Economy Transdisciplinarity Cognition www.ugb.ro/etc	Vol. 15, Issue 1/2012	361-370

E-Competition for New Banking Market Shares. Which Are the Costs of Implementing Such E-Banking Solutions?

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Abstract: *Internet banking has come a long way since first-generation solutions were introduced. Typically, these older solutions merely allow customers to view their statements online, conduct transfers between accounts and pay bills to utility providers, telephone companies and financial institutions. Over time, online bankers have started demanding more from their Internet Banking Solution - especially younger customers who are used to instant access to information. Fortunately, there are now comprehensive, secure, high-performance Internet Banking Solutions available that meet their many financial needs - reducing the costly risk of losing online bankers to the competition. In the present time, nearly one-third of consumers are using, or considering using, mobile financial services in the next year. Additionally, people's responses indicated that these mobile financial services adoption will exceed the use of traditional banking by 2015.*
Keywords: *internet banking, banking application, data security, costs*

Introduction

In this moment, in Romania, even if the banks have implemented different systems of electronically banks services, the clearing part still suffer, as long as it doesn't have an electronically system base.

The first steps in this direction have been already done, at a juridical level and at the level of Romanian National Bank, which have externalized the system of inter-banking discount of the payments without cash and have started the introducing procedures of the electronically discount system of the payments. This process is very complex, it needs time for being completely functional, but in the moment when this will be available, will be really useful to the banks and to the clients, eliminating a whole of inconvenient and reducing, practically, the time when a payment bill can be processed.

The present legislation has an important role in this area, it defines what operations can be done electronically and what operations should be signed and stamped by the client. The new reglementation should put more accent on the information transferred electronically.

So we can say that Mobile Banking refers to provision and availment of banking- and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customised information.

1. What is an E-banking Solution and What Are the Costs of Implementing it in a Bank from Romania?

In most developed countries, e-banking services are automatically offered together with other banking products due to their popularity within the clientele. In Romania, distance payment is still practiced only by those companies and persons that have a certain banking culture, internet and computer.

The present international tendency is to significantly reduce the importance of the distribution channels of the classic banking network. When attracting new clients and keeping the existing ones, active banks in Romania cannot dissociate from the existing tendencies. The first steps made in this direction were made by launching the activity with cards, and more than that, the distance banking services (by internet or wireless technologies, with the help of mobile phones) [1, p. 272] become a

real banking service. That means that Romanians have acknowledged the importance of this phenomenon.

This Internet banking model was developed to forecast profitability for a new Internet banking application. The product provides financial institutions with an array of applications including home banking with electronic bill payment, check images, authenticated online applications, online statements modules, cash management, account aggregation, ecommerce financial services portal, and on-line lending applications for consumer loans.

The model calculates implementation and monthly operation costs, operational and transaction cost savings and new revenues attributed to e-banking activities. It also incorporates the value of customer retention, cross-sell revenue potential, and revenue sharing for banks implementing full e-commerce portal access to other financial services, including on-line brokerage, life and auto insurance, third party credit cards, Internet service providers and others. The model also calculates advertising revenue and ecommerce portal.

The model is designed to test profit sensitivity to such factors as the size of institution (in terms of both number of customers and assets), penetration of retail Internet banking customers that use bill payment, e-commerce or on-line lending services, and the percentage of commercial customers that use cash management. The model projects profitability measured in net present value and internal rate of return over a five year time horizon, considering anticipated migration of customers from traditional to on-line channels [2, p. 254].

Certain default assumptions pertaining to start-up and ongoing implementation costs, transaction costs and expected cost savings associated with each online service have been built into the model. In most cases, users can either accept the default assumptions or substitute their own customized inputs. Variables include expected user penetration rates for home banking, bill pay, and cash management, and anticipated demand for an array of e-commerce portal financial services. The assumptions, such as penetration rates or customer retention, used for the model have been validated using data from a variety of banks.

