

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Management



Diploma Thesis

**Implementation of Total Quality Management in
small trade companies in Russia - case study of Texman.**

Alexey Malyuga

© 2016 CULS Prague

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Alexey Malyuga

Economics and Management

Thesis title

Implementation of Total Quality Management in small trade companies in Russia – case study of Texman

Objectives of thesis

The main goal of my diploma thesis is to prove applicability of Total Quality Management in small trading companies. The secondary goal is to investigate; if after implementation of Quality Management follows competitive superiority of Texman Company (measured by market share). Which profit (regarding to the expenditures on TQM implementation), number of new customers and number of returns will be reached in the end of one calendar year.

Methodology

Methodology applied in theoretical part of the diploma thesis is qualitative method and synthesis. I will apply qualitative method to focus on the development of quality management through the history and the philosophy of the main ideologists. By implementing descriptive research, I will investigate the advantages and disadvantages of TQM concept and its importance for small enterprises.

In empirical part of the diploma thesis will be used financial analysis to compare the difference before TQM was implemented (2010 – 2014) and after it (2014- 2015). All necessary financial ratios will be computed:

's Gross margin and Profit margin ratios.

's Profitability ratios (ROA, ROS, ROE)

's Liquidity ratios (CL, QL, CashL)

's Leverage

SWOT and STEP analysis are very important for empirical part of this diploma thesis, utilizing the analysis strategy I will be able to identify necessary steps to increase competitiveness. A market share of the company will determine the competitiveness.

The last part will include the comparison method, where I will compare case study Company with other small trading companies, which do not use TQM concept in practice.

All the data will be taken from the official sources and interviews; combination of these allows to get the most accurate and relevant information.

The proposed extent of the thesis

Approx 60 pages

Keywords

Total Quality Management, implementation, small trading company, employee empowerment, customer's loyalty, quality certificates, limited company, enterprises.

Recommended information sources

Drucker, P., Management challenges for the 21st century, New York – HarperBusiness, 2001, ISBN: 0-88730-999-2

Grodzenskii, S., Quality Management, Moscow: Prospect 2015, ISBN 978-5-392-18815-4

Expected date of thesis defence

2015/16 SS – FEM

The Diploma Thesis Supervisor

Ing. Richard Selby, Ph.D.

Supervising department

Department of Management

Electronic approval: 7. 3. 2016

prof. Ing. Ivana Tichá, Ph.D.

Head of department

Electronic approval: 8. 3. 2016

Ing. Martin Pelikán, Ph.D.

Dean

Prague on 29. 03. 2016

Declaration

I declare that I have worked on my diploma thesis titled " Implementation of Total Quality Management in small trade companies in Russia - case study of Texman" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 30.03.2016

Acknowledgement

I would like to thank my supervisor Ing. Richard Selby, Ph.D. for his professional instruction, guidance and support, which played significant role in my diploma thesis.

I would like also to gratitude all employees of Texman OOO, who shared important and useful information for this research.

Implementace Komplexního Řízení Jakosti v malých obchodních společnostech v Rusku - případové studie Texman.

Souhrn

V rychle se měnících tržních podmínkách, společnosti se čelí tvrdé konkurenci, což je nutí k použití různých inovativních přístupů, aby mohli úspěšně plnit své aktivity a udržovat konkurenční výhodu. Tyto cíle mohou být dosaženy prostřednictvím neustálého zlepšování kvality, které je široce zastoupené v konceptu Komplexního Řízení Kvality (TQM).

Hlavním cílem tohoto výzkumu je prokázat použitelnost TQM konceptu v malých velkoobchodních společnostech v Rusku na příkladu Texman s.r.o.

Teoretická část zahrnuje různé přístupy, techniky, definice a principy, které jsou nezbytné pro pochopení tématu Komplexního Řízení Kvality a ilustruje důležitost obchodních společností na trhu a jejich specifika. Znalosti obsažené v teoretické části následně použité v empirické části, která se zaměřuje na analýzu účinnosti provádění TQM v Texman s.r.o. V závěru praktické části jsou provedeny SWOT a STEP analýzy, které identifikují konkurenční výhody a možné hrozby pro organizaci.

Na základě praktické části jsou navržena některá doporučení, která mohou mít pozitivní vliv na činnost společnosti a zvýší ji potenciál v oblasti TQM.

V poslední části diplomové práce, autor dělá závěr založený na teoretické a praktické části a zdůrazňuje důležitost a použitelnost TQM konceptu v malých obchodních společnostech, což bylo prokázáno na příkladu zkoumané společnosti.

Klíčová slova: Komplexní řízení jakosti, implementace, velkoobchodní společnost, Systém Managementu Jakosti, Mezinárodní Organizace pro Standardizaci, certifikáty kvality, společnost s ručením omezeným, podniky.

Implementation of Total Quality Management in small trade companies in Russia - case study of Texman.

Summary

In rapidly changing market conditions companies challenge fierce competition, which forces them to use innovative approaches in order to successfully carry out its activities and to maintain the competitive advantage. These goals can be achieved through continuous quality improvements that are widely represented in Total Quality Management (TQM) concept.

The main purpose of this diploma thesis is to prove the applicability of TQM concept in small wholesale companies in Russia on the example of Texman OOO.

The theoretical part includes various approaches, techniques, definitions and principles that are necessary for the understanding of Total Quality Management topic. It illustrates the importance of trading companies for the market and their specificity. Knowledge of the theoretical part of the subsequently used in the empirical part, which focuses on the analysis of the effectiveness of TQM implementation in Texman OOO. In the end of practical part are conducted SWOT and STEP analysis that identify competitive advantages and possible threats for the organization.

