

Efficient Service Production and Consumer Choice of Delivery Channels

Niina Mallat, Tomi Dahlberg, Timo Saarinen, Virpi Kristiina Tuunainen

Helsinki School of Economics
P.O. BOX 1210 FIN-00101 Helsinki, FINLAND
Mallat@hkkk.fi, Dahlberg@hkkk.fi, Saarinen@hkkk.fi, Tuunaine@hkkk.fi

Abstract

New technologies, such as the Internet and mobile phones, give companies possibilities to deliver services to customers in multiple ways. In this article we analyse how banks have used the possibilities and how their retail customers have adopted new channels for different services. We developed a model for efficient delivery strategies based on institutional economics. The alternative generic strategies are predefined contracts, self-service and use of service personnel to obtain full service. The structuredness of services and level of channel automation determine what strategy should be used in a given situation. We conducted a mail survey on the use of delivery channels for retail banking services. The results indicate that customers' behaviour match rather well with the strategies that are efficient to produce the services. However, some deviations were also observed. These discrepancies were analysed and new insights generated to understand better the customer choice of service channels. Our model and the empirical findings can be used to develop the delivery of banking services, but more importantly, other industries might find them useful when creating same kind of service infrastructures as the banks already have.

1. Introduction

Recent developments in the banking sector - deregulation, mergers and acquisitions, the rise of the Internet and the single European currency - have all significantly altered the way that the financial services industry does business. At the same time, new entrants to the market, global competition, diversification of products and services and an increasingly sophisticated customer base are presenting serious challenges to the banks. (see e.g [5]; [6]; and [10])

In order to survive in the increasingly competitive environment the banks are looking for cost reductions and more efficient ways of delivering their services. Development of technology has facilitated the delivery of banking services and widened the portfolio of delivery channels. Automated teller machines (ATMs) and phone based banking systems were in the forefront of change in the 80's, followed by PC- and Internet-based banking services in the 90's. The role of digital television and mobile services is yet to be seen. In any case, the technology is likely to be the key factor driving the change within the banking sector for the foreseeable future.

As a result the bank customer is faced with a range of different channels and different services to choose from. Banks attempt to direct customers towards electronic channels by reducing branch offices and pricing products in favour of self-service channels.

Retail banking in Finland

In Finland the development of retail banking sector has largely followed the global trends. Traditionally the monetary markets in Finland were highly regulated. Banks competed almost entirely through a volume growth with an extensive branch network and a large amount of personnel in order to gain new customers. In the 1980's the deregulation and globalisation of financial markets led to a boom in the banking sector, followed by a decline in the 90's when banks and the whole Finnish economy landed into a serious recession. During the recession period banks begun to reorganise their business heavily and the amount of branch offices and personnel were cut to the half [7]

Today the increased competition and the reduced profitability of traditional banking have forced banks to rationalise their operations and look for revenues from new products and services, for example, shares of mutual funds, insurance and insurance investments. The development of information technology has provided more efficient means of delivery and routine services have been transferred to ATMs and networks. For instance, today almost 90% of different payment transactions are made outside service counters [7].

Changes in the Consumption of Financial Services

The pressure towards new distribution channels comes also from the demand side of financial services. A general increase in organisations' customer orientation, owing to increased competition, has heightened customer expectations in retail banking, too. Customers are becoming more demanding in terms of the level of service they expect and how they are able to access services when required. Demands of greater convenience and accessibility are reflected in longer branch opening hours and an increase in the choice of delivery mechanisms. [6]

The changes in consumers' demographic, economic and social factors alter the demand for distribution channels of financial services as well. Changing work

patterns and an increase in time pressure raise the demand for greater flexibility in attending bank affairs. As a more computer literate generation emerges, far more trusting of and at ease dealing with technology, the IT based delivery systems are likely to become more popular [6].

2. Channels for Retail Banking Services

We will next shortly go over the channels current most often used for retail banking services; branch offices, automated teller machines, telephone and Internet banking, and mobile phone services. Payment cards are shortly discussed in connection with ATMs, but more emerging technologies, such Digital TV, are outside the scope of the study, as they are not presently used by Finnish banking customers.

Branch Offices

Traditionally retail banking services have been based on a geographically widespread network of branch offices[8]. Through their branch office networks the banks aimed at delivering uniform services at great volumes to a larger customer base. This kind of universal service model was expected to create economies of scale, but its inefficiency and inflexibility became problematic. To maintain an expensive office network with great number of personnel was profitable only as long as there was no more economical and efficient delivery alternatives for the services. The number of branch offices in Finland is still decreasing. At the end of 1999 the Finnish banks had a total of 1542 branch offices, which is almost 2000 less than only ten years ago [15]

It is, however, quite improbable that all the branch offices would disappear. For instance Devlin [6] asserts that even though the number of branch offices is decreasing, personal services offered by personnel in physical branch offices still are and will continue to be important in reaching many customer segments. The financial services industry will, nevertheless, have to develop alternative service channels to match the differentiated customer preferences [6]. Most likely branch offices will specialize into serving those customers not willing to handle their banking needs by self-service, and offering more complex banking and finance products that require guidance, personal service and interaction with the service personnel.

