

Business Process' Reengineering of The Servicing Clients of A Commercial Bank by Automating Cash Transactions

Abstract

The modern banking sector shows growing competition. In order to stay afloat, it is necessary to use new methods that increase the level of customer centricity and help to retain old customers and attract new ones.

In the presented paper, the problem of qualitative and fast customer service of the commercial bank UKRSIBBANK, which can be achieved through optimization of business processes of servicing customers (private individuals), is considered. The main tool is the Business Process Reengineering method, which involves the automation of cash operations, namely: providing banking services with the help of cash terminals. The essence of the improvement is to carry out transactions using special cash terminals, which can replace the cashier and bank teller positions in a bank.

As a result of the business processes reengineering, the main tasks set at the beginning of the paper were solved. Those were cuts in staff involved in cash management business processes and a reduction in customers' time for performing simple cash operations, which have been shown using specific business processes in the presented paper.

In addition, BPR influenced the following criteria: transactions between clients' accounts, transactions between different banks' accounts, the level of quality of financial monitoring, quantity of paper documents that confirm transactions, quantity of cash operations that are done by cashiers, the level of control of business-processes, time of cash operations, the level of staff turnover, a reduction of quantity of cashier staff, the level of client orientation, the level of time waiting in lines, quality of clients' service, quantity of clients that are satisfied with service, quantity of clients that are ready to recommend the bank to others.

Moreover, the impact of reengineering on the organizational structure and document circulation of the bank is considered in the work.

Introduction and Literature Review

In contrast to the widespread belief that the banking sector is stable, the facts suggest otherwise. According to the data of Mckinsey (Garg et al, 2017), the current global situation in this segment in most countries suggests a high level of economic pressure. According to their research of 500 top institutions, 54 percent are priced below book value. In 2014, they calculated that only 18 percent of the banks captured all the value in the industry. This means that competition over the last 4 years has become fiercer, which requires strengthening of activity, continuous improvements and introduction of innovations from the bank. And, this especially concerns customer service.

High-quality and fast customer service is one of the main tasks faced by workers of commercial banks. Under certain circumstances, a client may be so dissatisfied with the service that a bank may lose not only one client, but also a number of others due to negative feedback. Encouraging clients to express their discontent is the first step recommended to managers in their effort to systematically learn about customer negative experiences, restore satisfaction and strengthen business relationships (Fornell, 1992).

That is why this paper is devoted to optimizing the business process of customer service by automating cash operations using the example of one of the largest Ukrainian banks - UKRSIBBANK.

UKRSIBBANK has been operating in the Ukrainian market since 1990. The Bank offers its clients high-quality financial services in the best European financial traditions. 60% of the Bank's shares

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belong to one of the largest financial groups in the world, BNP Paribas, and 40% belong to the EBRD. Among the clients of UKRSIBBANK there are more than 2 million people, over 169 thousand small and medium sized businesses, and 2.3 thousand large corporate companies - leaders of the domestic economy and international corporations. At the same time, tough competition dictates its conditions: UKRSIBBANK needs to expand the client base, build up assets and liabilities, increase profitability, control costs.

Cash transactions for private individuals in UKRSIBBANK include: opening and maintenance of current accounts in UAH and in foreign currency; settlement operations, payments, transfers of funds; treasury transactions; issue and service of debit cards; remote banking service. The execution of this list of operations allows the bank to increase bank resources; and the balances on the accounts represent call deposits, which in general affect the liquidity of the bank and ability to fulfil its obligations. Thus, it becomes clear that treasury transactions for private individuals are cash and non-cash transactions that are not related to entrepreneurial activity.

Like most commercial banks of Ukraine, UKRSIBBANK has a number of issues connected with customer service. They can be divided into two groups: internal and external factors. Internal factors include:

- High labour costs of treasury operations
- A low level of salaries of bank tellers
- A low level of salaries of cashiers
- Accordingly, the low qualification level of bank tellers and cashiers
- High turnover of personnel among bank tellers and cashiers
- Long time for customer service
- The need for continuous training in the basics of customer service for new employees
- A low level of customer centricity of the bank staff

External factors include:

- A large number of clients who apply to the bank service department
- Low percentage of people using mobile banking
- High levels of competition with other banks
- High expenditure of time by customers while waiting for service

Prior to the automation of treasury operations, business processes were carried out through a cash-operating unit of a bank or through a bank teller. The cash-operating unit consists of cash desks for receiving and giving cash, recounting office, money depository. A bank teller performs functions of opening and closing accounts in UAH and in foreign currency, and a cashier performs settlement operations, payments, transfers of funds. In this case, a bank teller used the CRM module ERP of the production system SAP for client accounting.

Figure 1 shows the graphic expression of one of the business processes of cash services "Transferring money to a current account in another bank" before its improvement.