The baseline scenario used throughout the report involves a financial institution with 50,000 total customers at the start in 2010 (with about 500 commercial customers). Home banking is assumed to reach 20% penetration by 2013. Baseline services include home banking with bill payment, on-line lending and cash management. The Internet enables institutions to realize new revenue streams through service and transaction fees charged to home banking users. These fees enable the institution to offset much of the expense incurred to provide the service.

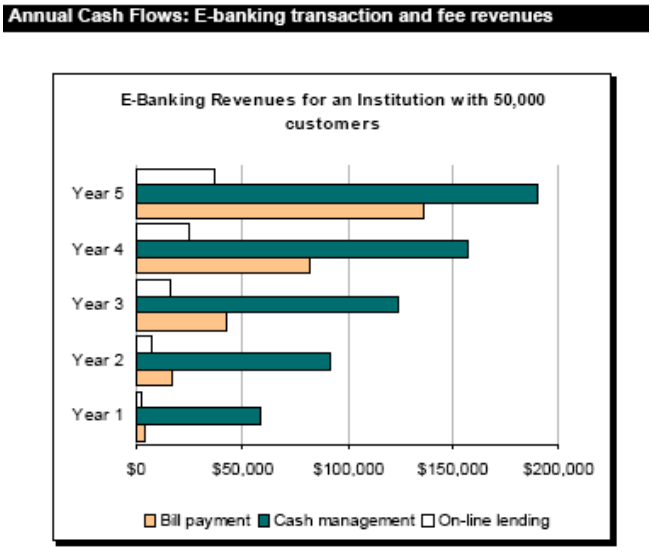

Figure 1: E-banking transactions and fee revenues

Institutions can tap into an additional source of revenue streams by providing cash management services to wholesale/commercial customers. Once the Internet-based cash management system is in place, the institution has the ability to readily cross sell other value-added business services to business customers, (e.g., payroll, ACH direct deposit and bill payment, as well as other e-commerce offerings through the portal, such as brokerage, investment, insurance and credit services, retirement planning advice, etc.

2. Cost Savings for a Bank when Implementing an Internet Banking Solution

Institutions that have put services on-line have seen cost savings in back- and front office operations -- from deposits, to statement processing, to loan application processing and customer service. The Internet helps an institution to streamline operations across the board. Cost savings is achieved primarily through less reliance on manual operations and call centers. Profitability is further enhanced by lower customer service costs realized through greater efficiencies in setting up new accounts, servicing consumer loan applications, handling balance and payment activity inquiries, answering requests for copies of checks, stop payments and address changes. [1, p. 274]

The ROI model calculates annual cash flows for an institution with 50,000 $ due to cost savings from home banking and on-line lending. The net present value of these savings over a five year period is $399,235, or $7.98 per customer.

The costs incurred by financial institutions setting up Internet Banking run from the purchase of hardware and software, to Web site development, quality assurance testing, user interface development, web hosting services and ongoing operations expenses.

Module	Savings	Cost Savings
Home Banking	Savings per transfer	$0.35
	Savings per electronic bill pay	$0.03
	Savings per check image transaction	$9.00
	Savings per stop payment transaction	$5.00
	Savings per address change request	$4.00
	Savings per online statement only request	$1.50
Online Lending	Savings per Consumer loan application -- ***from greater efficiency in processing*** Savings per Consumer loan application -- ***from reduced infra-structure costs***	$8.00 $18.00
	Savings per Mortgage Loan application -- ***from greater efficiency in processing*** Savings per Mortgage Loan application -- ***from reduced infra-structure costs***	$15.00 $35.00

Figure 2: Cost savings for online applications

Electronic Banking Costs to Financial Institution

E-Banking Application	Cost components
Home Banking	One-time Web site development fee Monthly Web hosting fee Monthly fee per HB user
Bill Pay	Monthly fee per bill pay user
Cash Management	Basic service fee
On-Line Lending	One-time implementation fee Monthly fee
E-Commerce Portal	One-time implementation fee Monthly fee
Aggregation Service ("Dashboard")	Dashboard set-up fee Monthly fee Per user fee per month Data purchase fee per account

Figure 3: Electronic banking costs to financial institutions

One-time set-up fees range from $12,500 to $65,000 and ongoing monthly fees from $600 to $5000. These fees cover all costs to the institution for designing, implementing and running the e-banking Web site. This compares favourably to the costs of building an inhouse Web banking solution, which can be upwards of $500,000 up front plus several months of development time and costs. Additional set-up and ongoing monthly fees are assessed for each additional service application. In many cases, these costs can be offset by institutions charging back to their customers for transactions, reports, etc.