On the basis of empirical part are proposed some recommendations that may have positive effect on activities of the company and increase its potential in the field of TQM.

In the last part, author makes a conclusion based on a theoretical and practical part and emphasize the importance and applicability of TQM concept in small trade companies, which has been proved on the example of studied case.

Keywords: Total Quality Management, implementation, wholesale company, Quality Management System, International Organization for Standardization, quality certificates, limited company, enterprise.

Table of content

1	Introduction	12
2	Objectives and Methodology	13
2.1	Objectives.....	13
2.2	Methodology	13
3	Literature Review	14
3.1	Historical development of quality management.....	14
3.2	Basic philosophy of patriarchs of quality management and TQM concept 16	
3.2.1	Basic philosophy and quality concept of William Edwards Deming	16
3.2.2	Quality spiral of Joseph Moses Juran	17
3.2.3	Basic philosophy and quality concept of Armand Vallin Feigenbaum	19
3.2.4	Zero defect system of Philip Bayard Crosby.....	19
3.3	Total Quality Management.....	19
3.3.1	TQM – definition and essence.....	20
3.3.2	Eight principles of TQM.....	21
3.3.2.1	Orientation on Customers.....	22
3.3.2.2	Leadership	22
3.3.2.3	Involvement of Workers.....	22
3.3.2.4	Process Approach	23
3.3.2.5	System Approach to Management.....	23
3.3.2.6	Continual Improvements	24
3.3.2.7	Decision Making Based on Facts	24
3.3.2.8	Relationship with Suppliers.....	24
3.4	ISO standards	24
3.4.1	ISO 9000 family	25
3.4.1.1	ISO 10012 – 10013.....	27
3.5	Tools of statistical quality management.....	27
3.5.1	Check sheet.....	27
3.5.2	Pareto diagram.....	28
3.5.3	Ishikawa chart.....	29
3.5.4	Histogram	29
3.5.5	Scatter diagram.....	30

3.5.6	Stratification	31
3.5.7	Control chart	31
3.5.8	Algorithm for the effective application of the seven simple tools	31
3.6	Specifics of TQM implementation and development in Russia.....	32
3.6.1	Problems that influence TQM implementation in Russia	33
3.6.1.1	50 years gap in development	33
3.6.1.2	Understanding of quality	34
3.6.1.3	Experts in quality field	34
3.6.1.4	Customer satisfaction	35
3.6.2	Experience of leading companies	35
3.7	Importance of wholesale companies	36
3.7.1	Definition, objectives and classification of wholesale companies	37
4	Practical Part	39
4.1	Texman OOO.	39
4.2	Personnel structure	40
4.2.1	Selection of staff under TQM.....	42
4.3	Adherence to the main principles of TQM.....	43
4.4	Scheme of development and implementation of QMS based on ISO 9001:2015 requirements.....	48
4.5	Analysis of Texman’s current situation	50
4.5.1	Analysis of returns.....	51
4.5.2	Analysis of customers.....	53
4.5.3	Analysis of financial ratios	57
4.5.4	SWOT and STEP analysis.....	60
5	Results and Discussion	66
5.1	Recommendation.....	67
5.1.1	Business process modeling.....	67
5.1.2	Automation of inventory process	72
5.1.3	Defects reduction in production process	74
5.1.4	Delivery channels	75
6	Conclusion	77
7	References.....	79
8	Appendix	81

List of pictures

Picture 1 Data collection terminal: Symbol K-MC2180.....	73
Picture 2 Mobile barcodes printer – Zebra QLn 320	73
Picture 3 Jacquard lining fabric	81
Picture 4 Printed lining fabric	81
Picture 5 Plain dyed lining fabric.....	81
Picture 6 Stretch lining fabric	82
Picture 7 Pocket lining fabric.....	82
Picture 8 Sleeve lining fabric.....	82
Picture 9 Catalogue TM001 mixed.....	83
Picture 10 Catalog TM001 compared with competitors catalogues.....	83
Picture 11 Test report provided by INTERTEK.....	84
Picture 12 Test report by DEVETEX	85
Picture 13 Example of butt joint defect on waist band.....	86

List of tables

Table 1 Check sheet.....	28
Table 2 Level of education	40
Table 3 By Age	41
Table 4 By work experience	41
Table 5 By gender.....	41
Table 6 Development of QMS in Texman.....	49
Table 7 Returns by type of fabric	51
Table 8 Liquidity ratios.....	58
Table 9 Activity ratios	58
Table 10 Profitability ratios	59
Table 11 Leverage.....	59
Table 12 The power of factor and the probability of change.....	64
Table 13 Table 8 Control sheet - number of defects in production of waistband – 100m rolls	74
Table 14 Control sheet - number of defects in production of waistband – 300m rolls.....	75

List of figures

Figure 1 Quality spiral	18
Figure 2 Fishbone diagram	29
Figure 3 Types of histogram	30
Figure 4 Algorithm of 7 tools	32
Figure 5 Organizational structure	40
Figure 6 Process of products ordering in Texman	68
Figure 7 Process 1: Making an order	69
Figure 8 Process 2:Preparing the order	69
Figure 9 Process 3: Preparing of documentation	70
Figure 10 Process 4: payment	71
Figure 11 Process 5: delivering.....	71
Figure 12 Delivery channel 1	75
Figure 13 Delivery channel 2.....	76

1 Introduction

Nowadays due to globalization and very dense market environment, companies face extremely high competition in every industry. To stay profitable and competitive companies have to continuously improve quality, because the high quality of the products and services is the most powerful component that determines their competitiveness. However, the quality is not the only condition of the success of enterprises, another important aspect is price, the lower price – the higher demand of the product. Therefore, both of these conditions must be applied simultaneously, high quality at low price is a strategy for the survival in the business, which means that the quality is never too high and production costs are never low enough. Without providing consistent quality, that meet the requirements of consumers, it is impossible to integrate the national economy into the world economy and to become an important part of it.