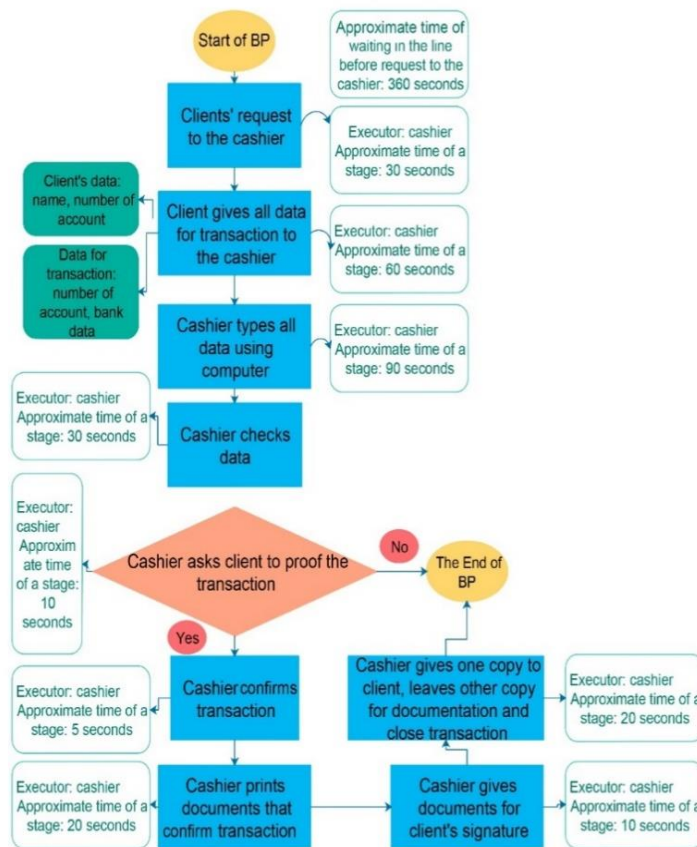


Figure 1. A Block Diagram of The Business Process of Cash Services "Transferring Money to A Current Account in Another Bank"

Prior to the improvement, this business process took 10 minutes 35 seconds. Due to the long period of performing this operation, the queue was created and customers had to wait for the service to begin. Within 1 working day (8 hours), 1 cashier could serve 45 clients. Besides, it happened if each client applied for the simplest transaction - the transfer of money from their current account to an account in another bank. Other business processes related to carrying out treasury operations took longer: from 12 to 16 minutes.

Hence, there was a need for simultaneous work of at least 2 cashiers in each bank branch and today there are more than three hundred branches. During the working day (from 9 a.m. to 6 p.m.) cashiers and bank tellers could only relax during their lunch break, the rest of their time was occupied by servicing customers. Such a busy work schedule with a low level of salary negatively affected the motivation of staff and the quality of customer service.

It should be noted that cash servicing is associated with the execution of a large number of standardized transactions. Most time is spent on processing financial and legal documents. The labour intensity of the process reduces the quality of customer service. In addition, in the event of unusual situations, a bank teller or cashier cannot solve them due to paperwork. Therefore, one can come to the conclusion that the first task for improving the business processes of cash services is to reduce labour costs for cash servicing.

The next task that can be distinguished is the cost of staff remuneration. The reduction in the intensity of labour will diminish the number of bank tellers and cashiers involved in implementing the business process. At the same time, the salary fund will suffice to hire more qualified specialists with high rates of remuneration. Business process development minimizes activities costing across the processes or the entire organization by analysing and redesigning workflow and processes (Omidia and Khoshtinata, 2016), which means a decrease in tariffs and the flow of new customers.

Any changes could result in lower costing business processes and increased efficiency of activities performed by employees (Lipaj and Davidaviciene, 2013).

1. Research

The improvement of business processes is a combination of methods and approaches that help management to increase efficiency of work. Several solutions can be considered for tackling the problem, but all of them are based on the use of BPR (Business Process Reengineering) - an approach that was first introduced by scientists Hammer and Champy in 1990.

BPR helps companies radically restructure their organizations by focusing on the ground-up design of their business processes. According to Business Process Reengineering Assessment Guide (1997), a business process is a set of logically related tasks performed to achieve a defined business outcome. Reengineering emphasized a holistic focus on business objectives and how processes related to them, encouraged full-scale recreation of processes rather than iterative optimization of sub-processes.

BPR is often used in situations similar to those in UKRSIBBANK. Extremely high costs of performing a business process that occur simultaneously with its low quality make the management take tough measures. These words are confirmed by the work of Weicher et al (1995) and Fitzgerald and Siddiqui (2002).

Promotion of the active use of Internet banking for cash transactions (without the participation of a cashier and a bank teller) can be considered one of the options for reengineering the business process of cash services for private individuals.

Internet banking satisfies the needs of modern clients for solving the problem of performing money transfers with the maximum time saving for moving. Banking transactions can be carried out from anywhere in the world using the Internet, a phone, a mobile application or website. Hence, the business process can be totally changed: its execution will not involve bank tellers and cashiers, clients will spend less time for receiving the service, paperless technologies will be used. In addition, systems of remote banking services provide clients with a wide range of opportunities, namely: the ability to independently carry out calculations, receive information on the movement of money on the account, and obtain account statements in real time; protection against unauthorized access; storage of electronic versions of settlement documents in the archive.

