

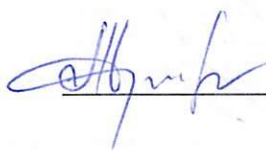
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Theme: «The application and efficiency of lean manufacturing in the companies of
the Republic of Kazakhstan»

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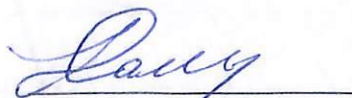
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ABSTRACT

The thesis describes what the term "lean manufacturing, lean management and maintenance" means, as well as its application in the banking system. For the banking sector are more suitable specially adapted for service companies lean management techniques, known as the principles of lean service (Lean Service). It should be understood that the original methods of lean production have a very limited scope in banking.

Lean production methods, the topic of lean service is more complex, the effect of lean management in service companies is achieved faster, but the scale of possible savings is smaller than in production. The topics of lean service and production do not have a clear border between them, so some parts of the lean service methodology can be mastered by the Bank independently. For this reason, ATFBank's branch in Atyrau city was selected as a pilot project by monitoring customers, employees and operations, as well as identifying and improving the quality of services through data collection. After analyzing the collected data, some improvements were proposed to eliminate unnecessary operations. The results show that it is quite easy to achieve significant improvements in the banking sector by simply focusing on value-added transactions and service. The results are also valid for other branches of the Bank.

Keywords: lean manufacturing, project management, lean management, banking system

АБСТРАКТ

В диссертации описывается, что означает термин «бережливое производство, бережливое управление и обслуживание» так же его применение в банковской системе. Для банковской сферы в большей степени подходят специально адаптированные для сервисных компаний методики бережливого менеджмента, известные как принципы бережливого сервиса (Lean Service). Следует понимать, что оригинальные методы бережливого производства имеют весьма ограниченную сферу применения в банковском деле.

В отличие от методов бережливого производства, тема бережливого сервиса по содержанию сложнее, эффект от внедрения бережливого менеджмента в сервисных компаниях достигается быстрее, но масштаб возможной экономии меньше, чем в производстве. Темы бережливого сервиса и производства не имеют между собой четкой границы, поэтому некоторые отдельные фрагменты методологии бережливого сервиса, могут осваиваться банком самостоятельно. По этой причине в качестве пилотного проекта был выбран филиал АО АТФБАНК в городе Атырау путем наблюдения за клиентами, сотрудниками и операциями также выявление и улучшения качество оказываемых услуг путем сбора данных. После анализа собранных данных были предложены некоторые улучшения, связанные с устранением ненужных операций. Результаты показывают, что значительных улучшений в банковской системе легко достичь, просто сосредоточив внимание на операциях и оказанием услуг. Полученные результаты так же применяется и в других филиалов банка.

Ключевые слова: бережливое производство, управление проектами, бережливое управление, банковская сфера

АНДАТПА

Термин "үнемді өндіріс, үнемді басқару және қызмет көрсету" сондай-ақ оны банк жүйесінде қалай қолданылуы диссертацияда сипатталады. Банк саласы үшін үлкен дәрежеде үнемді менеджмент әдістемесін қолайлы пайдалану арқылы белгілі принциптерімен үнемді сервис (Lean Service) арнайы бейімделген сервистік компаниялардың үшін, қолданыста. Бұл бірегей әдістерін үнемді өндіріс бар өте шектеулі қолдану аясын банк ісін түсіну қажет.

Үнемді өндіріс әдістерінің айырмашылығы, үнемді сервис тақырыбы мағынасы бойынша қиын, үнемді менеджментті сервистік компанияларға енгізілу әсері тезірек қол жеткізіледі, бірақ өндірудегі үнемдеу ауқымының ықтималдылығы кемірек. Тақырыптың үнемді сервис және өндірістің бір-бірімен айқын шекарастығы жоқ, сондықтан кейбір жекелеген фрагменттері әдіснамасы үнемді сервис, банк дербес озіндік игерілуі мүмкін. Осы себеп бойынша пилоттық жоба ретінде "АТФБАНК" АҚ Атырау қаласындағы филиалы таңдалып алынды және банк клиенттерді бақылау, қызметкерлер мен операциялар, сондай-ақ анықтау және сапасын жақсарту мақсатында, көрсетілетін қызметтер арқылы деректер жинау барысында талдау жасалынды. Ұсынылған және жиналған деректер аясында талдау жасалынып қажетсіз операциялар жоюмен байланысты кейбір жақсарту енгізілді. Біздің нәтижелер көрсеткендей операциялар мен қызмет көрсетуге назар аудара отырып, банк жүйесіндегі елеулі жақсартуларға оңай қол жеткізуге болады. Алынған нәтижелер әділ және банктің басқа да филиалдарында қазіргі таңда қолданысында ие.

Кілт сөздер: үнемді өндіріс, үнемді басқару, жобаларды басқару, банктік сектор

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LIST OF ABBREVIATIONS AND DEFINITIONS

Six Sigma: Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process – from manufacturing to transactional and from product to service.)

DMAIC: DMAIC referred to define, measure, analysis, improve, and control. It is an approach to problem solving defined by Motorola as part of the Six Sigma management philosophy. DMAIC is a tool for improving an existing process. (What is Six Sigma? 2015)

GDP: gross domestic product

LSS Lean Six Sigma

TPS Toyota Production System

INTRODUCTION

The thesis is devoted to the study of one of the most effective and advanced management methods implemented today in commercial banks - lean technologies aimed at the systematic identification and elimination of losses and adjustment of production processes depending on the needs of the customers. What concerns objectives, then, the study aims to review lean management principles and to identify the advantages and difficulties of lean programs implementation by domestic credit institutions and the main opportunities and prospects for the implementation of the lean program in the Kazakhstan banking systems.

In order to reveal the potential of improving the efficiency of operations of Kazakhstan credit organizations through the lean technology introduction, the study uses economic-statistical and graphical methods. According to the results, the first domestic credit organizations that started using lean production technologies (JSC "Sberbank of Russia", JSC "Alfa-Bank") can increase productivity by 20-50% and achieve significant savings. On the example of the branch of JSC "ATFBank" in Atyrau, the aggregate effect of economies of the lean technology introduction calculated by author.

The relevance of the topic of the master's thesis is that the introduction of lean manufacturing principles contributes to the competitiveness of the Bank and it is an effective way to develop and improve the quality of services, allowing you to get significant advantages in the banking system.

Theoretical and methodological basis of master's thesis works of domestic and foreign scientists, classics of scientific management and the guru of lean production served. The subject of the research is widely spread in domestic and foreign literature.

