

INNOVATION AND MANAGEMENT OF INTERNET BANKING IN EMERGING COUNTRIES

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ABSTRACT

The informational nature of services renders each IT innovation a source of deep changes. Considering its part in the remaking of processes and the redefinition of the relation with customers. Internet Banking is part and parcel of most recent innovations. However, contrary to corresponding literature in developed countries, Internet Banking stirs little interest in emerging countries for diffusion reasons. Analysis of some specific cases bridges the gap in this field as far as research is concerned.

After a literature review about innovation in services, the state of developments and conditions of success of Internet Banking in emerging countries was analysed.

Keywords: Innovation, services, Internet Banking, emerging countries.

INTRODUCTION

Few technologies affected modern history compared to the Internet. Radio, television and the most important widespread XXth century technologies required several decades to be adopted whereas the internet needed less than 10 years to be used by thousands of electronic agents and hundreds of millions of people all over the world (Lumpkin & al., 2002; Gurāu, 2002). This context has been lived in a particular way within some sectors such as the banking industry. In fact, the informational nature of financial services allows their transfer under an electronic form (Yakhlef, 2001). Hence, each wave of innovation in Information Technology (IT) carried strong industrialization and computerization of the processes which turned upside down the back-office activities and the bank Information Systems (IS). Internet is listed in the continuity of these changes by bringing a new reality in customer relationship management. Internet Banking can be defined as an interactive system based on the Internet network. More precisely, Internet banking "*refers to systems that enable bank customers to access accounts and general information on bank products and services through a personnel computer (PC) or other intelligent device*"¹. Thus, the arrival of new mobile devices having access to the web is considered as a new innovation spreading factor in financial services (Yakhlef,

2001). Although researches about Internet Banking are abundant in USA and Western Europe, a few authors were interested in emerging or in transition economy cases (Centeno, 2004). Contrary to developed countries, the penetration of the Internet amongst the population varies widely according to countries and regions (differences are noticed between Asian and Eastern Europe countries on the one hand, and those of the Middle East and Maghreb on the other hand) and the specific cities of the bank markets are not without the influence of competition and technology adoption (Gurāu, 2002; Gerrard & Cunningham, 2003).

Innovation in services: a literature review

The definition of innovation brought forward by Schumpeter during the forties is distinguished by its nature that incorporated at the same time, new products, new production modes, new markets, new raw material sources and/or new production organization (Gallouj, 1998). However, this enumerative formulation seems to ignore the importance of innovation in services. In fact, in Schumpeter's days, the ITs were not what they are today. The necessity of adapting this definition to a particular context of services stems from the fact that the innovation processes in the manufacturing industries as compared to the service industry- are radically different (Smith, 2002).

Rogers (1983, p.11) defines innovation as "an idea, practice, or object that is perceived as new by an individual or by other unit of adoption". This author uses the concept of "innovation" and "technology" as two equivalent concepts having in common the same basis: uncertainty. He considers that technology creates uncertainties for its potential followers that of its consequences- and represents at the same time an opportunity for reducing uncertainty, which represents the possible efficiency of an innovation to resolve individual or organizational problems (Rogers, 1983, pp.12-13).

¹Definition given by the Office of the Comptroller of the Currency (OCC, 1999)

Phase	Type of innovation	Competitive Effort	Original Technologies	Example (banking environment)	Impact of technology
I.	Incremental process innovation	Efficiency of the service (lowers costs)	Microprocessors	Industrialization of the back-office	Better productivity
II.	Radical process innovation	Quality of the service	Mini and micro computers	Quotations out of purse, ATM	Better quality and variety of the capital
III.1.	Product Innovation	New services	Fixed networks	Home banking PC banking	Savings in capital and Simultaneous
III.2.			Internet network	Internet Banking	
III.3.			Mobile networks high flow and terminals	Mobile Banking	Improvement Of quality

Source: adapted of Gallouj (1998)

Table (1): Characteristics of the "reversed" cycle of innovation in the Banking Industry