Automated Teller Machines (ATMs)

Use of debit and credit cards to pay for products and services as well as for withdrawing cash from ATMs became more common in Finland rapidly in 1990s. In 1999 the Finns had all together over 9 million cards, of which 3 million can be used at ATMs.

In Finland most ATMs are part of a network managed by Automatia Pankkiautomaatit Oy, which is jointly owned by the largest banks in Finland. These

ATMs can be operated with a debit card of any of those banks. In the beginning of 2000, in this network there were 1900 ATMs for cash withdrawal and 2400 ATMs that can be used to pay bills. Finns are keen users of ATMs, with almost 240 million cash withdrawals and 85 million credit transfer payments in [11].

Telephone banking

Most banks offer telephone banking systems utilizing push-button phones and a speech synthesizer integrated with banks information systems. These services are interactive with the system requesting given information, the customer keying them in with the phone, and the system then replying with a response. The customer only needs a push-button phone and identification means provided by the bank. Despite the easiness of use and low costs for the customer, use of phone to pay bills has not gained popularity: only a few percentage of Finns use this channel regularly [11].

Internet Banking

Services enabled by ICT (Information and Communications Technology) make it possible for the customers to manage their banking needs 24 hours a day, seven days a week. The customer can connect to the services either through Internet with a graphical interface, or a proprietary network with a text based interface. Use of text-based services has decreased considerably as the Internet has become more popular with other types of services as well. In addition to the connection to the Internet, the customer needs to make a contract with a bank and receive means for secure identification, typically a user ID and a password as well as a list of session passwords. There are currently about 1,9 million contracts among all the Finnish banks [11].

Basic functionalities of the different electronic banking systems are roughly the same: balance and activities information, payments, ordering new credit and debit cards, loan applications and investment services. Scandinavian banks have been pioneers in developing electronic banking services for over a decade, and accordingly the use of electronic banks is very popular in Finland: of those Finns with possibility to use Internet, a third pays their bills with Internet banking service [11]. In most countries larger corporations have had a possibility to use proprietary electronic banking services for years (see e.g. [16]), but with the proliferation of Internet also SMEs (small and medium sized enterprises) can take advantage of electronic services.

In addition to personal banking services, three largest Finnish banks also offer a service for payments in Internet shops: with these services customers can pay for their purchases immediately when shopping on the Internet. Two of the banks also have a virtual bill service, where the invoicing party send the bill to the bank in electronic form instead of sending a paper version by mail to the customer. The customer can view the details of the bill through her electronic bank, and then either accept or reject it (unless it is an pre-agreed direct debit payment).

Mobile Phone Services

New mobile phone technologies have made a number of mobile services possible. Currently the biggest Finnish banks offer services such as balance and activities information as SMS message, either by request or automatically on a given day(s) of the month, and different kinds of WAP (wireless application protocol) services, including the services available on the Net.

3. Earlier Research on Banking Service Channel Selection

To our best knowledge, there is very little research on the channel selection from the consumer perspective. Number of researchers have studied the consumers selection criteria for a bank (see e.g. [20]) and banking services. The most important factors for selecting the channel for banking services have been identified to be easiness of use, efficiency, reliability, competitive prices, freedom of choice, knowing and respecting the customer, privacy, confidentiality, reach and receptiveness [3], [9], [14], [17].

In the earlier research consumers are typically grouped into those using traditional channels and those using Internet or other self-services. Outside Scandinavia researchers have found the branch offices to be the most popular service channel, based on the perceived service level, personal nature of the services and easiness of use [17]. Even though self-service channels have been found to appeal to consumer because of their scope and usability [17], general awareness about the available services among consumers is still fairly low, and they are still concerned about issues such as the security of the Internet, usability of the services, prices and availability of the infrastructure [18]. Nevertheless, in Denmark, those consumers using technology facilitated banking services were found to be more satisfied with their bank than those using traditional channels [12].

Most often the point of view is that of the banks and their alternative strategies (e.g. [17]). For the banks the self-services, particularly Internet banking, are the most cost profitable distribution channels [17]. The banks expect the customers to value the easiness of use, increased freedom of choice, and enhanced control of banking services and management of monetary matters [5]. Use of banking services utilizing ICT (information and communications technology) has been found to depend on the perceived relative advantages of a given tool, relative benefits of the banking service, and the compatibility of them [13].

Matching Delivery Channels with Different Types of Services

In economic theory governance structures have been under continuous research. The basic problem is to find an efficient governance structure for a given product and market. Transaction cost theory has been proposed for solving the problem ([4], [2], [19]). It has been used in different context at the company level, but also for specific services. For example, Apte and Vepsäläinen [1] developed a model of

efficient service channels for financial services. They classified services according to their complexity and mapped them into efficient strategies based on the type of the delivery channel. The basic principle in their model is that, although traditionally most banking services have been delivered via branch offices, technology enables continuously more and more services to be delivered using networks, automation and self-service. Their model also shows that the more complex the services are the longer delivery channel is required.