1.1. Background

Developing and evolving by using our existing knowledge in different ways creates new knowledge and that is what makes us humans. We can pick almost any field of knowledge, one element has been common and obvious we had to think

differently to solve the new problems. As someone great once said, “We cannot solve our problems with the same thinking we used when we created them”. Similarly, industrialists, developers alongside with philosophers and individuals from many other areas of knowledge have been evolving the way we work today. Historically, prior to 1800’s, the nature of work was “craft-production”. Craft production “refers to the process of manufacturing a product through the use of manual skills”. Then roughly in the mid 1800’s the nature of work become “mass production”. Mass Production is “The manufacturing of large quantities of standardized products, frequently utilizing assembly line technology”. More and more companies have started to adopt the Lean Management philosophy. Some companies have completely based their business strategy and vision on Lean thinking, while others have chosen to use some elements of Lean Management and service while leaving the rest out. There are also many companies those who are using Lean Management and service methods unconsciously, without knowing themselves. Maybe because Lean thinking is becoming quit generally accepted and practiced by many. Let us first understand, what is Lean Management and service exactly? And then we will further move in the topic of Lean Management in banking system.

Lean Management is a production philosophy, that seeks to improve production processes, defined as “becoming ‘lean’ is a process of eliminating waste with the goal of creating value”. Lean was first introduced in a car making company, Toyota. System developers in Toyota Production System (TPS) used thirty years to develop TPS, and the Lean Management methods were part of this system. In 1990’s, the Lean Management was ready to use by other companies around the global. Assuming, since Toyota was raising as a company through selling cheaper cars than most of the major car making companies around the world, other carmakers become curious about Toyota’s production system. Toyota was simply following their, “home-made recipe,” in-house developed production system, Lean Management. The whole purpose of Lean Management is to eliminate, as the Toyota calls it, “Muda”. Muda is a Japanese term, which means “elimination of waste”. This research thesis

will discuss the Lean Management philosophy itself, thoroughly. However, there have already been done tones and tones of studies on Lean, so how does the study in this research thesis differs from most, if not all, of the prior studies? The Lean Management is fundamentally a production process, in other words, a system that specifically was developed to cut the waste in a manufacturing environment. Where as this research thesis is attempting to find impact of Lean implementation in a service providing company. Even if a company's product is to provide service, I assume most companies still want to be more profitable. After understanding the Lean Management, the research would be lead towards implementing Lean thinking in the service sector. Thereafter, a specific company would be used as a lab-rat for this research thesis.

One of them is concerning time-limitation. There is not enough time to actually implement the Lean system to the chosen company and evaluate the actual annual results. Further not to forget, the development and effect of the system over several years ahead. Therefore, the focus of this research thesis is develop new hypothesis on impact of Lean Management on a service-providing company.

The research will be conducted from the button-up, including, not just the management board and the leaders, but also the ground-level employees and customers. Mainly because all of these stakeholders are important for a company, and they might have inside and outside information about the company's status. This is done to tackle the situation from various angles and to involve different prospective, so that I as the researcher can develop a solid learning for

the service provider company. Author has chosen a bank system known as, ATFBank JSC, for my research thesis. ATFBank JSC, is a regional cab-company, establish is 1989(www.atfbank.kz),in Kazakhstan. ATFBank JSC established in 1995. In 2007 ATFBank JSC was purchased by Bank Austria Creditanstalt AG / UniCredit. In 2013 ATFBank JSC was purchased by KNG Finance LLP Clients

- 1,2mln of individuals;
- 55,0 thousand SME clients

- 2,3 thousand of corporate clients

Shareholder

KNG Finance LLP (99,8%)

Market position

ATFBank JSC is among top 10 largest banks of Kazakhstan by assets, loans and deposits

- 6th place by assets with 5.4% share
- Key participant of state-sponsored programs extended by Damu Entrepreneurship Development Fund (5th by activity in Business Road Map-2020). Branch network

Kazakhstan: 17 Branches, 71 points of sales,

662 ATMs, 2271 employees

Kyrgyzstan: 18 Branches, 50 points of sales,

93 ATMs, 915 employees

Along with the research methods, the Bank details would be discussed more thoroughly in the methodology section, later in this thesis.

1.2. Problem Statement

A more informed, more demanding customer base is forcing financial institutions to rethink their approach to customer service and support – causing fundamental shifts in the culture of the industry, especially as millennial-friendly startups are beginning to threaten established players.

Meanwhile, the financial industry as a whole is still working to resolve its credit and capital problems, caused by the recession nearly a decade ago. Major players are shifting their focus to improving operational efficiency as a way to safeguard against future turmoil, improve customer satisfaction, and gain the momentum needed to propel them into the digital age of banking.

Many banking institutions are turning to Lean methods as a framework to embrace continuous improvement, optimize processes for delivering customer value, and gain a competitive edge.

Today, in the highly competitive market of banking services key the factor for the long-term prosperity of the Bank is strong and trusting relationships with customers. Quality service is not only one of the competitive advantages, in some areas it becomes the only one competitive advantage.

We should be the Bank that is recommended. In the center of our attention there must be a customer and his needs. Our task is to provide convenient and clear services and products that will make everyday life our customers are better.

High customer satisfaction and loyalty will always be a guarantee successful financial performance. We must be able to help customers in addressing the issues they face in real life, always showing professionalism and goodwill in communication with clients.

In General, the Bank will only increase attention to quality improvement service, based on the achievements of previous periods, and the best modern experience in quality service management.

1.3. Research Question

The research question that this thesis seeks to answer is as following:-

«How might lean management philosophy impact effective company that provides service as it's a product?»

1.4. Research Objective

Financial industries pay close attention to service process and customer experience and put a high value on service efficiency. On the one hand, it is hard to provide a consistently high service quality to customers because of the various difference of work individuals in service process. On the other hand, frequent resignations of service personnel also brings obstacles to service efficiency and customer experience. Those reasons made heavy pressure to banking service process. However, those reasons provide broad improvement space for enhancing service process and customer experience.

Both domestic and international practices have demonstrated that banking business operations have strong regularity, in other words, banking business operations with high repeatability. Lean Six Sigma is based on paying a close attention on processes and customers, focusing on how to improve key business processes, removing unavailable links, decreasing mistake rates, reducing service period, and improving customers satisfaction. Learning how to recognize Lean Six Sigma and finding the ways to apply the method into the realistic issues are the most important and necessary actions that should be taken at this moment.

This thesis intends to apply the Lean Six Sigma Method to ATFBank JSC through the following objectives:

1. Identify acceptable service customers to help ATFBank JSC employees learn more about customers.
2. Analyzing the theory of queues in the case studies, helping the Bank to confirm the number of maintenance Windows for the appropriate number of customers, and then to avoid waste of labor and military resources to give you the best idea of how ATFBank JCS need to apply Lean Six Sigma to the practical issues of applying the method by using a Service Quality Index.