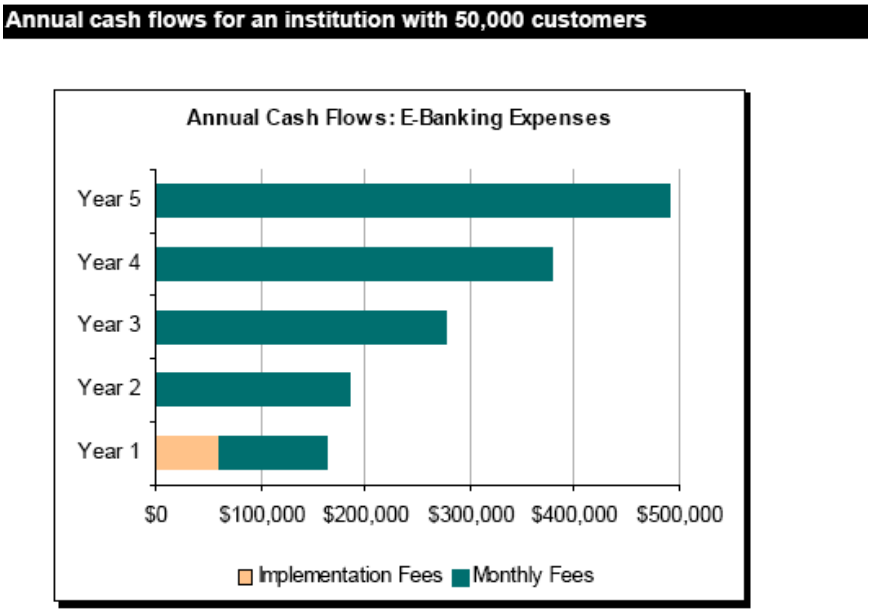

Figure 4: The annual cash flows for a bank considering e-banking expenses

The net present value of these expenses over five years is $924,783, or $18.50 per customer. The ongoing costs of running home banking comprise about half of all expenses incurred by an institution of this size.

3. The Expectations Concerning Implementing an E-banking Solution

Cross-selling is the most promising area for revenue growth for financial institutions. New customers are attracted to an institution through ease of use and the range of services they can get from one stop on the Web site. Based on empirical industry evidence, institutions see 10-15% more new proprietary account relationships with an online channel vs. offline channels [2, p. 262].

For financial institutions that have already established an Internet banking service, on-line loan application and cash management modules can be added through an additional application delivered through the same Internet infrastructure. This easy add-on capability enables the institution to leverage more effectively its initial investment in setting up the Internet banking service.

Retail customers may find on-line application for consumer and mortgage loans a more convenient alternative to off-line applications procedures. The financial institution benefits by streamlining operations and by being able to track and analyze usage by customers and broadcast marketing and service information to customers via messaging.