The second option for improving the business process is non-cash service. Non-cash service presupposes optimization of cash services and standardization of products, as well as automation of bank cash operations. Thus, you can use special cash terminals instead of asking a bank teller and cashier. In this case, payments will be made using payment cards. Business processes of cash servicing will be aimed at self-service of clients, while the actions of the personnel will be aimed at improving the quality of customer service by reducing the operational load.

When choosing the best option for improving the business process, one must take into account the current situation in the Ukrainian market. According to Factum Group statistics (2017), 64.8% of Ukrainians are Internet users. 44% of them are residents of cities with a population of more than 100 thousand people, where most of the branches of UKRSIBBANK are located. Since 2010, the bank has had Internet Banking for private individuals, called UKRSIB ONLINE.

Since 2015, mobile applications on the platforms iOS and Android have been launched. UKRSIB ONLINE allows private individuals to open deposits, activate and deactivate prolongation on deposits, top up deposits; change the limits on operations with cards (payments on the Internet, withdrawal of cash), order additional cards with a choice of their design, unlock/block cards, get information on payment cards; make payments for the services of mobile communication, for utilities, for services of Internet providers, telephony, cable and satellite TV; top up accounts of on-line games and social networks, repay credits.

Transfers between their own accounts, between UKRSIBBANK cards and those of any other bank of Ukraine, to recipients' accounts in UKRSIBBANK and other banks are also available. According to internal data of the bank, which are shown in Figures 2 and 3, the percentage of clients

among private individuals who use UKRSIB ONLINE are increasing, but do not exceed 15% of the total number of clients of the bank.

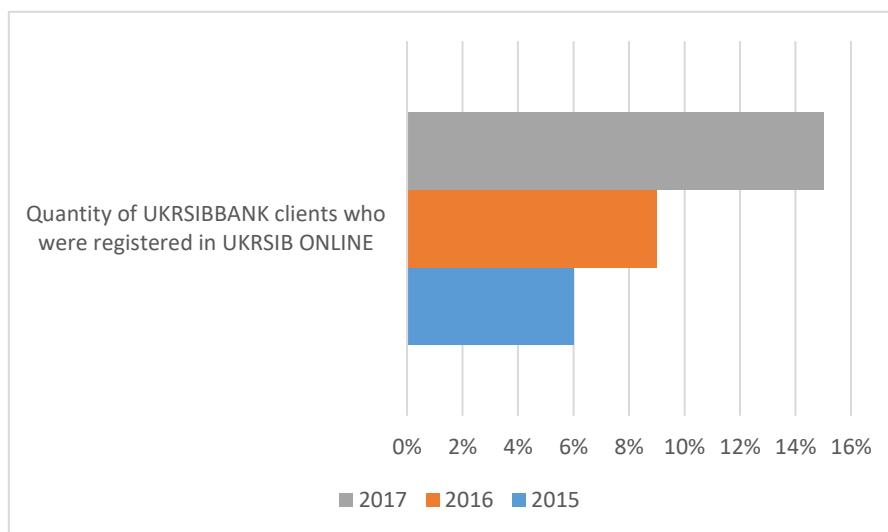


Figure 2. Quantity of UKRSIBBANK Clients Who Were Registered in UKRSIB ONLINE

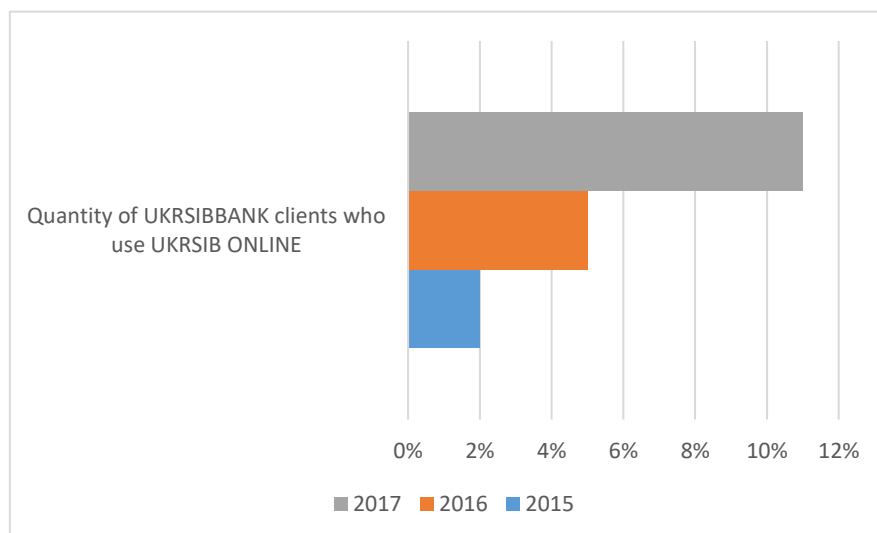


Figure 3. Quantity of UKRSIBBANK Clients Who Use UKRSIB ONLINE

Relying on the information provided, we can conclude that in order to persuade customers to use Internet banking, it is necessary to promote this option among the clients of the bank.