Institutional economics and models based on it analyse the efficiency of producing a service. However, in this article we are interested in how the services should be delivered to the customers to maximize their benefits. We use the model of Apte and Vepsäläinen [1] and develop it to suit with banking services for retail customers from their point of view. We intend to analyse the resemblance between the delivery strategies used by the banks to produce the services and the use of delivery channels by the retail customers in practice.

Bank services for retail customers vary from standard transactions to unique services. Delivery channels vary from network to highly competent agencies. Based on Apte and Vepsäläinen [1] we can state the **delivery principle** based on transaction cost theory. It states that:

“the more structured services the more automation can be used to deliver them”.

Based on this principle we can formulate a model of efficient delivery channels for private customers. Basic elements of our model are bank services, delivery channels and service strategies.

The services can be classified according to their structuredness into two categories:

- 1) **Standard services** that are executed according to constant rules.
- 2) **Unique services** that are created for each situation individually.

Standard service could be, for example, paying a rent if that based on a fixed price. Unique service, in turn, could be, for instance, a loan application or an investment. In practice, of course, many services fall in between of these two extremes. Many routine transactions are like standard services, except that some of the rules vary for each transaction. Withdrawing money from an account or paying a phone bill, are good examples.

The distribution channels can similarly be classified according to the level of automation into two categories:

- a) **Automated channels** which execute transaction without human interaction
- b) **Manual channels** in which service personnel together with customer formulate unique service needs and execute it.

Again, in practice, most delivery channels fall in between these two theoretical alternatives. The efficient strategies can be found based on the structuredness of the service and automation of the delivery channel. They are:

- 1) **Contract** between the supplier and customer in which it is agreed upon the rules for automatically executing standard service transactions.
- 2) **Self-service** in which the customer executes relatively simple routine service transactions him/herself using tools that help him/her to operate efficiently.
- 3) **Service** when qualified personnel who is helping the customer to formulate his/her problem and to find a way to execute it in a specific situation.

Matching efficient delivery channels for different banking services is illustrated in *Figure 1*, with the efficient strategies on the diagonal. In the upper right corner high cost is paid using delivery channel with low automation for simple services and in the lower right corner high risk occurs when trying to use automated contracts for services that cannot be easily defined.

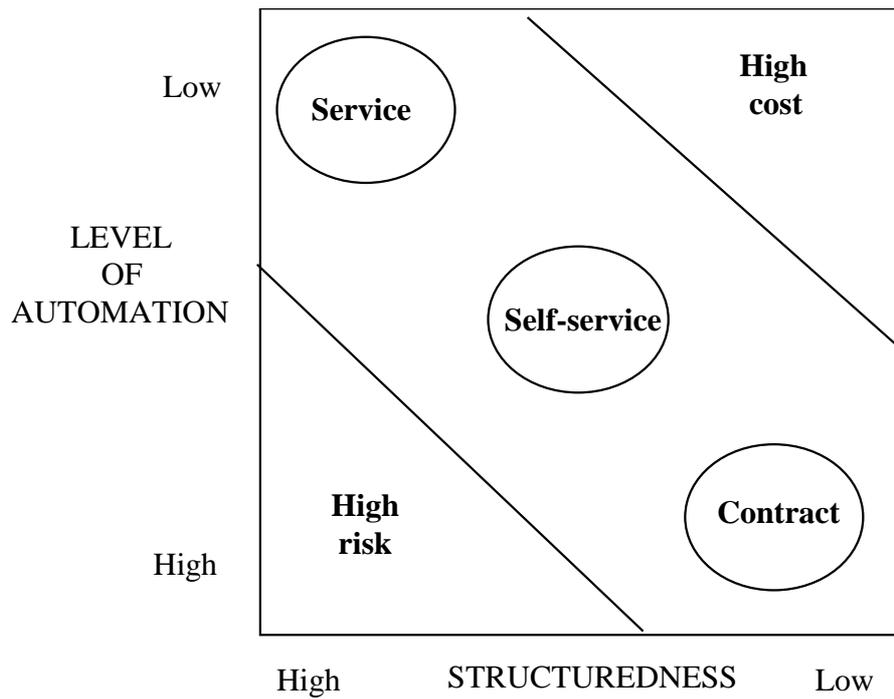


Figure 1: Efficient delivery channels for banking services

4. Empirical Study

Research Methodology

The purpose of this study was to examine retail banking customers in multi-channel environment and to determine, which channels the customers use for which bank affairs and for what reasons.

To understand the bank customers' usage of different bank services and channels and their combinations, we conducted a mail survey among Finnish retail banking customers. The sampling frame included all current retail customers of the third largest commercial bank in Finland, Leonia. The sample in total resulted a list of approximately 1000 customers.