In the current conditions of the international community, the processes of integration, is objectively irreversible, therefore the modern concept of quality management of products and services has a compulsory priority among the other management areas.

Small wholesale companies (SWCs) represent a significant part of the market, which is very important for national economy and large organizations. SWCs often play role of suppliers for large enterprises, this interconnection forcing SWCs to implement quality management system. However, it is not enough to manage the quality of the finished product or service, there is a necessity of continuous improvements of quality at all levels within every department, in other words – every single part of a company should be involved into the process. Total quality management (TQM) is a powerful tool, which serves to achieve such a difficult task.

Is the TQM really beneficial for SWCs or it is more expensive than advantageous? Since the literature does not give the univocal answer on this question, this diploma thesis will be focused on the implementation of quality management leading to TQM in SWC called Texman, as a final output of the research, the reader will get the unique information about the benefits of TQM for SWCs.

2 Objectives and Methodology

2.1 Objectives

The main objective of the diploma thesis is to prove applicability of quality management leading to TQM in SWCs in Russia, based on the example of Texman Company. The secondary goal is to investigate; whether after implementation of TQM follows competitive superiority of Texman Company. Which sales, number of new customers and number of returns will be reached in the end of one calendar year. Tertiary and the last goal is to analyze the output and to propose best possible solutions and recommendations for implementation of quality management leading to TQM in SWCs.

2.2 Methodology

Methodology applied in theoretical part of the diploma thesis is qualitative method and synthesis. Author will apply qualitative method to focus on the development of quality management through the history and the philosophy of the main ideologists. By implementing descriptive research will be investigated the advantages and disadvantages of TQM concept and its importance for small enterprises.

In empirical part of the diploma thesis will be used different types of analysis to compare the difference before TQM was implemented (2010 – 2014) and after it (2014-2015). All necessary financial ratios will be computed as well:

- Gross margin and Profit margin ratios.
- Profitability ratios
- Liquidity ratios
- Leverage ratio

SWOT and STEP analysis are very important part of this research, by utilizing the analysis strategy author will be able to identify necessary steps that can increase competitiveness.

All the data will be taken from the official sources and interviews; combination of these allows to get the most accurate and relevant information.

3 Literature Review

3.1 Historical development of quality management

The understanding of quality meaning refers to the distant past, in 1760 BC, the Babylonian king Hammurabi composed the set of laws, one of which was related to the responsibility for the quality. In according to this law –the builder who built a defective house, which collapsed and killed the owner, must be executed.

The quality problem has arisen during the period of mass breaking of agriculture tools and the establishment of commodity production. In 1549 in the University of Padua was established the world's first commodity department, the main object of it was the quality and standardization.

In the 70th of the 20th century in the arms factory of Samuel Colt (1814-1862) had the idea to assemble the product not of the parts that fit together, but from randomly selected from the lot. In 1908, the founder of Cadillac - Henry Martyn Leland first applies this method in the automotive industry.

Few years later in 1913, Henry Ford (1863 – 1947) first used the assembly line in production and introduced the output control (instead of input control) of parts on those productions, where these parts were assembled. As a result, assembly line received only quality parts. Later Frederic Taylor (1856-1915) has generalized Ford's experience in his scientific works.

Taylor system. Quality of the products as standard compliance:

Frederic Taylor was an American engineer, founder of the scientific organization of labor and management. In 1911, Taylor published his work – “The principles of Scientific Management”, in which he wrote that the principal aim of management must be to ensure the maximum prosperity of the employer simultaneously with the maximum prosperity of each employee.

He formulated four main principles of management:

1. “They develop a science for each element of a man's work, which replaces the old rule-of-thumb method.

2. They scientifically select and then train, teach, and develop the workman, whereas in the past he chose his own work and trained himself as best he could.
3. They heartily cooperate with the men so as to ensure all of the work being done in accordance with the principles of the science, which has been developed.
4. There is an almost equal division of the work and the responsibility between the management and the workmen. The management take over all work for which they are better fitted than the workmen, while in the past almost all of the work and the greater part of the responsibility were thrown upon the men.”¹

Taylor was one of the first, who formulated Plan – Do – Check - Action (PDCA) cycle. Stage “Plan” set up the quality requirements. Stage “Do” was part of the job of workshop artisan. The inspector carried out stage “Check”. Functions of stage “Action” were performed by the administration.

The disadvantage of Taylor system was that defects were detected only during the control of final products. However, the system dominated during the first half of the 20th century in the United States and only in 60th it was declared as unsuccessful.

Shewhart system. Quality of the products as the stability of processes:

In 1924 at Bell Telephone Laboratories, one of the employees - Walter Shewhart (1891 – 1967), the world famous American scientist and consultant for quality management theory, developed the concept of Statistical Process Control (SPC) and laid the foundation of Statistical Quality Control (SQC).

The main purpose of Shewhart system was to ensure the stability of the process and to reduce the variations. Basic aim was not to identify defects, but to prevent them. Into the training programs was added the study of statistical methods.

¹ TAYLOR, F., *The Principles of Scientific Management*, p. 43

However, due to the Great Depression and The Second World War the United States could not use the progressive methods of Shewhar and implement the economic miracle, which had happened on the other side of the world in Japan.