Annual cash flows from incremental cross-sales

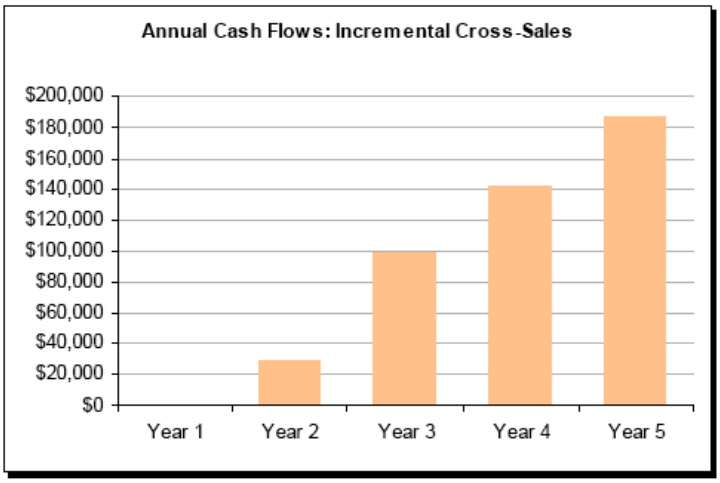

Figure 5: The annual cash flows for a bank considering incremental cross-sales

The report show that businesses can earn between $15-$50 for each customer who travels through a portal. Financial institutions could pay for Internet banking simply by bringing those customers through their portal. The net present value of these cash flows over 5 years is $260,000, or $5.21 per customer.

As the full range of services is made accessible on the institution's Internet banking web site, existing customers will be more likely to stay with the institution and new customers will be enticed to join. On-line customers are more likely to become captive users of multiple services, as a result of the "stickiness value" of the institutions Internet banking Web site. Numbers collected from the banking industry show that a customer using Internet banking and, in particular, customers using electronic bill payment are far more likely to remain customers of their bank. The net present value of customer retention over 5 years is $99,962, or $2.00 per customer.

Annual customer retention value

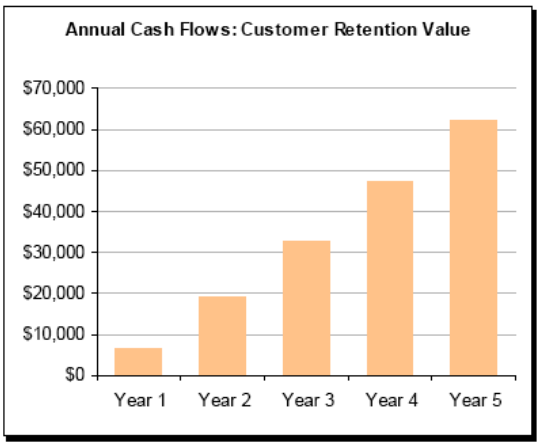

Figure 6: The annual cash flows for a bank considering customer retention value

A number of additional benefits from Internet banking have been observed by institutions implementing electronic banking applications. Some of these are outlined briefly below:

- ✓ **On-line lending -- incremental volume generation**. On the consumer side, institutions that use on-line lending applications experience incremental increases in volume of applications from ease of use of over 7 percent. On the mortgage side, although not as dramatic, incremental increases of 2 percent are attributed to the greater "ease of use" of the on-line application process.
- ✓ **Higher customer balances**. Higher customer balances generate greater interest revenue as well as the potential for cross-selling additional services like cash management, investment advice, etc.
- ✓ **Lower marketing and customer acquisition expenses**. Financial institutions launching home banking and other online services can enjoy a substantial decline in marketing costs by using the Web site as an advertising medium to offer a one-stop shopping experience with easy, seamless access to additional financial services. Further, customer satisfaction surveys can be easily implemented online to give the institution a relatively easy and efficient way to measure its performance and to respond quickly and effectively with better tailored solutions to specific customer needs.

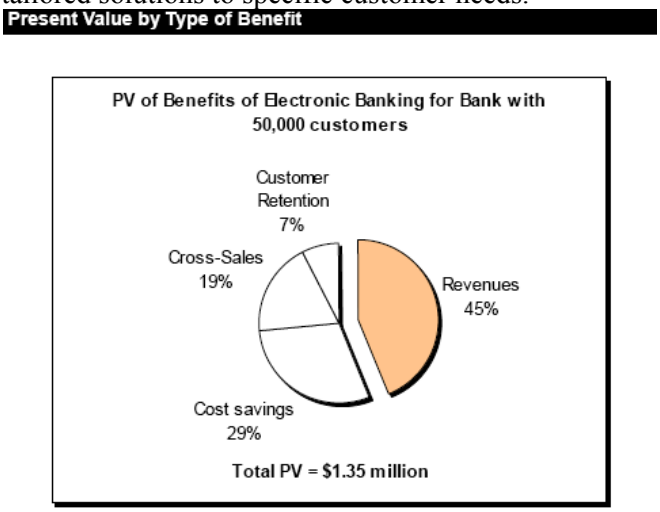

Figure 7: The present value for a bank considering the type of benefits

For an institution with 50,000 customers in year 1, of the total net present value of these benefits, $1.35 million over five years, 70% is derived from new transaction and fee revenue, the value of cross-sales and customer retention.