A mail survey was chosen to create a large enough sample of the customers and to reach also those bank customers who do not use Internet. For an extra incentive to participate, a draw of a travel gift voucher was organized among the respondents. Questionnaires were mailed with addressed, stamped return envelopes, a reply coupon to the draw, and a cover letter. From a sample of 1000 mailed questionnaires 370 were returned, resulting in a response rate of 37%.

The questionnaire included measures of the use of and attitude towards different banking channels, i.e. branch banking, ATMs, telephone banking, Internet banking, mobile services and contract services such as direct debiting or payment services. Additionally, the respondents were asked how important different channels were in the use of eight different financial activities: withdrawing cash, accessing account information, paying bills, applying for loans, opening accounts, investing, getting advise, and finding information. Attitudes towards new technologies in banking and a variety of demographic questions were also asked.

Respondents

The respondents' demographic status is overviewed below. Approximately 55% of the respondents were female, 44% male. 1% of respondents did not report their sex.

Age distribution of the respondents is presented as follows in **Table 1**. Also, statistics on annual gross income of the respondents' household is presented below in **Table 2**, and the highest educational level of respondents is presented in the **Table 3**, below.

18-24 years	11.6%
25-34 y years	21.4%
35-49 years	34.1%
50-64 years	27.0%
65 years or older	5.1%

Table 1: Age distribution

< 100.000 FIM (~16.800 EUR)	18.40%
100.000 – 120.000 FIM (~16.800 – 20.200 EUR)	7.60%
120.000 – 180.000 FIM (~20.200 – 30.300 EUR)	18.40%
180.000 – 240.000 FIM (~30.300 – 40.400 EUR)	17.80%
> 240.000 FIM (~40.400 EUR)	32.20%

Table 2: *Households' annual gross income*

elementary school	13%
secondary school graduate	8%
vocational school or equivalent	22%
vocational high school	7%
training college, e.g. commercial or technical	28%
university	19%

Table 3: *Education*

Frequencies of Services/Channels Used

The respondents were asked how common different channels were in the use of different financial services. The specified services were withdrawing cash, accessing balance information, paying bills, applying for loans, opening accounts, investing, getting advice, and finding information. The results are presented in tables in the next sections, by stating a channel and the percentage of respondents who reported the channel as a primary or secondary means for the given banking service. The percentages in the secondary means cells are summations of entries from second to fifth common channels used.

Accessing Account Information

In accessing account information on transactions and balance the ATM was the most popular channel as 53% of respondents used ATM as a primary channel. The Internet came as a good runner-up while usage of other channels as primary means were very low. It is probable that many people access the account information while they withdraw cash or pay bills, so the same channels dominate therefore in these two transactions.

As secondary means the use of different channels was more diverged. ATM was again the most popular with 24.6% of respondents, while service counter came in second with 17.8%. Also Internet (14.9%) and phone banking (10.3%) were to be used.

Some of the respondents reported to check their accounts by service contract, which is assumed to mean bank statements sent to customer's home.

No.	Channel	Primary	Secondary
6	Service counter	3.2%	17.8%
5	Phone banking	0.5%	10.3%
4	Internet banking	34.1%	14.9%
3	ATM	53%	24.6%
2	Mobile services	1.1%	1.9%
1	Service contract	4.6%	6.5%