1.5. Practical Theoretical Contributions

Many companies for the past three decades have been researching on Lean Management, mainly through implementing and evaluating results. While authors have been writing several books, articles and journals discussing Lean philosophy. On the other hand, researchers and university professors have been debating, discussing and deliberately trying to understand the effects of Lean Management. In short, several studies have been done on Lean. Yet, Lean Management still seems quiet fresh to many. If the Lean Management sustains in the global market, for somewhat the similar length of period as prior management systems, such craft production and mass production, for approximately 100 years, then the Lean Management system is in its introduction stage; in the life-cycle graph. While, Lean Management in service industry is completely new. Therefore, this research thesis

seeks out to find results and impact of Lean Management on a service-based company.

Banks have to deliver high-quality, customized customer experiences across digital channels while improving operational efficiency and reducing costs. These two, seemingly opposing, challenges leave banks looking for innovative solutions.

In today's age, providing quality experiences means having the adaptability and competitive intelligence to embrace and enable customers with new technologies. But in order to have the capacity to create high-quality customer experiences, banks first have to fix their underlying operational inefficiencies.

This – operational inefficiency – is the initial reason many banks have turned to Lean. In manufacturing, engineering, software development, services and beyond, Lean has been proven to effectively help organizations control operating costs and reduce risk. Banking has been no different: Four Principles established through project work, that Lean practices can effectively lower a bank's cost base by 25-30%. Lean has proven to be a particularly effective solution for lowering back and front-office costs.

Lean helps to improve team efficiency: Our projects show improvements in process lead times of 30-60%. Thanks to all these operational improvements, banks are beginning to realize other less tangible, but equally significant benefits of Lean. As Patrick Wiebusch, Co-Founder & Managing Partner of Four Principles puts it:

Lean derives value from the customer's perspective, thus making it very transparent where improvements efforts should be focused on. Furthermore, Lean triggers an increase in employee motivation, thereby increasing engagement and reducing staff turnover. A successful Lean enterprise transformation changes the mindset to self-reliance and continuous improvement, which will sustainably improve the organization's performance in terms of quality, service delivery and costs.

Solving underlying inefficiencies, reducing operating costs, and mitigating risk has provided organizations with the proper platform for true agility and innovation. This is the true power of Lean – aligning financial goals with the needs of customers, employees, and managers, to transform organizations from the inside-out.

A LOW-COST, SUSTAINABLE SOLUTION

What differentiates Lean from other improvement methods is that it does not require a significant capital investment. All that's required to get started is a basic understanding of Lean concepts and a clearly defined, shared vision of organizational goals.

Lean principles empower employees to own and optimize the processes they follow – meaning that rather than relying on external consultants to solve problems, employees engage in a sustainable, lasting practice of continuous improvement.

This approach creates lasting results: Financial institutions leveraging Lean banking methods in their operations report results of 20-30% cost reduction within 12 to 18 months and maintain cost efficiency ratios below the industry average.

KEY CONCEPTS OF LEAN BANKING

Now that we've covered the benefits of Lean banking, let's discuss the specific principles banks are using to transform their operations from the inside out.

END-TO-END PROCESS OWNERSHIP

Traditionally, banks have been organized around the products they offer and push products onto the market, rather than creating products in response to expressed customer needs. This is the first issue with product-centric teams.

Secondly, when business units are organized around products, every change in the market results in department-specific initiatives – rather than an organized, strategic response across the business. In this way, a product-centric structure creates functional silos – where information, effort, and insights are distributed across the organization, rather than aligning to meet organizational objectives.

Today, banks are leveraging a leaner approach – a customer-centric structure where processes that affect the customer (such as the credit card or mortgage application process) are managed holistically, from end-to-end. This results in a far more efficient and customer-friendly approach.

Shifting from a product-centric approach to a customer-centric one is not a quick fix. From a purely logistical standpoint, this shift requires a deliberate, inclusive rollout,

and can take months to years to complete. Here is a high-level example of what such a rollout might entail:

Figure 1: Lean advantage begins with an understanding of customer Value



Source: Boston Consulting Group

From a cultural perspective, building a customer-centric organization requires a mental shift that in most cases is met with resistance, especially from managers and employees who have built careers around the established culture of the industry. This is why it's critical for organizations to identify process owners to manage and own the transition. Roles and responsibilities must be clearly defined, for the newly minted process owners, as well as the functional managers who provide services to them.

LITERATURE REVIEW

The theoretical frame work was constructed to create a more comprehensive understanding of Lean and consists of and to compare against the empirical finding collected throughout the process: History of Lean, What Lean is, Lean as a philosophy, Lean in Service, Implementation of Lean in Service industries, challenges when implementing Lean in Service and expected results from Lean.

2.1 History

Craft Production to Mass Production to Lean Production

If someone wanted a car in the beginning of the 20th century it had to be manufactured through Craft Production, everything was customized with handmade components and there were no identical cars, components or spare parts. This process took a long time and even though it resulted in exactly the product the customer wanted it was at a staggering price. As society modernized and vast amounts of oil reserve were found the demand for low-cost automobiles increased, the industry struggled to increase low-cost production a new era started; Mass production,.

Taylor, Ford and Sloan are known as the fathers of Mass production; an evolutionary development of the former production process, designed to fix all the problems and negative sides of craft production, i.e. high costs, long production time, no standards of measures or materials components or spare parts etc, Womack, Jones and Roos. Taylor, as mentioned by Sandkull and Johansson invented industrial engineering by finding the best way of doing things, i.e. standardization and the reduction of cycle time. Ford concentrated on reducing the number of parts and actions that were required to complete the product with help from his newly invented moving assembly line. This was done on in an enormous factory that was specifically designed to produce the Model-T. He could cover the giant investments needed by dominating the market for low-priced cars, he later expanded further through exchangeable parts and the simplicity of the Model T's mechanics. Most of the repairs and modifications

could be handled by an average person with basic mechanical skills. Sloan made sure the worker union movement and marketing was updated in accordance with the developments made by Taylor and Ford.

The expression Lean was coined in a survey of the world's major automobile manufacturers done by Massachusetts Institute of Technology in 1979. Toyota was then classified as Lean due to their high efficiency and quality in combination with maximum use space, staff and funds. Lean Production, i.e. The Toyota Way or TPS is now a widely known and adapted concept, Womack, Jones and Roos describes Lean to be developed to improve manufacturing process speed and meet customer demands with a standardized process, and by combining these reach the highest possible efficiency and quality.