Of the total net present value provided by these services, $833,072 ($16.66 per customer), roughly half can be attributed to cash management and another 40% to online lending.

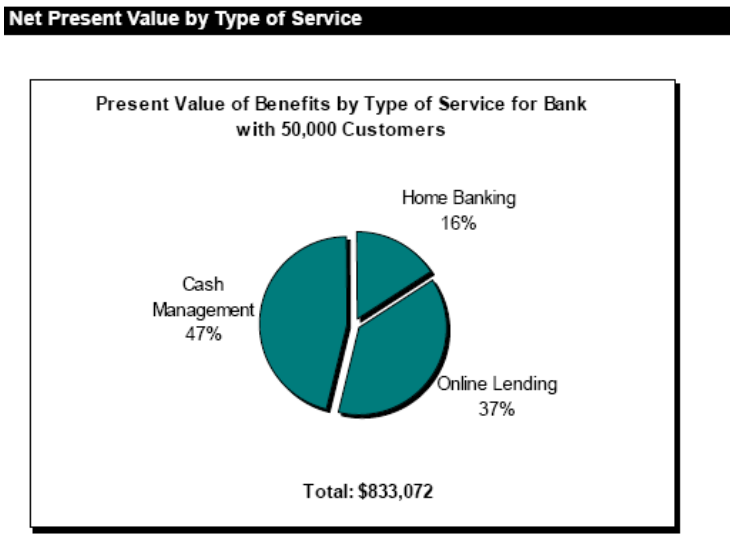

Figure 8: The present value for a bank considering the type of services

There are several factors have been found to have an impact on bank's profitability. While larger banks reap economies of scale from operational cost savings more quickly, the one that are smaller size can enhance their profitability through e-banking and use the Web to level the playing field.

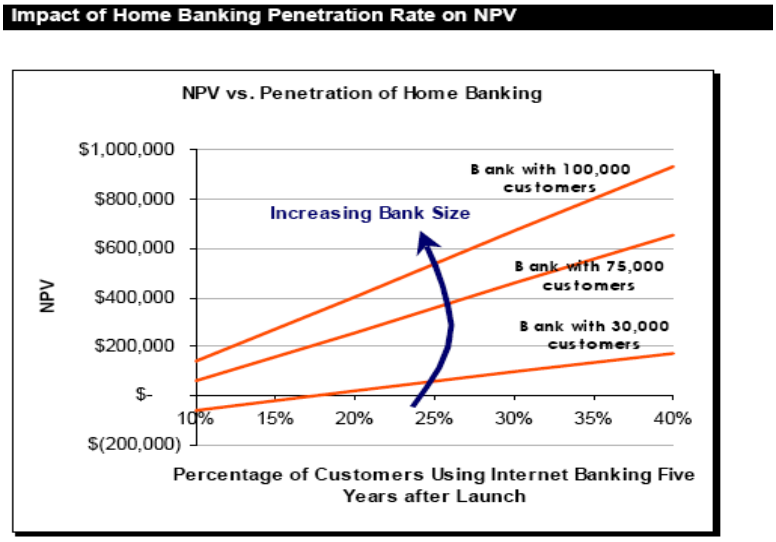

Figure 9: The impact of home banking penetration rate on NPV

Institutions that migrate more of their off-line customer base to e-banking see improvement in their bottom line. The figure above demonstrates how the net present value of retail Internet banking varies with different levels of penetration. A bank with 75,000 using services for home banking is able to achieve profitability even if significantly less than 10% of the bank's retail customer base start using electronic banking within the next five years. Unsurprisingly, smaller banks must achieve higher levels in penetration in order for home banking to pay off. A bank with 30,000 customer must reach a penetration of about 17% of its retail customers within five years. We believe that achieving a penetration of 17% by 2013 is readily achievable. [3, p. 207]

One particular area where the model shows opportunities for improvement to an institution's bottom line, is the area of on-line bill payment. Clearly, the savings over paper-based manual processing is highlighted here.