Table 4: Checking balance, % of all respondents

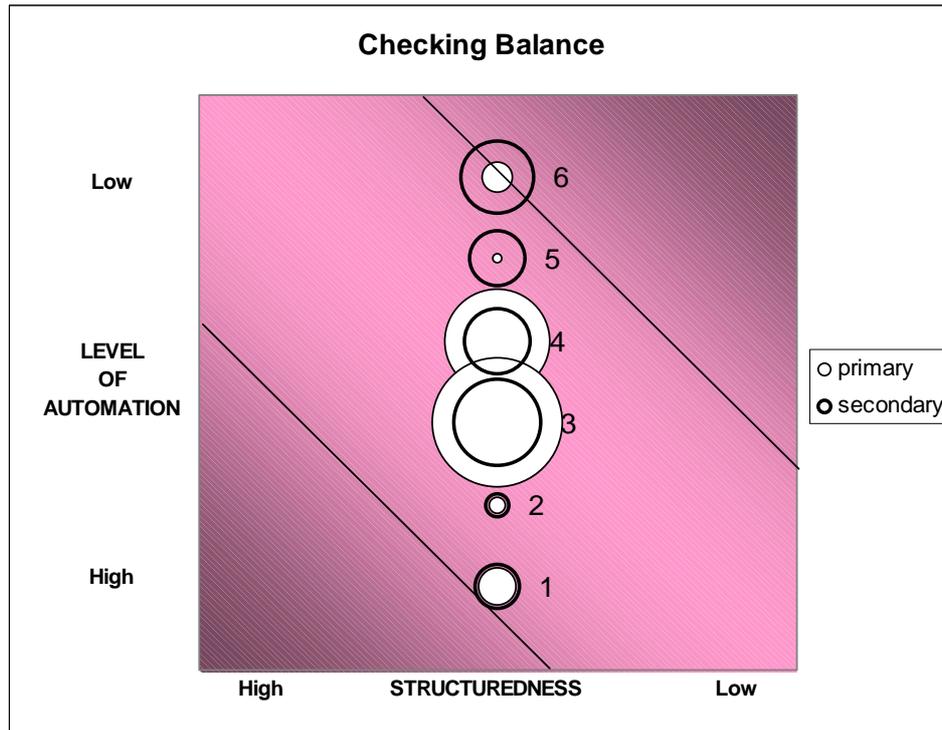


Figure 2: Accessing account information

Accessing information on account balance and transactions is by nature of secondary importance, while the actual transactions resulting in the balance are the primary issues. Consequently, information on the account is most often inquired while using other banking services. Thus, the channels used for these other services, cash withdrawals and payments and account transfers, dictate the choice of channel for account information access. Therefore the efficiency is derived from conducting multiple banking activities in one channel.

Cash Withdrawals

Table 4 presents the percentages of cash withdrawals in different channels. The most common channel for cash withdrawals by far was ATM. Less than ten percent of respondents reported to draw cash in branch offices. Branch offices were, however, an important secondary choice for cash withdrawals for 38.6% of the respondents. According to some additional comments, the branches were also used for example to exchange foreign currencies.

Cash withdrawals are mostly routine banking transactions by nature and because the ATM network is extensive and functional, it forms a popular channel for this operation.

Seven respondents reported drawing cash by service contracts. Six of them were elderly people, who might not be able to withdraw cash themselves and it is assumed that all these seven respondents may at least sometimes delegate handling of banking matters to another person.

No.	Channel	Primary	Secondary
6	Service counter	7.3%	38.6%
5	Phone banking		
4	Internet banking		
3	ATM	90.8%	1.1%
2	Mobile services		
1	Service contract	0.3%	1.6%

Table 5: *Cash withdrawals, % of all respondents*

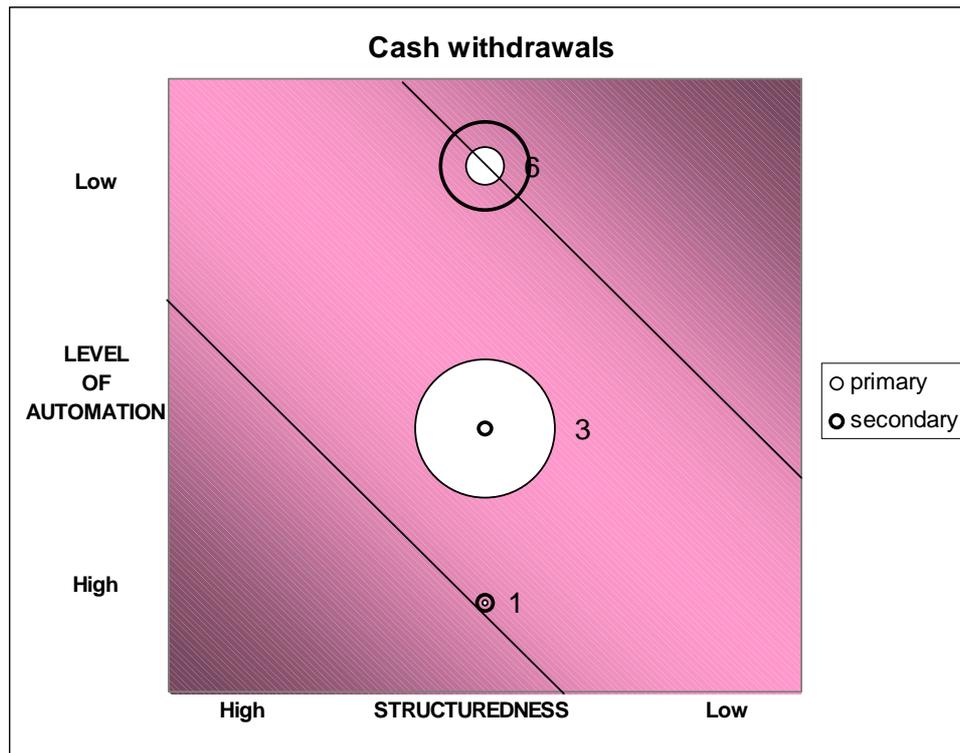


Figure 3: *Withdrawing cash*

Primary channel usage of ATMs to withdraw cash is mostly very efficient in terms of our framework. A small minority of respondents uses primarily branches for this task: these people might be elderly people, or people who do not have access to ATMs or who do not want to use ATMs for e.g. security reasons. As a secondary channel choice the role of branches is highlighted, which seems at first inefficient. It could, however, be that special service needs explain the use of branch offices in these cases, for example when exchanging foreign currency.

Bill Payments

In bill payments the Internet (41.6%) overtook ATM (35.1%) as the most common transaction channel. Also service contracts, i.e. direct debiting and payment services, were used by 18.4% of the respondents.