2.2 What is Lean?

Lean (lean production) is a comprehensive approach that includes process optimization, operational management and changes in the way of thinking and behavior of employees. Strategic lean approach (LEAN approach) is popular in all sectors of the economy today.

The concept of "lean production" in the first approximation is applicable only in the field of production. However, the world practice shows the opposite: the main idea of lean technologies-continuous improvement of processes and the fight against losses – can be successfully used not only in the production of material goods, but also in the sphere of services, health care, public administration.

Service organizations are characterized by the same losses as industrial enterprises. Therefore, although the Lean concept originated in Toyota, over the past 30 years it has been successfully implemented in financial institutions: Emirates Bank, Euroclear, Intesa Sanpaulo, Nordea and other companies.

The key element of lean technologies implementation in non-production sphere is personnel motivation, as the effectiveness of the first line units and employees (front

office) depends on the effectiveness of the whole organization. Thus, the concept of "lean production" involves the involvement of staff in continuous improvement activities.

"Lean production" or LEAN approach is a harmonious philosophy of the organization and business, which incorporates such aspects of the company's activities as: strategic development, organizational culture, marketing management, planning system, production organization, personnel management.

The motto of lean management is to create value without loss from the customer's point of view, i.e. Lean tools and methods fully meet the company's goal to be competitive, do not require additional investments, while improving quality, reducing the time of manufacture of the product and, most importantly, its cost.

The value means the product or service that the buyer is ready to purchase, and the value creation process is not just a single participant in the manufacture of products, but the entire production chain as a whole, starting from the supplier of materials and ending directly with the client. Special attention is paid to the information flow (for example, planning and management processes, quality control, exchange of information between departments, etc.), because lean management is not only the optimization of production, but also the improvement of administrative and support processes. Thus, the complexity of the enterprise optimization is provided.

2.3 Lean in service

The definition of lean service is a standardizable system of service operations made up only by activities that generate value for customers, focusing on explicit tangibles and aiming to meet the customers' expectations for quality and price.

The service industry is endowed by its own particular characteristics, which differentiate it from manufacturing. Accordingly, the application of lean principles, which stem from a manufacturing background, to services companies encompasses new limitations and raises new challenges.

2.4 Lean Banking

Today, regardless of whether it is production or banking, a holistic lean manufacturing approach based on four pillars:

- customer's opinion-understanding the customer's needs, what he is willing to pay for;
- operating system - identifying sources of inefficiencies (loss, unnecessary processes and inflexibility) and optimizing performance to provide customers with exactly what they need - no less and no more;
- Management infrastructure - creating a transparent and understandable system of labor productivity management through the development of key performance indicators (KPI), conducting daily meetings of employees;
- thinking and behavior - empowering employees for continuous improvement, encouraging their ideas and suggestions.

METHODOLOGY

Identify Value

Product value must be specified through an explicit approach of top-down target costing, where price is determined from what value the target customer places upon the products and services produced, or simply, what the customer is willing to pay for specific products, product features, and services. By acknowledging that profit is generated through the effort of cutting costs rather than increasing product price, focus can be properly shifted to the elimination of wasteful activities

Map the Value Stream

The entire value stream must be thoroughly mapped throughout the production in its entirety. Every activity involved in the production of a specific good must be mapped and its value adding properties assessed. By carefully assessing during what processes value is being added to the product, non-value adding, or wasteful activities become apparent.

Create Flow

Flow needs to be created through the creation of a value stream where every value adding activity is finely tuned to avoid waste of any kind. A carefully designed flow where each activity is synchronized to allow constant and regular delivery not only minimizes wasteful activities, but is also paramount to avoiding wastes associated with irregular flow and overburdening.

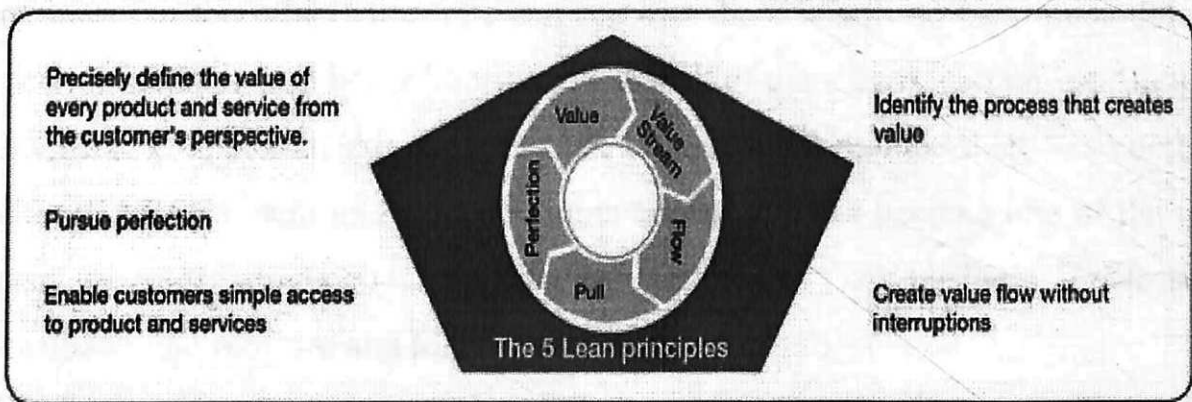
Create Pull

Tightly connected to the second rule of Lean Essence; How People Connect, this principle of Lean Thinking requires the introduction of a pull system, and creation of customer- supplier relationships within the value stream. Further, by responding to end customer pull as the incentive for production, instead of pushing products onto the market, systems must be tuned to great flexibility, being able to handle a high variety of products in small batches with minimum cycle time.

Seek Perfection

The goal of any Lean effort is to strive to perfection, realizing that any operational system is subject to constant improvement. The effort of systematically and continuously removing waste from the production while constantly experimenting on new ways to improve the resilience and efficiency through the application of the scientific method is key in achieving a Lean enterprise. Because the Lean philosophy is based on constant re-evaluation and improvement, the Lean Enterprise Institute provides a model of the five principles where they are depicted as a circular flow chart, emphasizing the constant effort to remove waste by revisiting previous steps and improving upon them.

Figure 2: The methodology is based on five basic principles



Most major banks around the world have already begun to implement lean principles as follows:

- Improving customer experience by strengthening the interface for the customer in all channels
- Improving services and products and adapting them to customer needs
- Reducing costs (fixed and variable)
- Shortening cycle time and improving their efficiency
- Measuring performance at real time

3.1 Lean Six sigma concept within banking system

In industry of Finance is considerably applying six sigma quality process with the aim of eliminating defects. powerful system is Six sigma.