The Internet is considered as a technological innovation that functions at the same time as a "product innovation" and/or a "process innovation" (Prescott & Van Slyke, 1997; Corrocher, 2002; Buzzachi & al., 1995). This is in conformity with Barras's analysis (1986, cited by Gallouj, 1998) who was one of the first authors to speak about the theory of innovation in services. This type of innovation is characterized by a reversed cycle of that known in manufacturing industries: first two phases of incremental then radical "process" innovations followed by more "product-oriented" ones (Gallouj, 1998). These three phases correspond to the improvement of service efficiency, quality and the creation of new services. The appearance of Internet Banking is listed in this final stage (see table 1).

In terms of impact, the Internet allows to carry out in the

same time- capital saving and improvement in the service quality which confirms its double nature (product and process). Moreover, possible extensions on the technological level (mobility for example) are determinant in the reinforcement of the Internet benefits.

The "inverted" cycle of innovation in services shows that the Internet Banking is just a stage among others in the technological evolution of the Banking industry. Analysis of the Internet Banking in view of the evolutionary theory is given below.

An evolutionist view of the role of Internet as an innovation

Internet is listed in a rationale of innovation which exceeds the limits of the company and of its market place. It favors the appearance of new business patterns along with strategic alliances, gathering banks technological companies and/or electronic trade actors to quote the example of the "virtual-only banks". Thus, it is possible to consider innovations as an engine in the dynamics of competition and to stretch Shumpeter's analysis largely relieved by the evolutionary theory of the firm which consider innovations (particularly technological) as disequilibrium factors that are part of the evolution of markets (Nelson & Winter, 1982). The economic modelization of technological innovation in the banking industry, such introduced by these authors and beyond its reducing dimensions led them to analyze and compare several variables: productivity (of best practices, of innovators/imitators, etc.), the cumulated expenses in research and development, practiced prices, the return rate on investment in innovation, etc.

Let's note that the evolutionist analysis questions the innovation's characteristics which render possible its evaluation and the consideration of its evolution over time. Certainly, in emerging countries, bank markets and their actors are of such a size that it is often difficult to apply an econometric analysis of the same type, a limited number of actors does not make it possible to use quantitative analysis method. On the contrary, Rogers (1983, pp.15-16) offers a rich qualitative analysis guide which seems more adapted to the inherent complexity of

the concept of innovation itself.

Internet Banking in emerging countries: A general overview

The authors who have dealt with the Internet Banking in emerging countries emphasize the particularity of their respective contexts and their deep differences on the socio-economic level- with most developed countries (Simpson, 2002; Longueville, 2003; Centeno, 2004). Emerging countries are at the top of the ladder in so far as incomes are considered, but they are at the mercy of the erratic fluctuations of private capital so they are characterized by the weight of recurrent financial crises (Eastern Asian and Latin American emerging countries above all). The banking sector is then a key space of these economies and its exposure to the growing influence of ITs justifies a dedicated Internet Banking study (see Table 2).

Country	Author (s)	Object of the study
China	IBS * (2001) Mindbranch ** (2001)	Analysis of market situation on the basis of public data and interviews.
India	IBS (2002) Mindbranch (2001) Joshi (2004)	
Taiwan ***	Wu & al. (2004)	Study of the easiness of using Internet Banking sites (8 independent evaluators of 49 sites).
Singapore	Gerrard & Cunningham (2003)	Analysis of the diffusion level of Internet Banking and its motivations through interviews, then 240 questionnaires.
Malaysia ***	Balachandher & al. (2003) Vijayan & Shanmugam (2003) Suganathi & al. (2001)	Scoring and quantitative evaluation of the banking Web sites (segmentation of the services in several types).
Jordan ***	Awamleh & al. (2003)	
Allowed country and candidates with the European Union ****	Centeno (2004)	Survey of the current state of development of Internet Banking, its level of adoption and its specificities in these countries through statistics, European Union studies and case studies.
Romania	Gurău (2002)	Analysis of the conditions of success for the installation of Internet Banking in Romania through a global market survey.