: Impact of e-bill payment penetration rate on NPV per customer

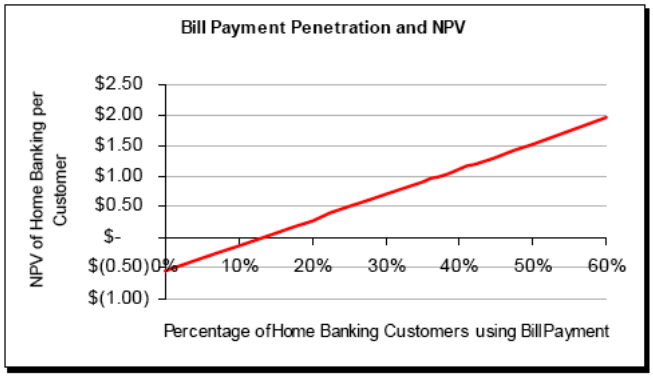

Figure 10: The impact of e-bill payment penetration rate on NPV/customer

The figure above shows how NPV per customer increases for an institution beginning with 50,000 total customers when electronic bill payment usage is increased. An institution can triple its NPV by increasing bill payment usage from 20% of home banking users to 30%. In terms of net present value realized per account holder, for institutions implementing online banking for the first time without bill pay, the break-even point is about 45,000 customers, assuming 1% are commercial customers, a home banking penetration rate of 20% in 5 years and retail customer growth rate of 3% each year. NPV per customer ranges from $0.12 for institutions with 50,000 customers up to $1.24 for institutions with 100,000 customers.

When bill payment is added, the break-even point drops to 40,000 customers. And when potential to sell on-line cash management and on-line lending are added to the array of services, the break-even rate of customers, with the same assumptions drops to around 20,000 customers, with the range of NPV per customer across size of institution ranging from $2.13 for institutions with 30,000 customers up to $5.37 for institutions with 100,000 (shown in the figure below).

NPV per customer with added services

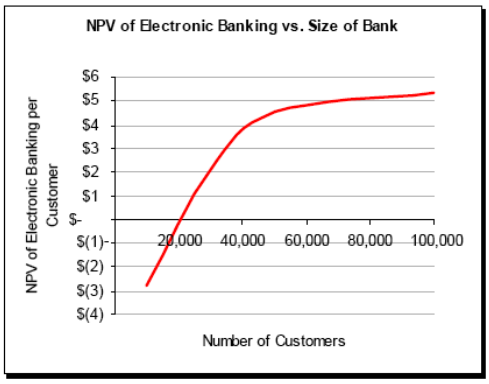

Figure 11: NPV/customer with added services

The figure below summarizes the net present value of cash flows for all e-banking services for an institution with 50,000 customers. The net present value of 5 years of cash flows is $270,000, or $5.38 per customer.

