have been used since the early 70s to collect and store data, to use data to establish what work needs to be

done by humans and machines, and to do analyses to provide insight. (Kauffman & Wang 1994)

Every customer who holds an account with any bank, they could use ATMs because every bank shares the electronic banking network. ATMs are installed by the financial institutions to provide unattended, online computerized banking "teller" services and may be seen as replacement of the human labour work. The table below shows the percentage use of branches and ATMs between 1980-1995:

	1980	1985	1990	1995
Branch	85	68	60	50
ATM	15	32	40	50

Table 1. Source: Jeff Watkins 1998

Form the above figures is very easy to judge that ATMs are becoming more popular than branches, because ATMs read the information from the card, checks the valid user by the customer's entering the personal identification number (PIN) and then it provides them with different services. ATMs are user-activated through a magnetic strip on the plastic card. Using ATMs has changed the attitude of banking. Cash withdrawals, deposits, and transfer of funds between accounts, balance inquiry and bill payment, can be done anywhere and any time.

5. Methodology

A longitudinal research study was carried out at the Deutsche Bank in London, from November 2000 due now to implement the electronic bill presentment and payment (EBPP) .The strengths and limitations of, and the reasons for pursuing case study research on information systems are well established in the literature by Yin, 1989; Lee, 1989; Benbasat et al., etc. The case study used in this research paper illustrates and gives a full picture of the electronic bill presentment and payment (EBPP) implemented for the first time at Deutsche Bank in London. The topic of this case study is part of other case studies initially used for the efficiency and effectiveness of the banking services, secondly for the security reasons that EBPP can provide.

The objective and the contribution of this case study is that (a) describes a methodology of developing and implementing an electronic bill presentment and payment (b) demonstrates how new technology help overcome some difficulties and (c) provide insights of how difficult is to implement a new system. Data collection in this case study was conducted through a deep literature research and through observations carried out on the EBPP operating systems, followed by structured interviews with companies and businesses that use the electronic bill presentment and payment. The cooperating company is Purves& Purves, which is trying to implement

the electronic bill presentment and payment, where we observe and question the billing system they use.

- Why do businesses use the electronic bill presentment and payment systems?
- What are the electronic bill presentment and payment benefits and pitfalls, if any?
- Is electronic bill presentment and payment the key to the cash management value chain?
- How useful is the electronic bill presentment and payment for businesses and individual customers in the UK?

These two methods gave us qualitative and quantitative results of the research. This research is based on the secondary research data (Literature review) and primary research data (observation and interviewing).

6. Case Study-Deutsche Bank

Deutsche Bank is a world-wide bank that concentrates in corporate banking and securities, transaction banking, asset management, and private wealth management, and has a significant private & business banking franchise and branches in Germany, United Kingdom, France, Russia, Japan, etc counting up to 75 countries throughout the world.

This bank aims to be a leading global provider of integrated financial solutions for demanding clients and the pre-eminent banks, generating exceptional value for its shareholders and people. Deutsche Bank has been offering Customer Access, Payment and Collection Services, Information and Account Services, Liquidity Management to the corporate customers. In November 2000, Deutsche Bank started investigating the uses and benefits of the Electronic Bill Presentment and Payment (EBPP).

"The EBPP has been seen as cheaper way to send the invoices electronically against the manual approach, including stationary and postage costs per invoice. It is these manual cost which have driven the B2C business. There were lots of marketplaces but they focus on the logistics and procurement. What was missing was the payment portion." (Saw Hooi Him, 2004; Global Head of EBPP, Deutsche Bank)

Deutsche Bank was concentrating on the electronic bill presentment and payment, because they were one of the first adopters of the Indentrus Public Key Infrastructure (PKI), Secure Socket Layer (SSL) and digital signature technology for built-in authentication and encryption. As the bank had the customer base demanding this type of system and on the other hand they had the tools and the appropriate technology they started designing and testing the electronic bill presentment and payment.

7. Research Analysis and Interpretation the Research Solution

Many organizations around the world are working and performing a more efficient and effective operation by implementing the electronic bill presentment payment, EBPP. In order to find out what it takes to implement such a system we interviewed a company, Purves &Purves that operates in the B2B and B2C retail areas for taking in consideration the implementation of such a system.

Purves &Purves works with a large number of suppliers (exciting 500 per month) and customers (exiting 1000 per day), within their premises and by phone. The invoice billing had proven to be very expensive, so they want to achieve cost saving and efficiency in the invoicing process.

In order to discuss these requirements the company called in the specialist team from JP Morgan to do a feasibility study for implementing the EBPP system. But the implementation of such a system requires not only the focused company (in this case Purves &Purves) but also all the other collaborating parties. This meant that a large number of suppliers needed to implement the same system in order to process the invoices via EBPP.

But Purves &Purves was only a small part of the suppliers business and not a core customer, so this implementation was unsuccessful.

The outcome of this research fulfilled three out of four questions drawn in the research methodology:

- Why do businesses use the electronic bill presentment and payment systems?
- What are the electronic bill presentment and payment benefits and pitfalls, if any?
- Is electronic bill present and key to the cash man), Secure Socket Layer (SSL) agreement value chain?

But the unfulfilled question is: How useful is the electronic bill presentment and payment for businesses and individual customers in the UK?

This is the area, where banks like Deutsche Bank and JP Morgan has to focus in order to return this service to a useful and wanted product. The solution to such a problem will be the education of the customers, the acknowledgment of benefits and the cost savings, as well as the efficiency operated by the electronic bill presentment payment (Lomax, 2003)

One of the latest efforts to enter and succeed in the EBPP is an Anglo-American joint venture, where they are trying to implement a system for different British banks that simply would display the bank's logo and the bills that the customers wish to look at. This will be one of the first attempts in the UK for the private customers to use the EBPP, which was available only for the B2B market. The system eliminates the customer to log to a third party site, but it has to go through different test in order to

be available to the customers. Bacs EBPP, the joint venture forecasts the start of the operation not earlier than June 2005. (Pratt, 2004)

8. Conclusions and Recommendations

The financial and the banking sectors are the most advanced and dynamic sectors of the British economy. Due to the increase of the expectations and the increase of the number of customers banks invested a huge amount of money into the computerization of their services. With the computerized services banks have experienced displacement of the labour, increase of the profit and they have offered a higher interest rate. Computerized banking has offered the customers a more reliable and connivance services. This was a result of deployment of ATMs, online, on telephone and on mobile banking. Banks expect mobile banking to increase in the future, although most believe that its use will be as an add product rather than a mainstream channel.

The computerised banking industry is highly attacked by viruses, hackers, crackers and Trojans. The online banking is 30 times higher than in the physical world, according to Celent Communication. The technology to make Internet banking a very safe method is available, but the only problem is the cost. (Young, 2003) The rapid developments of the wireless communication networks will result on the fourth generation of mobile systems (4G), which will provide many more qualitative and quantitative services. (Hui, & Yeung, 2003).

4G technologies will introduce the customer-friendly billing; know as correlation it "will allow all the information belonging to the invocation and/or set up of a communication session together". (Ghys, & Vaaraniemi, 2003)

The technology is improving, so the service providers and the finance institutions have the bases to improve the mobile banking service, however, they have to come to an agreement where they could communicate very easy, no matter what platform, what mobile device being used, what finance institution or what service provider. This type of agreement will require lots of time and effort put into it, but it will be worth it when the mobile banking system will be as easily used as the ATMs.

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