Therefore, in this paper it is decided to focus on the automation of servicing cash transactions of customers with the help of cash terminals. The project was called "Libra".

An immediate element of the electronic payment system is a cash terminal. The use of such terminals was the first attempt of banks to enable clients to work with their account at any convenient time. In general, a cash terminal is a device where one can perform the following typical financial transactions:

- withdraw cash from various accounts;
- top up different accounts, including accounts of other banks
- view information on payment cards;
- make payments for mobile services, utilities, for services of the Internet providers, telephony, cable and satellite TV;
- top up accounts of online games and social networks, repay loans;

- make transfers between your own accounts, between the cards of UKRSIBBANK and any other bank of Ukraine, to the accounts of recipients in UKRSIBBANK and other banks.

To manage the work of a cash terminal, special application software and telecommunication equipment are required for connecting to the computer network. Unlike conventional cash machines that can work online and offline, cash terminals operate only online, because they involve many operations that require access to the most up-to-date information. Usually cash machines working in offline mode, keep information about the operation in its memory and on a special magnetic strip. A cash machine, which operates in offline mode, is serviced by a special employee - a cashier of a bank, who periodically manually fills a cash machine with cash, as well as enters data on late payments, accounts, lost cards, etc. in the memory of a cash dispenser. In more modern systems, such information is stored in a cash machine from time to time in a special session of connection of a cash machine in dial-up or dedicated channels of communication with a central bank database. If a cash terminal operates online, it can provide a customer with information about the current state of their account. The use of cash terminals in this mode requires a reliable telecommunication environment and significant computing resources of the banking system. In this case, it should be possible to work online with the network of cash terminals. The "Libra" project includes the automation of key customer-oriented business processes, four of which are related to cash-based customer service, namely:

- Transfer of funds to a current account in another bank
- Transfer of funds to a current account in UKRSIBBANK
- Cash lodgements on your own current account
- Cash lodgements on the account of another legal or physical person

Understanding the peculiarities of cash terminals operation, there is a need for a detailed description of each business process that is performed with the help of a cash terminal to evaluate its efficiency. Figure 4 shows the implementation of one of the business processes of cash services "Transferring funds to a current account in another bank" after applying the BPR approach.

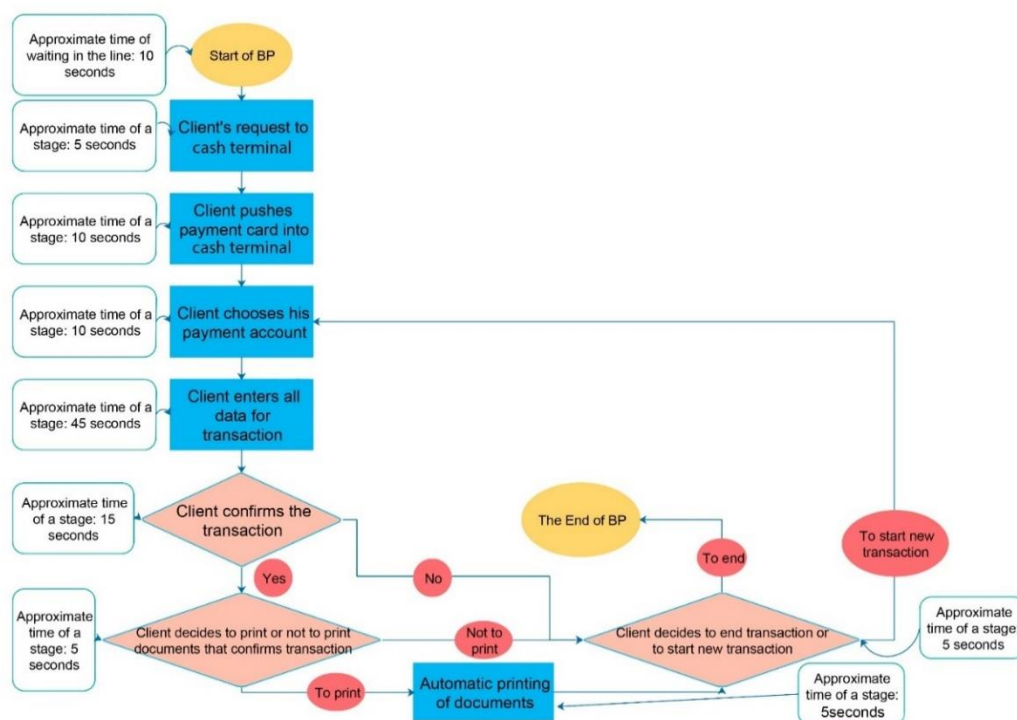


Figure 4. Flow Diagram of The Business Process of Cash Service "Transferring Funds to A Current Account in Another Bank" After BPR

The architecture of the business process is supported by the general client-oriented strategy of the bank, the objective needs of the market and the overall roadmap for the development of business processes (Jeston and Nelis, 2006). Hence, according to Dallas and Wynn (2014), Strategy, Operations and Support categories should be used to develop an effective business process. Strategy comprises Govern and Plan, Operations include management of client relations and delivering core services, and Support comprises sourcing new clients, supporting personnel, developing and maintaining an information system, providing administrative services and managing finance and compliance. New business processes of customer service are built taking into account the foregoing.