Deming system. Quality as satisfaction of consumers and producers needs:

In 1946 in Japan, a group of specialists from the Bell Telephone Laboratories delivered a lecture on statistical quality control methods, composed by William Edwards Deming (1900 – 1993). It breaks the traditional idea of the quality as compromise of the interests of the customer and the manufacturer's cost and makes the task of continuous quality improvement. Deming claimed that the higher the quality of the products is - the cheaper it costs. He actively promoted the concept of PDCA cycle proposed by Shewhart, but today it is known as the Deming cycle.

Experts credit Deming as the inspiration for the Japanese post-war economic miracle of 1950 to 1960.

3.2 Basic philosophy of patriarchs of quality management and TQM concept

This chapter illustrates the main elements of the philosophy of those, who are called patriarch of QM. Patriarchs made an immeasurable contribution to the development of QM, many of their concepts are used today.

3.2.1 Basic philosophy and quality concept of William Edwards Deming

What did Edward Deming, and why TQM concept is so effective?

Deming analyzed and organized the production process in the same way as Taylor did, but he added a quality control based on statistical theory. Deming philosophy is the philosophy of morality, based on respect for employees as an individual, involving all employees in the process of solving problems, creating a working atmosphere with no place for fear, but only for the disclosure of employees' potential.

In 80th Deming formulated 14 principles for the manager:

1. “Create constancy of purpose toward improvement of product and service.
2. Adopt the new philosophy. We are in a new economic age.

3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on the basis of a price tag.
5. Improve constantly and forever the system of production and service.
6. Institute training on the job.
7. Institute leadership.
8. Drive out fear.
9. Break down barriers between departments.
10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity
 - a) Eliminate work standards (quotas) on the factory floor.
 - b) Eliminate management by objective.
11. Remove barriers that rob the hourly worker of his right to pride of workmanship.
12. Remove barriers that rob people in management and in engineering of their right to pride of workmanship.
13. Institute a vigorous program of education and self-improvement.
14. Put everybody in the company to work to accomplish the transformation.”²

Despite of changing methods of management within the time, these points are still useful in many aspect of the business.

3.2.2 **Quality spiral of Joseph Moses Juran**

J.M. Juran (1904 – 2008) was and American manager consultant and evangelist for quality management, he used ideas of F. Taylor in his works.

Juran’s concept is very similar to Deming and often it differs only in terminology. Nevertheless, if Deming was mainly focusing on statistical methods and emphasized the role of human relations, Juran was concentrated on absolute customer orientation.

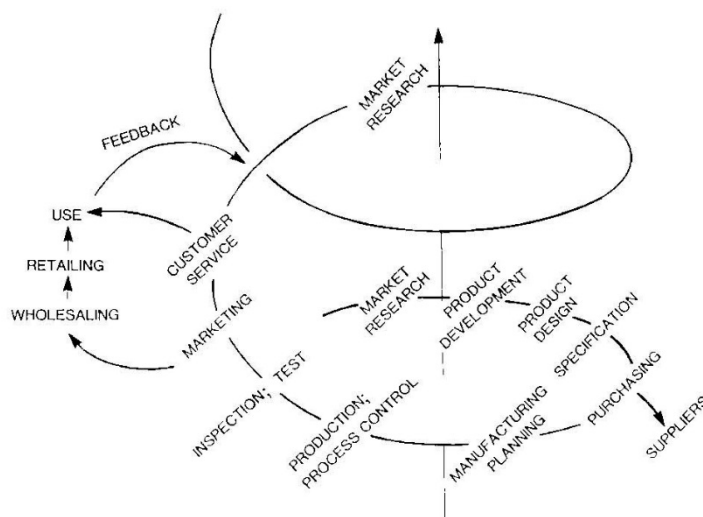
² DEMING, E., *Out of the Crisis*, p. 24.

In 1941 Juran worked on 80/20 Pareto principle and stated that 80% of defects are caused of 20% of causes, he offered managers to focus on this 20%, which he called “vital few and useful many”.

Juran was sure that not only to continuously improve the processes are needed, but it is necessary to ensure a rapid transition from the old to the new. The quality improvement by Juran means “the organized the creation of beneficial changes, the attainment of unprecedented levels of performance”.

The most important foundation of Juran is the “quality spiral”, which not only includes all stages of the product life cycle, but it reflects the process of continuously improving quality on every turn of spiral. (Figure 1, below)

Figure 1 Quality spiral



Source: <http://qualityamerica.com>

The emergence of TQM concept is associated with the name of Juran. If Total Quality Control (TQC) is the quality management, oriented on production that meets the established requirements, then TQM even includes the management of those requirements. In TQM the motivation reaches a condition, when everyone is so passionate about his/her work that people reject part of the holidays, stays for extra ours at work and even proceed to work at home. The new type of workers appears – workaholic. The education and trainings become total and continuous and accompanying workers throughout their labor activity.

3.2.3 Basic philosophy and quality concept of Armand Vallin Feigenbaum

A.M. Feigenbaum (1922 – 2014) developed the concept of “quality spiral” and offered his own concept based on control, which was represented by a pyramid that consist of successively implemented types of control on every stage of product’s life cycle. On the top of the pyramid is TQC.

3.2.4 Zero defect system of Philip Bayard Crosby

Philip Bayard "Phil" Crosby (1926 – 2001) was an American entrepreneur and author who made a significant contribution to the development of quality management. Crosby is best know for his concept of “Zero Defect”, developed in 1964. The concept is based on four principles of quality:

1. “Quality is conformance to requirements
2. Defect prevention is preferable to quality inspection and correction
3. Zero Defects is the quality standard
4. Quality is measured in monetary terms – the Price of Nonconformance (PONC)”³

“Zero Defect” system was widely implemented in the USA, but it also had a great influence on the work in the field of quality management in other countries, including the USSR (“The movement for defect-free products”). However, despite of the success of some companies that have implemented the “Zero Defect” program, a significant increase in quality of the products in the USA and other countries did not happen, because most of the companies were concentrated on meeting the “standards” and try to avoid extreme costs with no regards to the real quality improvements.