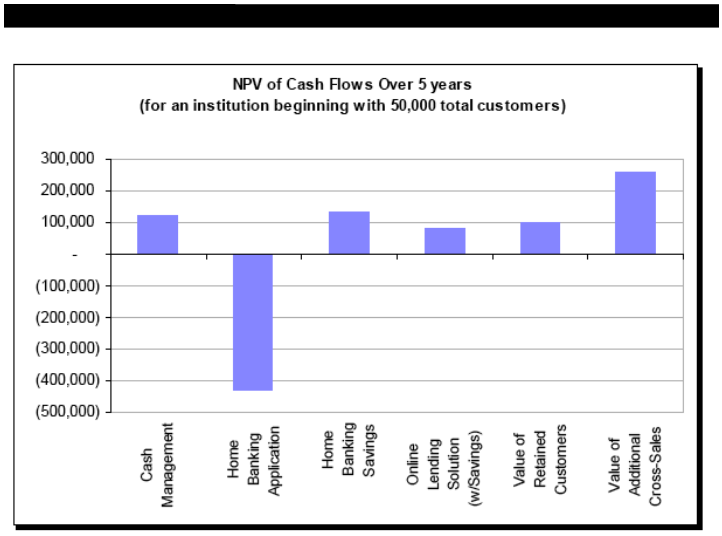

Figure 12: NPV of cash flows over 5 years

Very small institutions (with fewer than 15,000 customers) only offering a limited set of Internet banking services are not likely to achieve profitability unless they are able to persuade a very substantial portion of their customers to bank online. However, above this size, the indications for profitable Internet banking are good. With relatively conservative assumptions about customer uptake, increased customer retention and cross selling potential and savings through lower transactional costs, we have found that, in the majority of cases, Internet banking is profitable.

The main advantage of such a solution is that the customer does not need to undertake any technical modifications on existing software. Existing web sites can be thus converted into suitable formats for mobile devices within a few man days. The platform extracts content including complex processes and all security mechanisms from the existing Internet applications and optimises it for display on mobile devices. Processes, graphics and images are automatically adapted to the respective capabilities of the display and browser in use.

As far as technology providers are concerned, mobile banking solutions are seen as useful tools to generate additional revenues and secure a serious image which invariably is associated with banks. Innovative solutions open up new doors for the technology providers to get in business with banks. Spill-over effects of a positive and serious image are then sought to be channelled into gaining/strengthening the competitive advantage of the bank.

Based on the findings of these case-studies and the subsequent discussion, we may put forward following propositions about the role of innovative business solutions in the banking sector, particularly via employment of mobile services:

- ✓ Innovative mobile solutions may help adapt to changing customer needs;
- ✓ Innovative services may positively influence a firm's public image, particularly when the firm actively engages in shaping standards for emerging technologies;
- ✓ Mobile financial services are expected to enable a positive differentiation vis-à-vis rivals;
- ✓ Innovative mobile services may attract prospective customers while at the same time raising the exit barriers for existing customers;
- ✓ Finally, innovative mobile services are expected to open up a new distribution channel for banks to enforce their multi-channel strategy; for technology-providers they open a new channel of revenue.

Conclusions

Summarizing, we can say that the positive shift in the customer perception of mobile solutions has turned them into a useful and vital tool to generate, retain and further strengthen the competitive

advantage. This seems to hold true for all firms engaged in the financial sector, whether banks or technology providers.

With increasing customer mobility this trend can be expected to gain even higher momentum. An important implication of this development is that in short to medium run, the mobile channel can be expected to become a perhaps indispensable part of the multi-channel strategies in the banking sector, following in the footsteps of Online Banking.

Therefore, the adoption of mobile banking services by the account holders is crucial to the banking industry, and it also indicates that there is a need for developing a cost effective, technically supportive and reliable mobile Internet banking system by the bankers.

Considering the sum of money invested into Internet and mobile Internet banking systems, it is essential to ensure that the people will actually use them. In order to achieve this goal, attention must be given to issues, which were discussed in previous sections. Further, the findings also indicate that the bankers take efforts in diffusing the mobile Internet banking technology by developing the faith in usefulness, ease of use, credibility, reliability, access, and fastness among the customers

Mobile Banking was primarily employed as a mean of differentiation to attract young and technology new customers. The intention thereby is to reinforce exit barriers for new technology customers by offering low- or no-costs innovative services as and when enabled by latest technologies. Other important objectives pursued by the mobile strategies include “responding to customer needs”, “attracting new, financially-affluent customers”,“creation of an additional distribution channel” and “shaping standards by acquiring the technology leadership” in the banking sector. A secondary goal is to reduce distribution costs.

The customer response to mobile services so far has been more than satisfactory with many customers becoming regular users of mobile services. Encouraged by this response banks are intending to extend the scope of the offered services and re-launch them this year giving Mobile Banking a greater share in the bank’s strategy.

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