For each management system, its main content elements (business models, regulations), the divisions of a bank involved in it, the issues of functioning and automation of the system are considered. Nowadays, effective management of resources and operational activities of the bank are not enough for its stable development and competitive advantages. A clear strategy, regulated and adaptive business processes, an elaborate organizational structure and an efficient interconnected system of bank management in general are principal factors that will allow the bank to retain its leading positions in the market.

In the managerial activity of any bank, all elements are closely interconnected. For example, when describing and optimizing business processes, one has to work with the organizational structure and document circulation of the bank at the same time.

With BPM of business processes of cash servicing one has observed the following condition. The reengineering team has first tried to reduce as many people as possible in every business process. This can be done in two ways: to combine tasks or use automation; the latter has been chosen.

As can be seen from the flow diagram, prior to the improvement, the business process took 10 minutes 35 seconds, and after the improvement – 1 minute 50 seconds. In this way, it is possible to make calculations and determine that within one 8-hour working day, one cash terminal can serve 260 customers, which is almost 6 times more compared with 45 clients served by a cashier. The rest automated business processes that deal with cash transactions take less time: up to 100 seconds. In this situation, a cashier is engaged in serving customers, who need to perform more complex cash transactions.

Using cash terminals to perform simple cash operations frees bank employees, allowing them to focus on offering more specialized types of services, and gives them possibility to diminish the costs of providing services to the population in the long run. The use of automated tellers makes it possible to bring its services closer to customers. Their value lies in the fact that they extend the temporal and spatial framework in which the client can carry out cash transactions.

Besides, the use of cash terminals frees bank tellers from the analysis of cash service information. Cash terminals in the automated mode generate daily reports that are sent through an ERP management system. Based on these reports, you can track:

- dynamics of indicators of topping up accounts with cash (in terms of the number of transactions)
- dynamics of indicators of transfers from one current account to another
- dynamics of payments for utility bills, mobile operators, etc.
- quantitative indicators for transactions are depicted in graphs, for a clear interpretation of the dynamics of indicators
- graphic representation of the number of different transactions
- collection of dynamics of indicators in the context of each branch to determine the performance of every branch and the capacity of operation of the cash terminal

The results of the effectiveness of improving business processes of servicing clients (private individuals) of a commercial bank by automating cash transactions can be presented in the form of diagrams.