3.3 Total Quality Management

The concept of TQM helps to solve the problems associated with an increase in efficiency of production management, employee engagement, increase the output of

³ CROSBY, Philip. *Quality is Free*,

finished products' quality. The main essence of TQM is that the key idea in the business is the quality of works, which are aimed at the satisfaction of the customer's needs. And this quality has to be managed.

TQM is a new business philosophy - a modern concept, which has absorbed a lot of already known methods of the organization of work. It is focused on increasing complex performance and improving all organization's processes. TQM aims to develop the success of the enterprise in the following areas:

- Satisfaction of consumer requirements,
- Reducing the number of complaints from consumers,
- Generating the base of loyal customers,
- Attracting new customers,
- Improving the efficiency of organizational processes,
- Decreasing costs by reducing losses,
- Improving profitability,
- Increasing market share,
- Maintaining the competitive advantage,
- Orientating on staff.

To implement TQM in the company, it is necessary to carry out many different changes that will affect not only the process management, but also the mentality and the attitude of all employees to everything what is happening in the company.

Only complex and differentiated impact on the staff and management, taking into account the social, psychological and economic conditions, can change the culture of the organization.

TQM has been widely used in a number of industrialized countries for the continuous improvement of quality products and services.

3.3.1 TQM – definition and essence

There are many definitions of TQM, but the most complex one was introduced by US Department of Defense in 1988:

"Total Quality Management (TQM) is a strategy for continuously improving performance at every level, and in all areas of responsibility. It combines fundamental

management techniques, existing improvement efforts, and specialized technical tools under a disciplined structure focused on continuously improving all processes. Improved performance is directed at satisfying such broad goals as cost, quality, schedule, and mission need and suitability. Increasing user satisfaction is the overriding objective. The TQM effort builds on the pioneering work of Dr. W. E. Deming, Dr. J. M. Juran, and others, and benefits from both private and public sector experience with continuous process improvement.”⁴

Another important definition refers to and it regard to stakeholders needs:

“TQM is a philosophy for managing an organization in a way which enables it to meet stakeholder needs and expectations efficiently and effectively, without compromising ethical values.”⁵

Next definition was taken as a basis and the main philosophy of this research:

“Total Quality Management (TQM) is an approach to improving the effectiveness and flexibility of business as a whole. It is essentially a way of organizing and involving the whole organization, every department every activity, every single person at every level.”⁶

From these definitions follows that TQM improves not only the quality of the product and services, but also the quality of work and life of each participant of this process.

3.3.2 **Eight principles of TQM**

It is proved that the entire management system works better, if the organization is viewed as a single entity, a single system. In this case, to increase efficiency and optimize processes is necessary to observe the eight basic principles of TQM.

⁴ Department of Defense, *Total quality management master plan*, p.1

⁵ The Chartered Quality Institute. Factsheet: *Total quality management*, p. 13

⁶ KOPER, J, ZAREMBA, H, *Quality Management and Qualification needs*, p. 163

3.3.2.1 Orientation on Customers

The organization is entirely dependent on their customers, therefore it is necessary to understand to the needs of the customer, comply with their requirements and strive to exceed their expectations. Even a quality system that meets the minimum requirements must be focused primarily on the requirements of the customers. A systematic approach to customer orientation begins with the collection and analysis of clients' complaints and claims. This is necessary to prevent problems in future.

In organizations that implement TQM, all information and data have to spread throughout the organization. In this case, implemented processes aimed at identifying consumers' evaluation of the organization and at changing picture of how the company can satisfy their needs.

3.3.2.2 Leadership

Leaders of the company set common goals, main activity areas and the ways to achieve the goals. They must create such a climate in the organization, in which employees will be involved in the process as much as possible to achieve their goals.

Leadership role is particularly high in the critical moments, when there is a need to make a decision as fast as possible. It is obvious that leadership is an essential element of innovative process; it is a key, which opens the way to success.⁷

3.3.2.3 Involvement of Workers

The entire staff - from top management to workers - must be involved in quality control activities. The staff is viewed as the greatest wealth of the organization, and all the necessary conditions must be created in order to maximize and use workers' potential.

Employees who are involved in the process of implementing the goals of the company have to be qualified to perform their duties. Also, management should seek to ensure the situation, when the objectives of employees are as much as possible similar to

⁷ GRODZENSKYI, S. *Quality Management*, p. 29

the objectives of the organization. Material and moral encouragement of employees plays a huge role in this case.

All employees should have skills of work in the team. Work on continuous improvement mainly organized and conducted in groups, the cumulative result of the team is much greater than the sum of the results of individuals.

3.3.2.4 Process Approach

To achieve the best results, all relevant resources and activities in which they are involved, should be considered as a process.

Business process is understood as a complex of the various activities, which together create a result that has a value for the enterprise, customer or consumer.

For the effective implementation of the process approach is important to choose the right type of personnel management. Today in most of companies are mostly used two types of management - hierarchical and organic. The first is closed to the military system, with a rigid vertical management system, with permanently fixed duty of each of elements of the system. The second has more horizontal system; responsibilities of the participants of the process may change frequently.

Both systems have their pros and cons, in every singular case it is necessary to apply the most suitable type, but the organic is more preferred nowadays.

3.3.2.5 System Approach to Management

The efficiency of the organization, in accordance with the principles of TQM, can be enhanced through the creation, maintenance and management the system of interrelated processes. This means that the organization should seek to combine the processes of creating products or services with the processes that allow to track compliance of the products or services to the customer needs.