ATM was most commonly used as secondary means for bill payments (21.6%). Branches were second (18.4%) most common as primary means, while service contracts and Internet were fairly typically used as secondary means. The roles of phone banking and mobile services were significantly low, however. The mobile services are yet too inconvenient and expensive to use and phone banking seems to be a yielding technology as Internet services grow their popularity.

No.	Channel	Primary	Secondary
6	Service counter	2.7%	18.4%
5	Phone banking	1.4%	3.5%
4	Internet banking	41.6%	10.0%
3	ATM	35.1%	21.6%
2	Mobile services		0.3%
1	Service contract	18.4%	16.2%

Table 6: Bill payments, % of all respondents

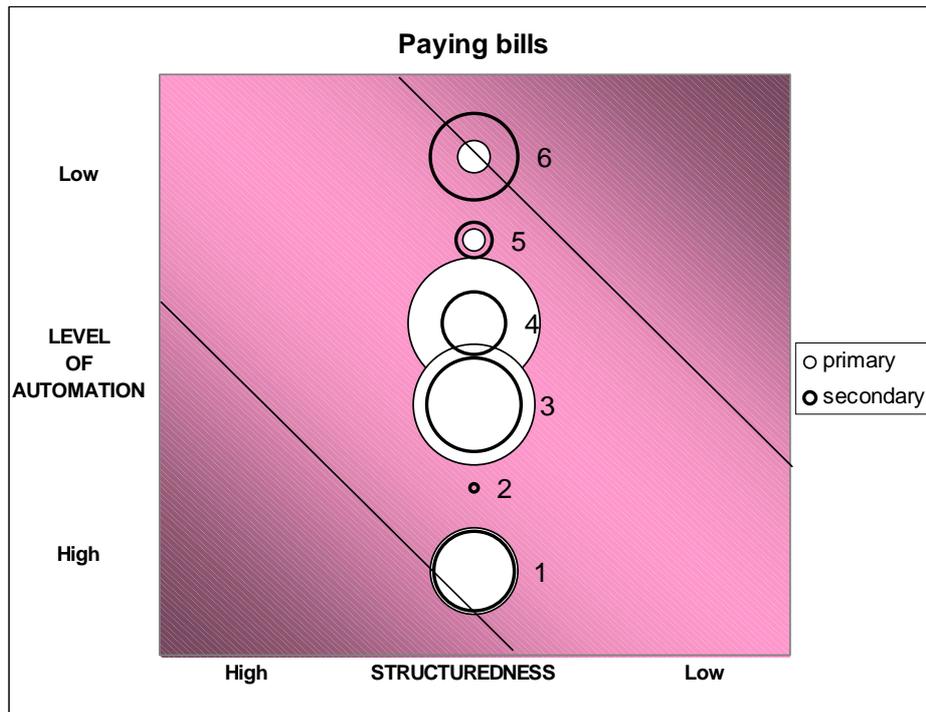


Figure 4: Paying bills

Large majority of our respondent use self-service channels, that is, Internet banking or ATMs, for paying bills and other funds transfers. Automated, direct debiting would be more efficient for regular payments but is not preferred when customers wish to have control over transactions from their accounts themselves. Using branch service counters for paying bills is expensive for the bank and takes a lot of time for the customer. Nevertheless, it is the preferred choice of especially elderly people who do not have access or know-how to use ATM or Internet services payment services.

ATMs seem to be used as a secondary channel by Internet users, who do not have access to Internet all the time, but who prefer a fast self-service channel. Branches are likely to be used in cases of more complicated payments, which cannot be easily handled as self-service. Phone banking and mobile phone services are probably used in special circumstances when other channels are not available for one reason or another.

Submitting Loan Applications

In contrast to services and channels used for cash, transactions, and balance information, branches were the dominant channel for submitting loan applications. The usage of other channels was low both as primary and secondary means.

No.	Channel	Primary	Secondary
6	Service counter	66.2%	3.0%
5	Phone banking	3.2%	4.3%
4	Internet banking	1.6%	3.0%
3	ATM		0.3%
2	Mobile services		
1	Service contract		0.3%