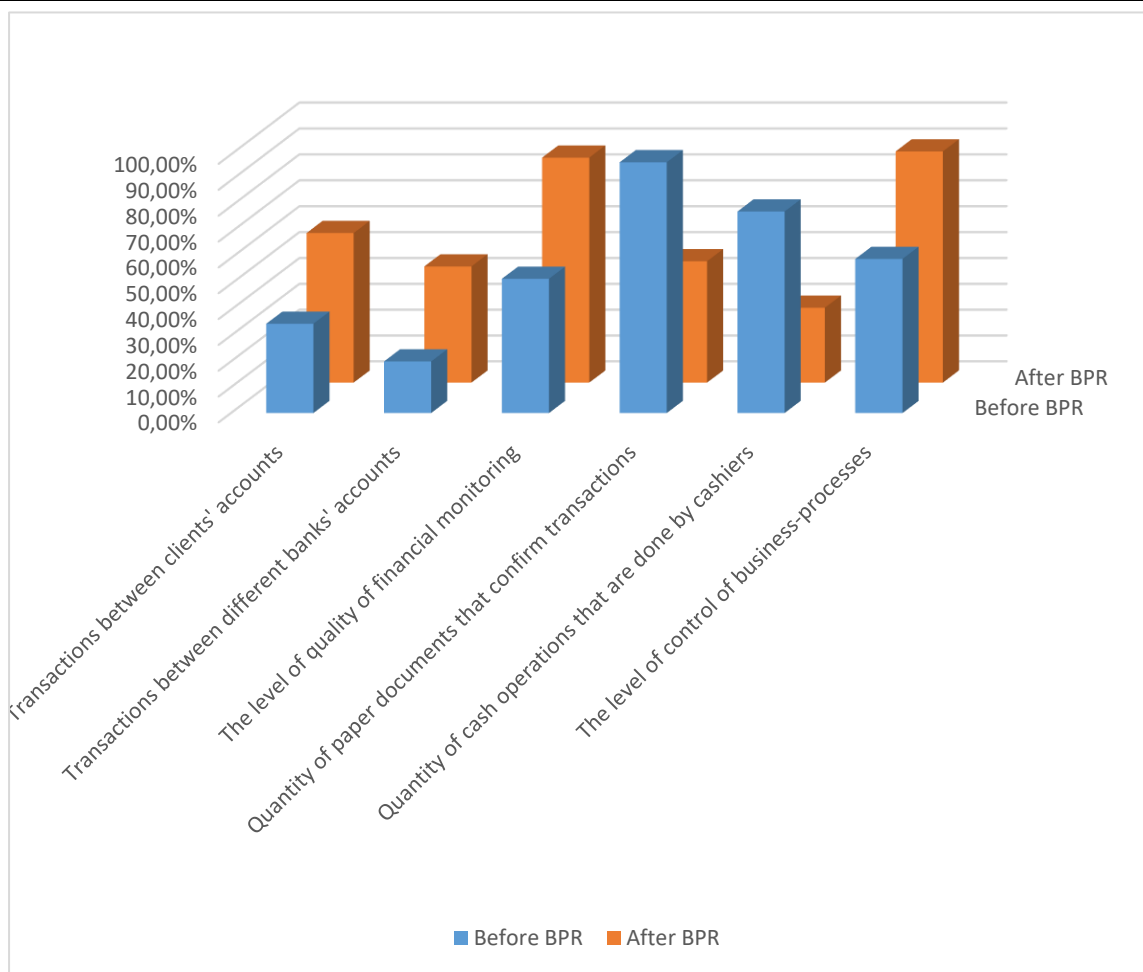


Figure 5. The Results of Bank Cash Service Before and After BPR

Figure 5 shows changes before and after the implementation of business processes reengineering according to the following criteria: transactions between clients' accounts, transactions between different banks' accounts, the level of quality of financial monitoring, quantity of paper documents that confirm transactions, quantity of cash operations that are done by cashiers, the level of control of business-processes.

At the beginning of the paper, key issues had been distinguished that were divided into internal and external factors. On the basis of the data provided by UKRSIBBANK, graphs were drawn that outline the results of the improvement of business processes of cash service separately according to internal and external factors. Therefore, the indicators that affect the internal factors include the amount of cash operations, the level of staff turnover, the reduction of the number of cashier staff, the level of customer orientation, the level of time waiting in lines. All indicators for improving business processes were counted as 100%. Changes that occurred after the improvement of business processes are presented in Figure 6.

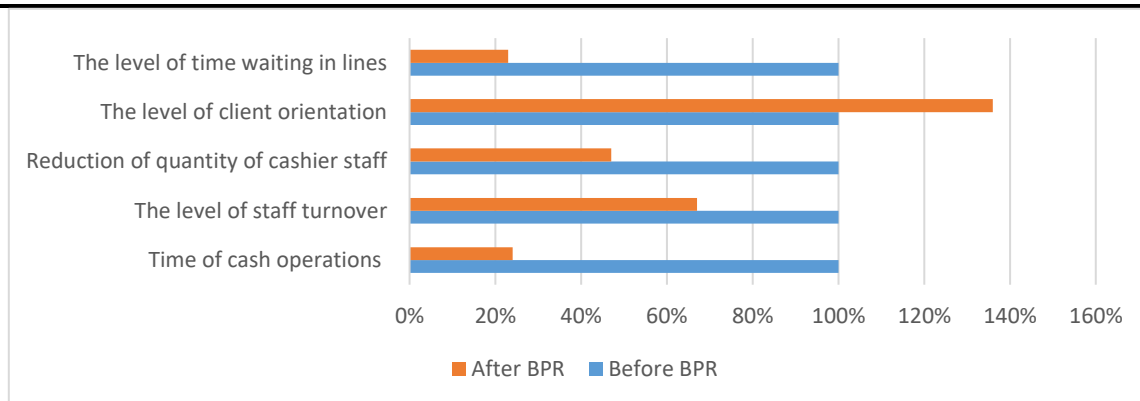


Figure 6. The Results of The Quality of Bank Cash Services Before and After BPR That Are Based on Internal Factors

The indicators that affect external factors include the quality of clients' service, the number of clients who are satisfied with the service, the number of clients who are ready to recommend the bank to others. All indicators before the improvement of business processes were counted as 100%. Changes that took place after improving business processes are presented in Figure 7.