Improving the quality of products and services in order to attain customer loyalty, whilst at the same time retaining control of costs is high on the agenda of the firms' executives. Conducting initiatives to improve business processes, therefore, is a major success factor for firms to achieve or maintain their competitive advantage. To do so, a number of concepts have been introduced over the last decades ranging from evolutionary approaches (e.g., Total Quality Management, Kaizen, Theory of Constraints, Six Sigma, Lean Thinking) to rather radical approaches such as Business Process Reengineering and Business. This (incomplete) list of methods and tools shows, on the one hand, the necessity to improve organizational processes and routines. On the other hand, one can see that there is still no best methodology and some of them are still being improved, since all of them carry certain insufficiencies. One of such approaches is the Lean Six Sigma (LSS) methodology – a combination of Lean Management and the Six Sigma concept. It has become one of the globally most popular approaches to increase efficiency of business processes and organizational routines and to reduce costs.

The financial services industry has adopted LSS too. For instance, this industry is receptive for OPEX initiatives. The pressure on the cost side is high because of the long-lasting zero interest policy of the ECB. Consequently, it becomes extremely challenging to generate income – at least in Europe. The processing of huge numbers of transactions per day represent a perfect application field for LSS. In addition, financial services represent a major part of the economy worldwide. The sector thus serves as a transmission belt for other sectors. For these reasons we chose this industry to look into.

Independent from industry, size, or location, continuous improvement of the quality of business processes in firms is a sine qua non. Emerging new technologies and regulations, fast changing customer requirements, and emerging supplier networks are just a few examples why companies have to dynamically adapt their processes and even business models. The growth of importance of operational excellence programs by top management reflects the need to cope with competitive

circumstances. By this degree of demand, Lean Six Sigma became popular for both practitioners and academics.

Six Sigma implement method was created by Motorola Company, development in General Electric, and beginning transition from manufacturing to service industry since GE. Six Sigma is in the ascendant throughout the world in all walks of life.

Six Sigma can be referred as philosophy of quality and efficiency of management, namely in working process of the fine management as the goal, measure working process quantitatively, and require defect rate in control three over one million of a point within four. Therefore, there are two meaning of Six Sigma: one refers Six Sigma statistical explanation; another is from a management point of understanding. From a statistical of view, use Greek symbol σ to present Sigma for describing quality level. σ represents standard deviation that the dispersion degree of data in statistical area. Any quality of certain working process or technical process can be presented in Sigma. Sigma level means how many defects appear in manufacturing process. If the Sigma level is high, that means defect rate is low; and the lower Sigma level indicating appears more defects and low quality level.

Six Sigma is a management mode. Six Sigma focus on customers 'needs, depends on data and fact, aims at taking active on improving process, emphasizes prevention management, cooperates with different department, and keeps improving and pursue quality and efficiency.

Quality and value of products is determined by the customers, enterprises must be think like from a customer's perspective to analyze, rather than top managers believe their own experience what the customer wants. For example, bank credit card business, often accompanied by a number of value-added services, but these are value-added services if customers need, if the client does, the bank but will provide more value-added services and increase operating costs. How to understand what customers need? This need to collect Voice

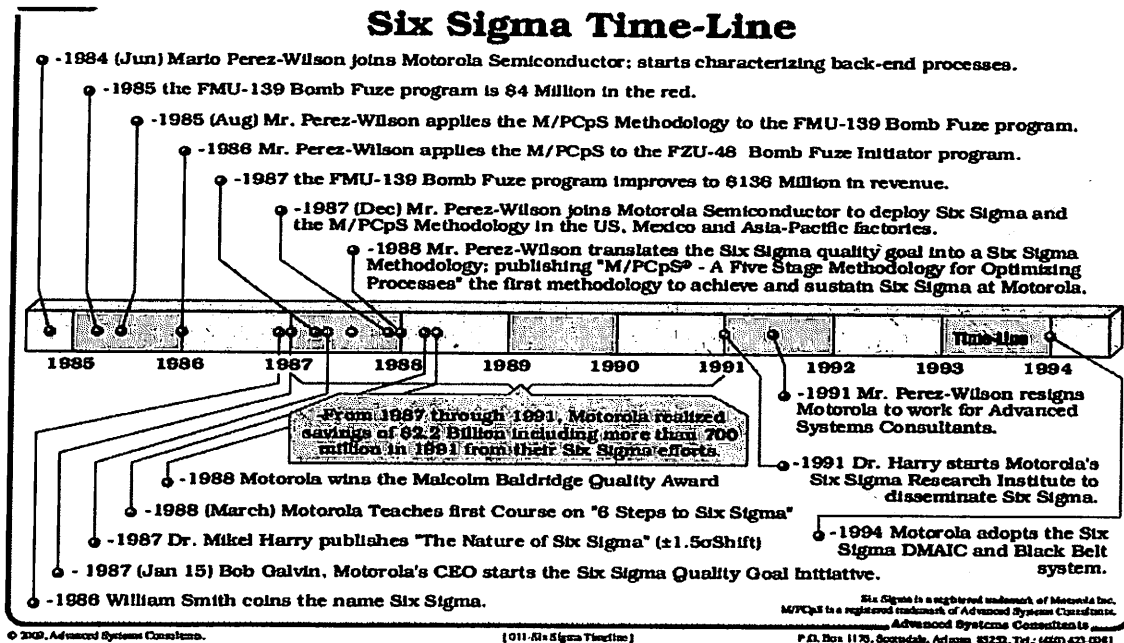
of the Customer (VOC, Voice of Customer), refining the key quality characteristics from the voice of the customer (CTQ, Critical to Quality), in order to assess existing

products or services to meet the level of business for the CTQ will be included CTQ improved process flow among the final meet customer needs.

That is why we try use Service Quality Index in ATFBankJSC.

This thesis has been showed six sigma concept implementation on the crediting process within the bank the example of.

Figure 3 Six Sigma Time Line



3.2 DMAIC SIX SIGMA MODEL OF IMPROVEMENT

Core of six sigma is DMAIC (define-measure-analyze-improve-control), method for analyses and improvement of business processes. DMAIC itself has five stages:

- To define opportunities.
- To measure performances.
- To analyze opportunity.
- To improve performances.
- To control performances.

IV RESULTS

4.1 Lean Six Sigma in Banking Service Industry

Lean Six Sigma has been widely adopted widely not only in manufacturing, but also in service industries, and its success in many famous companies, for instance GE and Motorola. The service industry has its own special characteristics, which differentiate it from manufacturing and make it harder to apply Lean Six Sigma tools, which can be summarized in the following main areas: intangibility, perishability, variability.)