Table 7: Applying for loans, % of all respondents

2

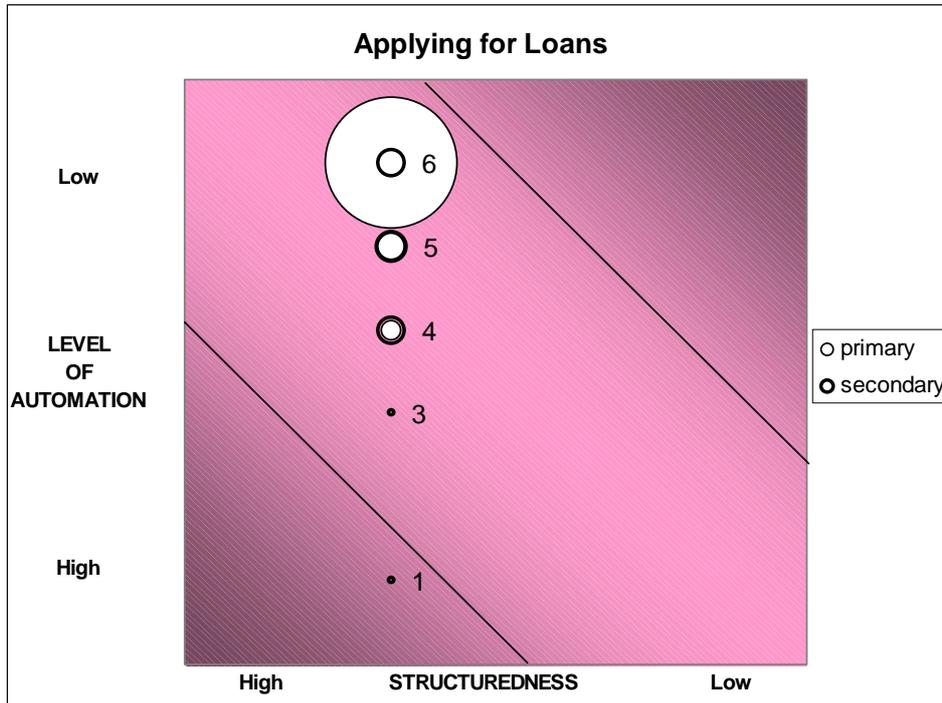


Figure 5: Applying for loans

Submitting loan applications traditionally requires high-touch service with human interaction. As the amount of money in question might be very significant for the customer, she is likely to want to have a possibility to ask questions and advice. Retail loans can possibly also involve negotiations about interest rate, for example, and looking for different options in repayment. Even though methods for submitting loan applications for consumer credit, for example, do exist, customers are either not yet aware of them, or do not perceive them convenient enough.

Investment Services

Service counter was the most commonly used channel for investment services (38.4%). The percentages for other channels were low and the variety of different channels used was also smaller as with more standard services.

No.	Channel	Primary	Secondary
6	Service counter	38.4%	3.8%
5	Phone banking	3.5%	3.5%
4	Internet banking	6.8%	3.0%
3	ATM		
2	Mobile services		0.3%
1	Service contract	1.9%	0.3%

Table 8: Investing, % of respondents

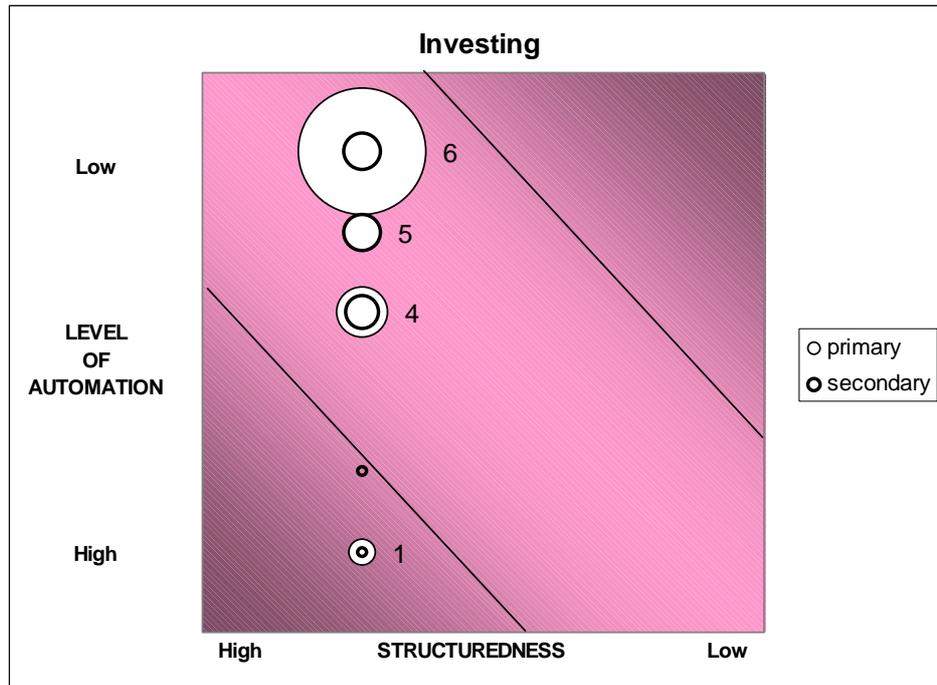


Figure 6: Investment services

These figures indicate that our respondents are average retail banking customers, not very active users of investment services. Most of them seem to be quite unfamiliar with investment procedures and, hence, prefer traditional, personal service channel with counselling and advice available.

Nevertheless, investment services are not of custom service type at all times or for all customers. An experienced investor may prefer to self-service channels where she has the possibility to trade fast and independently.