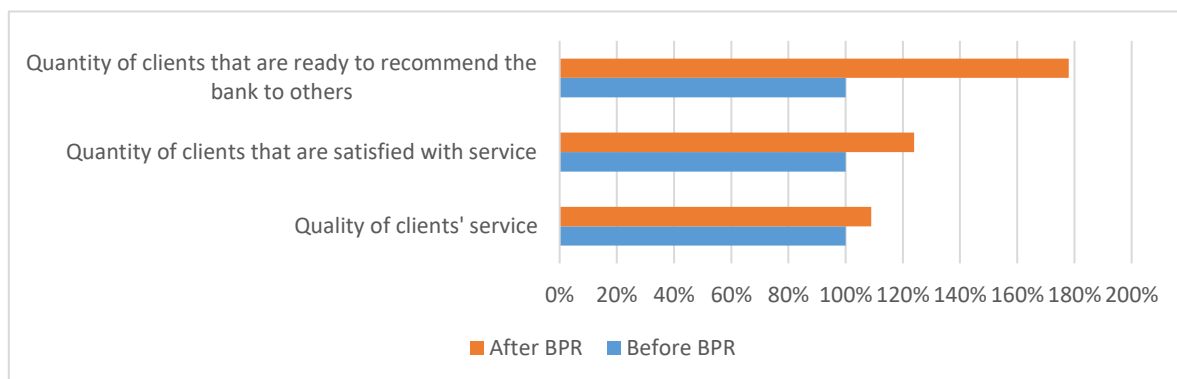


Figure 7. The Results of The Quality of Bank Cash Services Before and After BPR That Are Based on External Factors

The implementation of the "Libra" project and the reengineering of business processes that had been carried out resulted in the following positive effects:

- Reduction of operational risks in the work of the bank
- Standardization and optimization of business processes of the bank and, as a consequence, the reduction of the burden on the entire staff of the bank;
- Ensuring control of business processes
- Decreasing the prime cost of business processes of the bank
- Improving the quality and efficiency of functioning of a back office and the network of sales, spending less time on customer service
- Automation of document circulation
- Redundancy of the staff of the back office at bank branches.
- Centralized management of business processes associated with the bank's operations is provided;
- Organized access to the system from any branch of the bank through the Internet;
- Improved control over the processes at each stage;
- Processes have become more transparent, and a possibility of their optimization has appeared.

The improvement of business processes, especially business processes reengineering, does not guarantee good results after the implementation. Moreover, according to the data of Chen (2008), successful examples of BPR have been widely reported, while failed ones have not. It is estimated

that there is a 50% to 70% failure rate of BPR projects with either unsuccessful efforts or no significant benefit gained. "

In the case of UKRSIBBANK, the implementation was also complicated by the understanding that after the installation of cash terminals and the complete switch to cash operations with their application, the phase of lay-offs would start.

Thus, it can be assumed that the following factors influence the implementation of business processes reengineering:

- Motivation. Choudrie et al (2002) states that staff motivation has a significant impact on the implementation of new business processes. The senior management should be sure that this project will give a meaningful result and understand how the changes will affect the reorganization of the bank structure. They must also have a plan of motivational actions to increase the level of involvement of staff before the introduction of automation.

- Management. Project managers must clearly understand that there will always be difficulties and they must be consistent and not be under pressure of old rules.

- Communications. Success of the implementation of business processes reengineering depends on how well the management has formulated and got the implementation plan and strategic goals of the company across to employees.

- Budget. The reengineering project should have its own budget, especially in the context of the implementation of information solutions, which include the installation and use of cash terminals.

- Technical support. Conducting BPR in UKRSIBBANK requires the use of appropriate techniques and information tools.

Results and Discussion

The implementation plan for business processes reengineering is presented in the form of a Gantt chart (Figure 8). The Gantt Chart is a way of planning goals that visually reflect the names of the works needed to achieve them, the length of these works, and the responsibility for them (Gantt, 1910). According to the implementation plan, first cash terminals should be installed in branches of the bank situated in the capital, and then distributed to the offices of million-cities, and then to those branches, where the number of cash operations is the largest.

Important clarifications concerning the Gantt chart should be regarded as follows:

- UKRSIBBANK includes a powerful analytical department, the specialists of which are involved in performing specific tasks in projects. That is why, the analysts themselves carry out work on the collection and analysis of information.

- The learning process is a continuous process from the date of its beginning according to the Gantt chart. This is due to the monitoring of the effectiveness of reengineering, as well as the flow of staff remaining in the bank.

- Efficiency monitoring is a nonstop process that continues after the completion of reengineering. According to the monitoring results, it is possible to carry out continuous improvement, understand the market trends, scale up the automation of cash terminals not only in the bank branches of the capital, but also in all branches throughout Ukraine.

Hence, we can talk about the following improvements that have been carried out while conducting this paper and which have affected customer service in UKRSIBBANK:

- Reduction of labour costs for cash transactions
- Cuts in cashiers and bank tellers with a low qualification level
- An increase in the level of salaries of cashiers and bank tellers with a high qualification level
- Reduction of time for simple and most common business processes of cash service by 6 times
- There was an opportunity to carry out specific cash operations and solve complex client problems

- A rise in the level of customer orientation of the bank staff

- Customers have formed a habit of using cash terminals, which also has a positive effect on the level of using Internet banking

In addition, the development and improvement of business processes influenced the general indicators of the bank. Before the automation of cash operations, business processes were carried out through a cash-operating unit of the bank or through a bank teller. Conducting BPR in the context of improving business processes of customer service has helped UKRSIBBANK to take a competitive position in the market, and also:

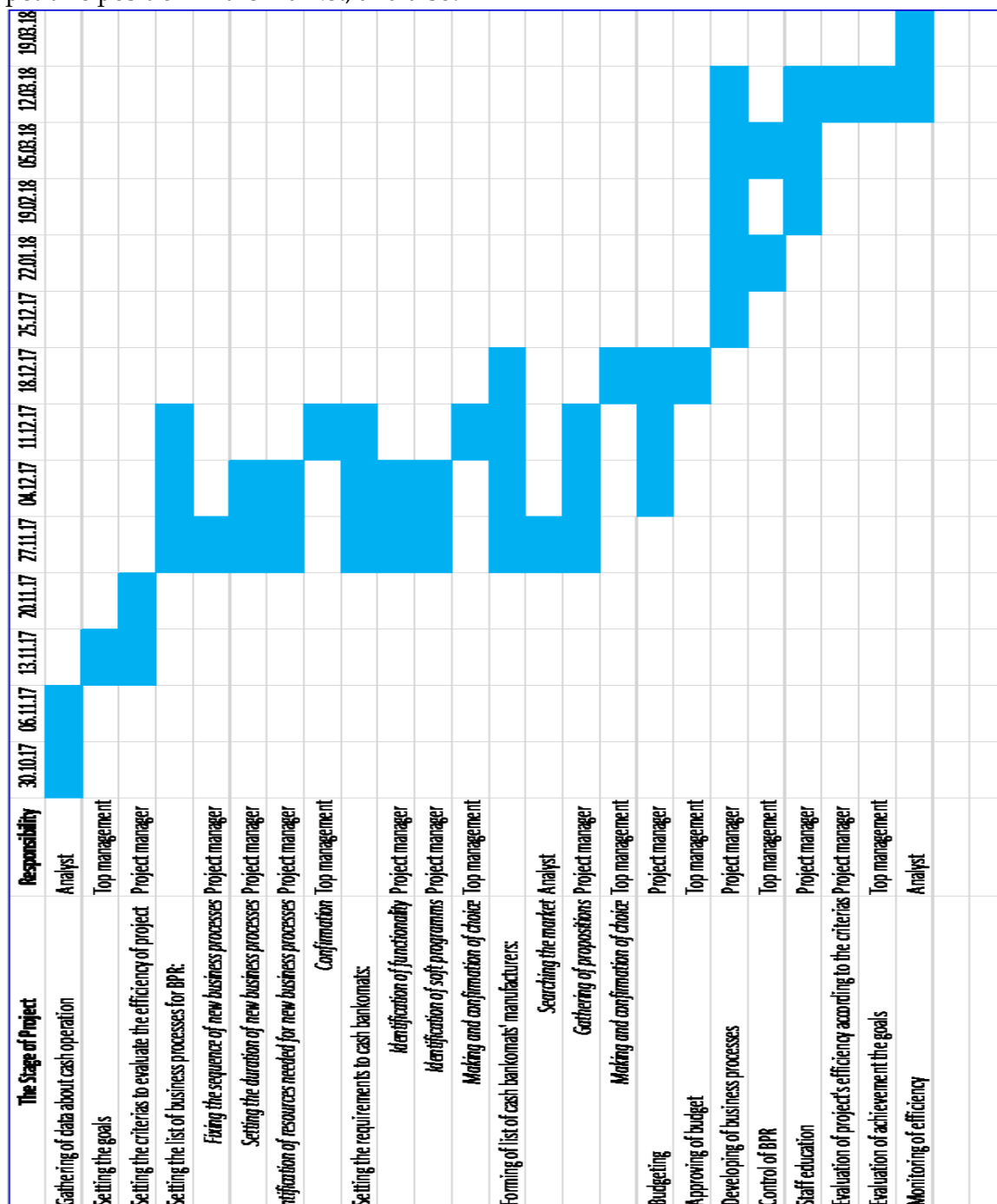


Figure 8. Gantt Chart on The Implementation of Reengineering Business Processes of Cash Services

- improved manageability and lowered the prime cost of business processes of the bank;
- increased the speed of performing daily operations and minimized operational risks;
- improved significantly the efficiency of the branches and allowed creating a standard system of document circulation;
- automation of business processes has led to an increase in the number of accounting entries that are formed automatically;

- the ability to design different types of document circulation for approval of operations has emerged;

- assisted in designing and developing documentation packages for each type of operation;
- ensured the automatic generation of confirmation for each operation;
- contributed to the automatic formation of payment instructions for each operation.

Thus, in general, the optimization of the business process of servicing clients (private individuals) of a commercial bank by automating cash operations has led to:

- An increase in the number of automated business processes;
- Strengthening of single information space of the bank;
- A rise in the level of security and control of the bank;
- A rise in the level of efficiency of banking operations;
- Optimization and automation of bank management accounting.

The optimization of business processes of customer service is easily scaled up to other bank branches, which is a good prospect in a competitive struggle with other Ukrainian banks.

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