Only with a systematic approach to management will be possible to fully use the feedback from the customers and develop strategic plan (including the quality plans).

3.3.2.6 Continual Improvements

According to this principle, the organization must not only keep tracking arising problems, but, after careful consideration by management, undertake the necessary corrective action to prevent such problems in the future.

3.3.2.7 Decision Making Based on Facts

Effective decisions are based only on reliable data. The sources of such data may be the results of internal quality system audits, corrective and preventive actions, complaints and wishes of customers, etc. Also, information can be based on the analysis of ideas and proposals from the members of the organization, which are aimed at improving the productivity, cost reduction, etc.

3.3.2.8 Relationship with Suppliers

Since the organization is closely linked with its suppliers, it is appropriate to establish a mutually beneficial relationship with them in order to expand further opportunities. At this stage must be established documented procedures obligatory for suppliers to comply at all stages of collaboration.

3.4 ISO standards

In the late 50s of the 20s century in the United States were established standards MIL-Q 9858 that have been used by Ministry of Defense to assess the quality of products intended for military vehicles equipment. Based on them, in 1979, British Standard Institute (BSI) accept standards BSI 5750, which are considered as a direct predecessors of ISO 9000.

ISO 9000 appeared in 1987, when International Organization for Standardization (ISO) approved the first version of the universal standards for quality system certification: ISO 9000/87. Within the time organization revised standards few times. The latest edition has the number ISO 9000:2015.

ISO 9000 are the general requirements to the quality system in the enterprise, following them should help to eliminate production defects that affect the quality. Standards were expounded in the form of requirements (ISO 9001 – 9003) and general recommendations (ISO 9000 and 9004).⁸

The usage of most of the international ISO standards suggests that specific technical requirements for products are set in contractual relations. Standards are universal; they do not offer the measurable criteria of quality for each type of product, it would be impossible to set such a criteria, because the quality means the ability to meet the needs, which are infinitely diverse.

Mostly ISO standards are used:

- As a methodological material for constructing the quality system in enterprises, which will increase the economic efficiency and competitiveness of the organization;
- As proof of the required quality of products and services, which is necessary to sign the contract between the supplier and the customer;
- When the customer is evaluating the quality system of supplier's enterprise;
- In the process of registration or certification of quality systems by certification agency

ISO standards establish general requirements for QMS of the organization, regardless of size of enterprise and type of products or services. For the organization, ISO 9000 is the proof of belonging to the civilized and the business world. Many Western and Japanese experts state that ISO 9001 is a minimum level, which gives the opportunity to enter the market.

3.4.1 ISO 9000 family

Standards system ISO 9000 has a certain sequence: each next standard defines the quality system for the narrower area than the previous one:

⁸ GRODZENSKIY, Sergey. *Quality Management*, p. 87

- ISO 9001 - Model for quality assurance in design, development, production, installation, and servicing;
- ISO 9002 - Model for quality assurance in production, installation, and servicing;
- ISO 9003 - Model for quality assurance in final inspection and test.

ISO 9001 is the most general, it includes a quality system that covers all the possible types of activities of the enterprise. ISO 9002 less describes this system, it does not include the creation of new products and ISO 9003 consider just final inspection of finished goods and does not refer on how the product was created. However, in 2000 International Organization for Standardization revised the previous standards ISO 9001:1994, ISO 9002:1994 and ISO 9003:1993 by ISO 9001:2000, which included all of them.

Nowadays ISO 9000 family includes:

- ISO 9001:2015 - sets out the requirements of a quality management system
- ISO 9000:2015 - covers the basic concepts and language
- ISO 9004:2009 - focuses on how to make a quality management system more efficient and effective
- ISO 19011:2011 - sets out guidance on internal and external audits of quality management systems.⁹

ISO 9001:2015 is a fundamental document of quality system and the certification of supplier, who is the main object of quality management, is held on this standard.

Standards ISO 9000 – “Quality management systems. Fundamentals and vocabulary” and ISO 9004 – “Managing for the sustained success of an organization. A quality management approach”, determine the general requirements for the quality system and quality management model and serve more as a guide, they are not models of quality assurance and should not be considered as obligatory. Therefore there is no sense to talk about certification on ISO 9000 and ISO 9004; it is possible to get the certificate of conformity only on ISO 9001.

⁹ ISO, International Organization for Standardization, ISO 9000 Quality Management, Available at http://www.iso.org/iso/home/standards/management-standards/iso_9000.htm (Accessed on 13.11.2015)

3.4.1.1 ISO 10012 – 10013

This group is regulatory for agencies that check the quality system in enterprises:

- ISO 10012 - Requirements for measurement processes and measuring equipment
- ISO 10013 - Guidelines for quality management system documentation

However, these standards will be very useful in the construction of a quality system, as they allow anticipating the procedure of checking.

3.5 Tools of statistical quality management

Modern statistical methods are quite complex to understand and require in-depth mathematical knowledge. In 1979, Union of Japanese Scientifics and Engineers (JUSE) put together seven simple methods of analysis of processes. Despite of its simplicity, they save the connection with statistics and give to professionals the opportunity to use the result. The main purpose of the “seven simple quality control tools” is to identify problem that should be primarily solved. Any of these methods can be used by any employee, and requires no extra knowledge.

Seven simple methods include:

1. Check sheet
2. Pareto diagram
3. Ishikawa chart
4. Histogram
5. Scatter diagram
6. Stratification
7. Control charts

3.5.1 Check sheet

Check sheet is a tool for data collection and for their automatic ordering to facilitate the further usage of collected information. It is a blank on which name and range of controlled indexes are pre-marked. The form of check sheet is being developed in line with the specific production situation. Most commonly used are:

- Check sheet for the registration of the measured parameter during the production process;
- Check sheet for the registration types of discrepancy;
- Check sheet for the evaluation of reproducibility and operability of the technical process.