Table (2): Sample of published studies about Internet Banking in emerging countries

Foot-note:

* Mindbranch: www.mindbranch.com (Other countries: Hong Kong, 2002; Brazil, 2001).

** IBS: www.internationalbusinessstrategies.com (Other countries: Argentina, 2001; South Africa, 2002; South Korea, Thailand, Poland and Taiwan, 2003).

*** Analyzes and articles published on line in *Journal of Internet Banking and Commerce*

(www.arraydev.com/commerce/JIBC/articles.htm, access 13/05/2004).

**** Centeno (2004) focused its study on the following countries: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia and Slovenia.

Simpson (2002) carried out a comparative study of 5 US banks and 40 emerging countries banks. He highlights the importance of evaluating the "inherent risks" in each country as accelerator (or decelerator) factors of adoption of Internet Banking for the banks as for their customers. The author gives prominence to four main factors (Simpson, 2002, p. 320):

- The non reliability of the published results which are often a "lure" and do not reflect the true financial situation of the bank;
- The strongest dependence of the banks on their economic background in emerging countries;
- The strongest dependence of these banks on their capital and the make up of "inflated" provisions to cover possible risks and losses;
- The ability of the banks to honor their commitments depends on the level of involvement of the state in a quite good number of these countries is pointed out by the literature (Simpson, 2002; Claessens & al., 2000).

In fact, despite the encouraging progresses recorded by some emerging countries, notably in Internet penetration rates, much more has to be done as far as the level of technological infrastructure and the legal framework are concerned. Claessens & al. (2000) speaks about lack in the adoption of the electronic signature technologies, in setting a real transparency of the information about the actors and the electronic payment regulators, etc.

Precisely, the technological lateness is due to the too strong participation of local governments in the telecom sector with the consequent heaviness and excessive controls. Moreover, the inexistence of true security guarantees for distant transactions between customers and their banks on the Internet. That's one of the major causes of the delay in Internet Banking adoption (Centeno, 2004).

Conclusion

It is certain that the global factors either macroeconomic or regulatory are important to explain the lateness of some emerging countries concerning Internet Banking development. However, the issue of the existence of specific factors inherent in the banks themselves cannot be excluded (Yakhlef, 2001). In fact, it is very easy to note that Internet Banking leaders in emerging countries have the following characteristics:

- **Size of assets** Medium sized banks are more prepared to be leaders in Internet Banking markets as they are sufficiently flexible and agile to react to technological changes and have enough cash to invest in. However, large banks showed slow reactions in this field, and very small banks are much more concerned by gaining market share;
- **Structure of the capital** Private owned banks are more reactive in the Internet Banking field comparatively with state-owned banks;
- **Human Resources policy and expenses** A survey carried out by Corrocher (2002) on the Italian banking sector showed that there is a positive relationship between the importance of HR expenses and the adoption of Internet Banking. If the bank undergoes very high HR expenses, it will be more motivated to accelerate the setting up of distant channels in order to minimize its operating costs. However, these "statistical" results have to be linked with the development of other distant channels. Internet cannot replace HR work, but a simultaneous effort in developing ATM, Call Centers and Internet could result in significant productivity earnings;
- **Profitability** Investing in the introduction of Internet Banking is expensive and the acquisition cost of a customer by this new channel is highest than in traditional channels. On the other hand, when the bank suffers from financial problems, it will be less ready to invest and take risks in new technology acquisition and deployment. The banks which adopt Internet channel are among the most profitable ones in a given market;

- **The spread of branch networks** The more important is

the number of branches the bank has, the less it would be motivated to invest in Internet Banking. The spread of the bank branch in some countries is a synonym of "closeness" to the customer. Banks are more interested, in these cases, to invest in opening new branches in order to cover the widest range of the targeted customers;

It is possible to assess the trustworthiness of these observations in many emergent countries.

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