Intangibility: Services and customers cannot be measured easily and objectively, like manufacturing products. An objective measurement is a critical aspect of Six Sigma, which requires data driven decisions to eliminate defects and reduce variation. The lack of objective metrics is usually addressed in service organization through the use of proxy metrics.

Inseparability: Delivery and consumption of service is simultaneous. This adds complexity to service processes, unknown to manufacturing. Having customers waiting in line or on the phone involves some emotional management, not present in a manufacturing process.

Variability: Each service is a unique event dependent on so many changing conditions which cannot be reproduced exactly. As a result of this, the variability in service processes is much higher than in manufacturing processes, leading to very different customer experiences.

In the last few years, successful application in service organizations has come to fruition.

Banks and insurance companies are primarily service industries. The application of the Lean Six Sigma is therefore ideal for efficient process organization. In addition however, many processes within the financial sector are similar to production processes. These transactional processes are well suited the application of Lean Six Sigma tools.

4.2 Analysis

One of the most important question of service industry is how to manage the queue. Characteristic of customer arriving is arriving randomly, and they also require receive service immediately. However when certain customer coming, there was no service windows available, the customer had to wait in the queue. Customer arrival time rate greater than service time, which leads to the queue. Applying queue theory to help banking industry relieving service pressure. Lets analyze service facilities ATFBank JSC.

Today ATFBank JSC is in the top 5 bank of Kazakhstan. Bank's profit in 2017 the year is 20 times higher than the profit in 2013. Over the past 5 years, we have become a Bank, to- which not only caters to the corporative customers, but also other segments customers, such as Retail and SMEs. We turned into a Bank that serves- this entire economy.

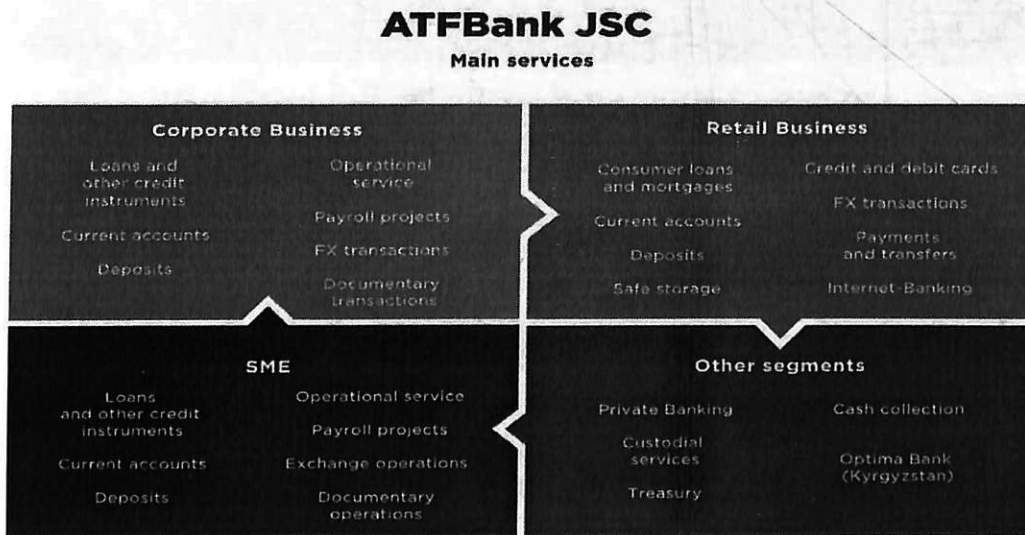


Figure 4 (Source www.atfbank.kz)

In 2017, the rating Agency Moody's and S&P have increased the Bank's ratings. ATFBank JSC is the only Bank that received a rating upgrade in Kazakhstan in 2017 year. In 2017, the rating Agency Moody's and S&P have increased the Bank's ratings. ATFBank JSC is the only Bank that received a rating upgrade in Kazakhstan in 2017 year.

In today's world, the Bank can not become highly profitable if it does not customer-oriented. ATFBank JSC must be a Bank that is recommended. The focus should be

on the client and his needs. The Bank's task is to provide convenient and understandable services and products that will make the daily life of our customers better, demonstrating professionalism and friendliness in working with customers. High customer satisfaction and loyalty will always guarantee our successful financial results.

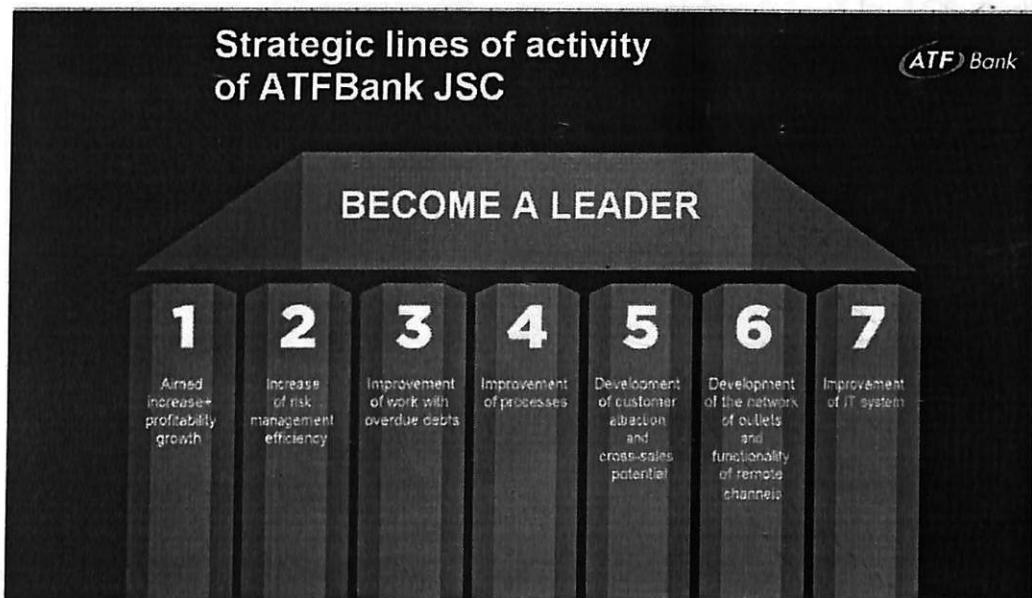


Figure 5 Strategic lines of activity of ATFBank JSC (Source www.atfbank.kz)

The ATFBank JSC uses to improve the quality of service and sales, as well as to measure the effectiveness of the branch network in providing quality service to retail customers:

- 1) Customer care index (CCI).
- 2) Net loyalty index (Net Promoter Score NPS)
- 3) Service quality Index under the Mystery shopper program (Service quality index «Mystery Shopper»)