One of the possible forms of check sheet is illustrated in the table below.

Table 1 Check sheet

All types	Number of failures	%
Printed fabric	18	37.5
Jacquard fabric	6	12.5
190T fabric	24	50
Total	48	100

Source: own calculation

Check sheet should be made in the simplest way to be filled even by unskilled personnel. Nowadays, when organizations are using computers to control and manage the production processes, it is more preferred to fulfill the check sheets right in computer memory, which is less time consuming, more comfortable to analyze and gives the access to many users at the same time.

The most important rule is to record all data faithfully and to use information gathered in the check sheet for further analysis of process.

3.5.2 Pareto diagram

Pareto diagram is the tool, which allows to identify the main causes of the problem that has to be solved.

Method leads to the construction of a bar graph in which each bar represents the relative contribution into the problem of a single factor, all of which are arranged in descending order from right to left. Exist two types of Pareto diagram: by performance result and by causes.

The diagram can be constructed within 6 steps:

1. Define indicators, which are supposed to collect statistical information;
2. Define indicators, which characteristics will be measured;
3. Collect distribute data on relevant indicators;
4. Create a table with the source data to construct Pareto diagram;

5. Construct the diagram;
6. Interpret the diagram.

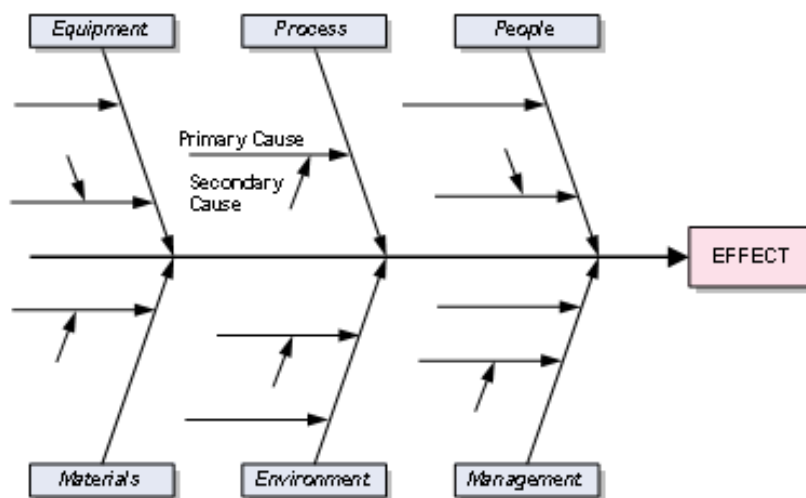
3.5.3 Ishikawa chart

Ishikawa chart allows to identify the relationship between quality indicators and factors, which influence them.

In Ishikawa chart, to the central arrow, which illustrate the object of analysis, are connected primary arrows - factors affecting the object, then to each of primary arrow are connected secondary arrows and so on, until in the chart will not be mentioned all factors that has a significant impact on the object of analysis. Each of the arrows applied on the chart shows either the cause or the effect (depends on their position) that is why it is also called cause –and – effect or fishbone diagram.

Example of fishbone diagram is imaged on the figure 2 below.

Figure 2 Fishbone diagram



Source: www.vertex42.com (accessed on 12.11.2015)

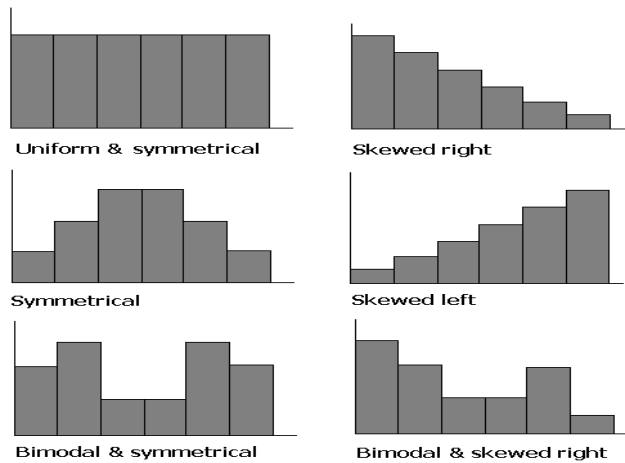
3.5.4 Histogram

Histogram is the tool that shows frequency distributions. It is the graphical generalization of variations in data set that allows to see regularities, which are difficult to distinguish in an ordinary table with the set of numbers.

Histogram is used to compare the quality indicators with the requirements of normative-technical documentation and condition of technological process before and after enhancements.

Figure below illustrates six different types of histogram.

Figure 3 Types of histogram



Source: <http://www.comfsm.fm> (accessed on 12.11.2015)

Before interpreting the result of histogram, is necessary to remember:

- That all data are actual and represent typical and current conditions of the process;
- That conclusion must be based on big samples
- That interpretation of histogram is just a theory, which should be proved by additional analysis.

3.5.5 Scatter diagram

This tool allows to determine the type and the closeness of the relationship between the parameters of the relevant variables. Mostly is determined the relationship between two variables, which can represent:

- Characteristic of quality and factor that affecting it;
- Two different characteristics of quality;
- Two factors that affecting one characteristic of quality.

Scatter diagram let the researcher identify – how technological factor X of some process influence output parameter Y of product, which is made in this process.