Summary and Conclusions

New technologies, such as the Internet and mobile phones, give companies possibilities to deliver services to customers in multiple ways. In this article we analysed how banks have been using the possibilities and how their retail customers have been using these channels for different services. We developed a model of efficient delivery strategies based on institutional economics. The alternative generic strategies were identified to be predefined contracts, self-service, and use of service personnel for full services. Furthermore, in our model the structuredness of services and level of channel automation determine what strategy should be used in a given situation.

In this paper we reported the results of a mail survey on the use of delivery channels for retail banking services. 370 out of 1000 customers of one major Finnish banking group replied. The results indicate that customers behave so as to match rather well with the strategies that are efficient to produce the services. However, some deviations were also observed. These discrepancies were analysed and new insights were generated to better understand the customer choice of service channels. For example, we still have some customers using only one channel for all services because they do not have other options available to them. They may live in rural areas and cannot visit banks branch offices, or they do not have access or cannot afford to use Internet banking. We also observed that some unstructured services such as loan applications and investment services are in some cases used through self-service application like the Internet. This implies that some simple forms of these services or parts of the whole service processes are delivered separately from the main stream.

We believe that our model and the empirical findings can be used to develop delivery of banking services further. Also other industries might find them very helpful when creating same kind of service infrastructures as the banks already have.

References

- [1] Apte, U.M. and Vepsäläinen, A.P.J. "High Tech or High Touch? Efficient Strategies for Delivering Financial Services," *Journal of Strategic Information Systems* (2:1), 1993, pp. 39-54.
- [2] Arrow, K. "The organization of economic activity: issues pertinent to the choice of market versus nonmarket allocation," In *The Analysis and Evaluation of Public Expenditure: The PPB System*, s. C. U.S. Joint Economic Committee, 1st Session (Ed.), 1, U.S. GOVERNMENT PRINTING OFFICE, Washington DC, 1969, pp. 59-73.
- [3] Birch, D. and Young, M.A. "Financial services and the Internet - what does cyberspace mean for the financial services industry?," *Internet Research* (7:2), 1997, pp. 120-128.
- [4] Coase, R.H. "The Nature of the Firm," *Economics* (IV), 1937, pp. 331-351.

- [5] Daniel, E. "Provision of electronic banking in the UK and the Republic of Ireland," *International Journal of Bank Marketing* (17:2), 1999, pp. 72-83.
- [6] Devlin, J.F. "Technology and innovation in retail banking distribution," *International Journal of Bank Marketing* (13:4), 1995, pp. 19-25.
- [7] Hyvärinen, I. "Vähittäispankkitoiminta (Banking in Finland; Retail Banking Business) (in Finnish)," (2001:08. Feb 2001), 2000,
- [8] Jayawardhena, C. and Foley, P. "Changes in the banking sector - the case of Internet banking in the UK," *Internet Research* (10:1), 2000, pp. 19-31.
- [9] Johnston, R. "The Determinants of Service Quality: Satisfiers and Dissatisfiers," *International Journal of Service Industry Management*. (6:5), 1995, pp. 53-71.
- [10] Kiriazidis, T. and Tzanidakis, G. "New developments and prospects of the European financial services industry," *European Business Review* (95:1), 1995, pp. 24-31.
- [11] Koskinen, T. "Suomen Maksuliikennejärjestelmä (Banking in Finland; Payment Systems Technology) (in Finnish)," (2001:08 Feb 2001), 2000,
- [12] Mols, N.P. "The behavioral consequences of PC banking," *International Journal of Bank Marketing* (16:5), 1998, pp. 195-201.
- [13] Morrison, P.D. and Roberts, J.H. "Matching Electronic Distribution Channels to Product Characteristics: The Role of Congruence in Consideration Set Formation," *Journal of Business Research* (41:11:3), 1998, pp. 223-229.
- [14] Moutinho, L. and Smith, A. "Modelling bank customer satisfaction through mediation of attitudes towards human and automated banking," *International Journal of Bank Marketing* (18:3), 2000, pp. 124-134.
- [15] Pankkiyhdistys, S. "Pankkivuosi Toukokuu 2000, (Banking year May 2000) (in Finnish)," (2001:08. Feb. 2001), 2000,
- [16] Peffers, K. and Tuunainen, V.K. "Expectations and Impacts of a Global Information System: the Case of a Global bank from Hong Kong," *Journal of Global Information Technology Management* (1:4), 1998, pp. 17-37.
- [17] Ramsay, J. and Smith, M. "Managing customer channel usage in the Australian banking sector," *Managerial Auditing Journal* (14:7), 1999, pp. 329-338.
- [18] Sathye, M. "Adoption of Internet banking by Australian consumers: an empirical investigation," *International Journal of Bank Marketing* (17:7), 1999, pp. 324-334.
- [19] Williamson, O. *The Economic Institutions of Capitalism*, The Free Press, New York, 1985.
- [20] Zineldin, M. "Bank strategic positioning and some determinants of bank selection," *International Journal of Bank Marketing* (14:6), 1996, pp. 12-22.