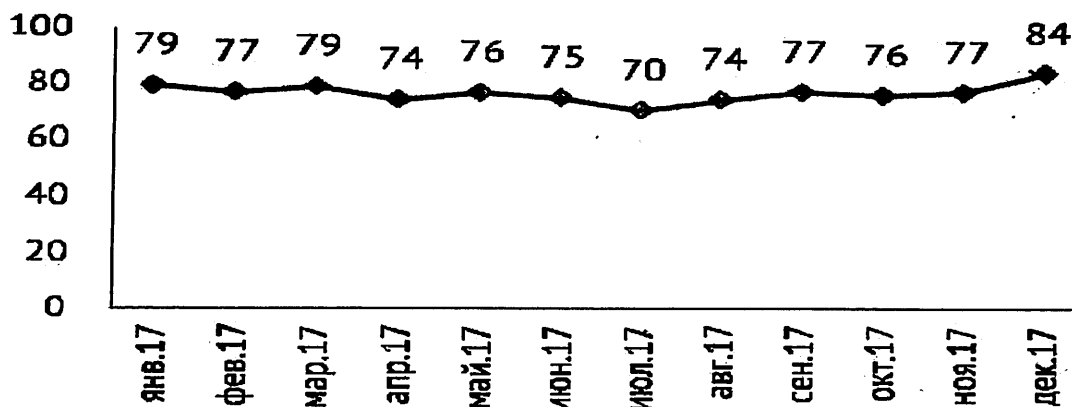
WHO CARES ABOUT THE CUSTOMER?

To measure the performance of the branch network in providing quality service to retail customers ATF Bank uses the index of customer care (Customer Care Index, CCI).

It combines the index of customer satisfaction NPS (index weight 30%), the of service quality SQI is calculated according to the results of the research "the Secret

buyer" (weighing 40%), statistics of customer complaints about the actions of the front office (20%) and error statistics managers EXAM when the applications for unsecured loans (10%).

Figure 6 Customer Care Index CCI (Source www.atfbank.kz)



The index of customer care in December 2017 amounted to 84 points on a 100-point scale. Looking ahead, we will say that the main reasons for such a breakthrough in December 2017 are the traditional for December reduction in the number of complaints due to a decrease in business activity at the end of the year and the increase in the effectiveness of the "Mystery shopper" monitoring in the 4th quarter.

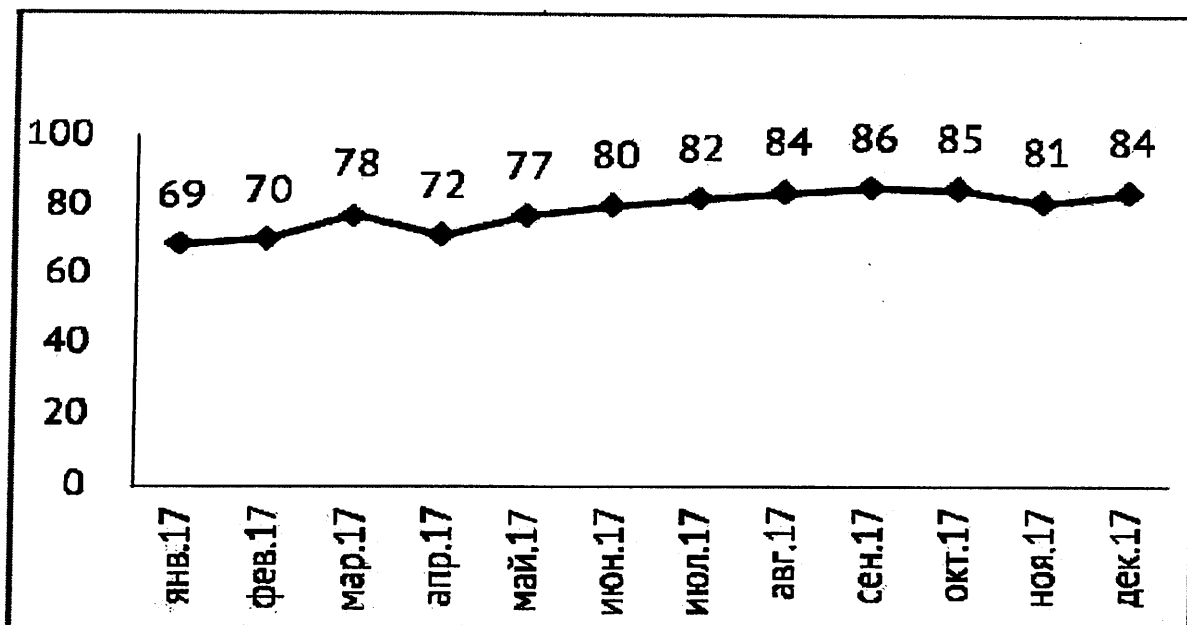
During 2017, the customer care Index ranged from 70 to 84 points. The upward trend of the Index was associated with the growth of customer loyalty and progress in compliance with service standards. The main volatility was added by the number of client complaints. That is why in the months of relative "calm" in the statistics of complaints Index set local highs (January, December). Let us consider in more detail the components of the CCI index.

LOYALTY INDEX - NPS

Net loyalty index (Net Promoter Score) measures customer loyalty through the difference between the shares of customers who are ready and not ready to recommend the Bank to their environment. NPS research is conducted by telephone survey of customers.

2017 was marked by an increase in the share of customers who are willing to recommend the Bank. If in January the share of clients-promoters was 77% with 8% of detractors, in December the share of promoters – 89% with 5% of detractors. Thus, the RTS Index rose from 69 points at the beginning of the year to 84 points at the end of the year.

Figure 7 NET LOYALTY INDEX - NPS (Source www.atfbank.kz)



In 2017, a new format of the NPS report for branches was developed, the sample was changed and the high efficiency of the monthly report was achieved. Employees of the quality Service Department listen to all audio recordings of tractors and are deciphered in the form of a text, which is then part of the report is sent to the branch network and to the divisions of the Head Bank.

The branches then take the necessary corrective measures-contact the client to solve his problem, conduct explanatory work with employees, etc.

Why NPS has become so common? Its advantage is that we can increase real-world examples of bad customer experience, learn customer expectations (even being the subjective opinion of the customer, these signals are valuable information, because they are based on real customer expectations from our Bank) and take corrective actions to correct the situation where possible and appropriate.

SERVICE QUALITY INDEX SQI

The SQI index reflects how well managers meet the standards of appearance and follow the Bank's seven-stage sales model.

A big achievement of the year was the growth of SQI in Retail from 73 points at the beginning of the year to 86 points at the end of the year. The SME block also recorded an increase from 76 points in the second quarter to 86 points in the fourth quarter of 2017.

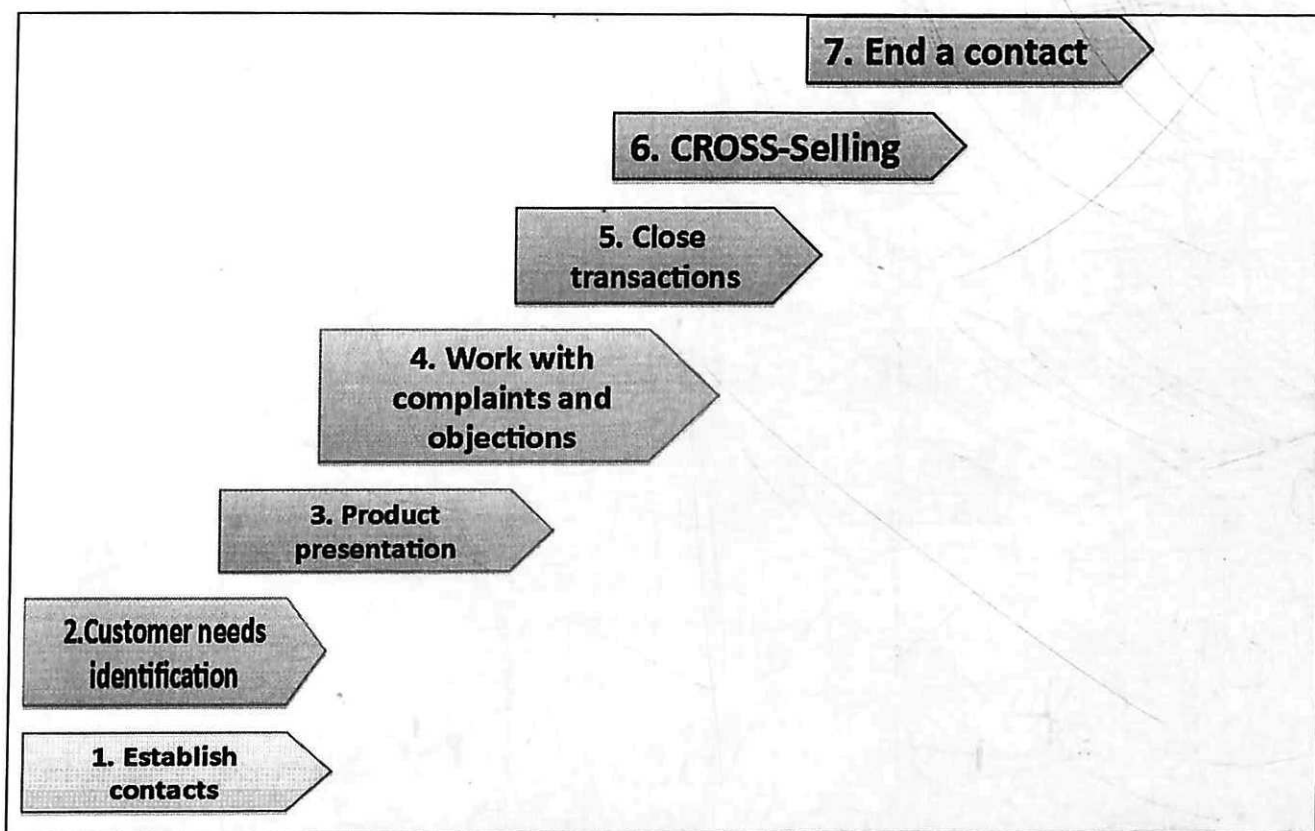


Figure 8 7- stage of sales model (Source www.atfbank.kz)

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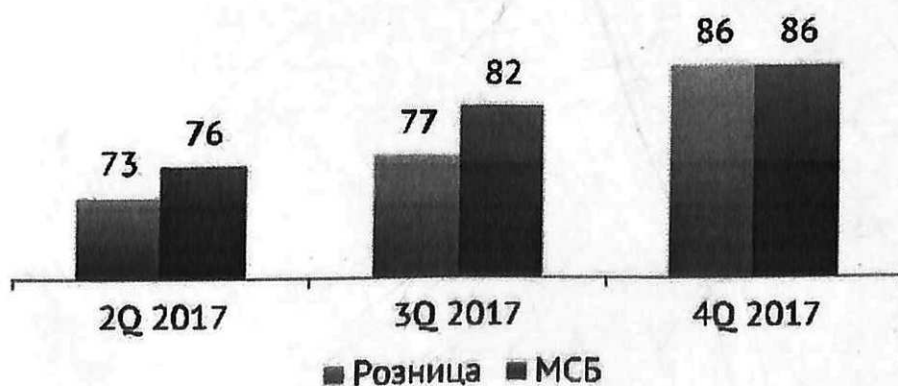


Figure 9 Service quality Index **SQI** «Mystery Shopper (Source www.atfbank.kz).

This growth was provided by the improvement of the result on the macro component "Completion of the meeting with the client". The main factor in the progress was the result of the project launched in 2016 in Retail (and in the SME block since March 2017) for the training and supervision of the service "Service Coordinators".

DISCUSSION AND CONCLUSION

The present thesis has been discussed how to apply the concept of lean and instruments in the real banking systems. The case study included the development of a lean approach, taking into account one of the well-known Kazakh banks. The main concept that directs the approach to waste minimisation and the regulation of labor, teamwork, and continuous flow. The thesis considered the problems of the Bank as a management system, as well as the problems and models of effective distribution of Bank resources based on customer service.

As for lean instruments, the ATFbank JSC used 3 indexations to improve the quality of service, which are interrelated among themselves.

In 2017, the portfolio of loans to individuals reached 120 billion tenge. In terms of the number and volume of loans issued in 2017, the maximum figure has been reached since December 2014. Commission and interest income in Retail for 2017 compared to 2016 up 44%. 2017 was marked by the growth of the customer loyalty Index NPS-from 69 in January to 84 in December. For detractor customers, it was reduced from 8% to 5%. The quality of service index SQI on the basis of monitoring "Mystery shopper" grew over the year from 73 to 86 points. In 2017, we revised our product line in SME, learned how to quickly create customized products for customers. We have reduced the time for processing applications for SME loans, simplified procedures for issuing guarantees, achieving high efficiency. The first on the market created a system of permanent visiting committees. Thanks to the growth of lending, we increased the Bank's share in the SME market from 2% to 7.3%.



Figure 10 Indicators (Source www.atfbank.kz)

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