After constructing the diagram is necessary to examine the relationship between x and y, this relationship is also called correlation and correlation coefficient for any two different variables is $r \leq 1$, if $r \rightarrow 1$ - there is high correlation, if $r \rightarrow 0$ - low correlation.

3.5.6 Stratification

Stratification is the method for separating received data into groups according to the selected stratification factor. If stratification is made right, then it is possible to identify the cause of the spread of the parameters and reduce it to achieve improvement in quality of the products.

The main purpose of this tool is to convert non-homogeneous data set into many homogeneous subsets. Stratification helps to find out the cause of the defect, if the difference in data between the layers is detected.

In practice, the method of stratification is used repeatedly: splitting the data by different grounds and analyzing the resulting difference in Pareto diagrams, histograms, etc. Stratification of data provides insight into the hidden causes of defects and allow to identify non-obvious ways of how to improve the quality of products.

3.5.7 Control chart

Control charts allow controlling the flow of the process and influencing it, preventing the deviation from the requirements of the process. All six methods described above fixate the state of the process at a certain time, whereas control charts not only controlling the state of the process, but also let affect it if it is necessary.

Many experts of quality management mentioned the importance of this tool, Ishikawa wrote in his works that the quality control starts and ends with a control chart.

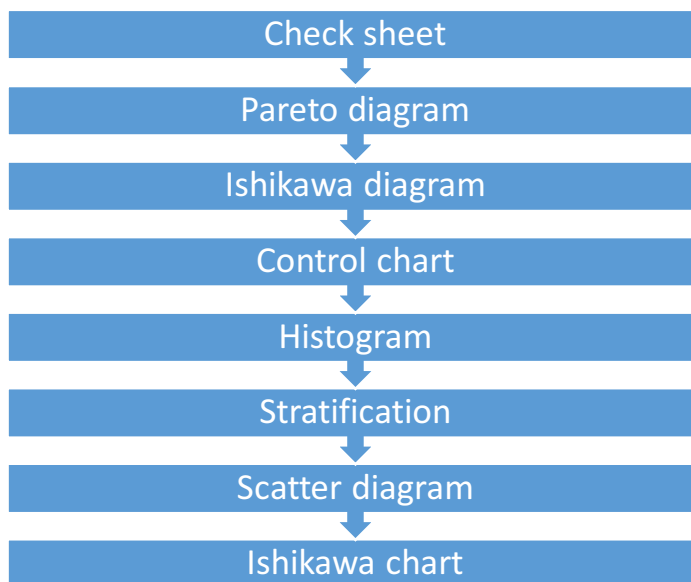
3.5.8 Algorithm for the effective application of the seven simple tools

To build the effective algorithm, first of all, is necessary to determine how to gather information about the process, by using check sheet. After noting all the information into check sheet becomes possible to construct Pareto diagram on the basis of its analysis. Pareto diagram will help to identify the most important inconsistencies (factors) that

negatively influence the quality of the product. The output of analysis of Pareto diagram can be used as an input for Ishikawa chart.

In case of insufficiency of data obtained from the Pareto diagram, the additional information should be collected with the help of a control chart that will identify the parameter with the highest deviation from the nominal value. Based on the result of control chart should be constructed the histogram, which helps to evaluate the spread of parameters, then this data are stratified to find the main cause of spread of parameters. Then scatter diagram will determine the type and the closeness of the relationship between the parameters of relevant variables. In the end it is possible to build one more Ishikawa chart with the final result.

Figure 4 Algorithm of 7 tools



Source: own creation

Surely for each of the technological process or other type of a process the algorithm of application of 7 tools may change, but if the algorithm is done right and rationally then most of the problems can be solved.

3.6 Specifics of TQM implementation and development in Russia

The solution of nationwide quality problems requires extensive implementation of modern and effective quality system in enterprises, which are based on the ideas and principles of TQM concepts. As international experience shows, utilization of such

systems allows organizations to significantly improve the efficiency of their activities, to be more responsive and flexible to the demands of consumers, to improve the quality of working life of staff, to ensure a stable position on the market, to comply with legal requirements etc.

Russia has a long experience in the field of quality. In the end of 70th, long before the appearance of ISO 9000, USSR developed state standards for quality management system, but the approach was solely technical and was not concentrated on standards compliance with no regards to customers' satisfaction.

Unfortunately, even many years later little has changed, approach to quality in Russia remains predominantly technical and it is expressed in the compliance of the official requirements (GOST – Russian State Standard) to the product, which are considered more as a relic of the Soviet regime than the national and cultural features. Most companies still apply autocratic type of management, especially in the conditions of the possibility of a new financial crisis, but modern, especially high-tech firms understand the need for the application of TQM in connection with all the benefits that would follow. Thus, the current condition of TQM in Russia reflects the current status of the economy.

3.6.1 Problems that influence TQM implementation in Russia

TQM abbreviation already familiar Russian managers, but for most of them and TQM is just an abbreviation. Experience in the implementation of TQM in Russian business indicates a lot of problems and errors that today impede the adequate perception of the new business philosophy.

3.6.1.1 50 years gap in development

In the west the quality philosophy has gone through stages of defect rejection, quality control, quality assurance and transformed into TQM. Moreover, the main driving force of this development was and remains the consumer. The struggle for the consumer forced managers to look for new approaches in the business to meet the needs of its consumers with the highest quality. Whereas in central-planned economy of the Soviet Union the supply and demand were the subjects of government planning, there was no

competitiveness between producers. Synthetic modeling of the market did not stimulate, but, on the contrary, contradicted with the philosophy of quality.

The advantage of the current situation in Russia is that this way can be much shorter, because accumulated world's knowledge, experience, mistakes and failures are already known. Moreover, Russia has an extensive theoretical and methodological basis of the quality management from the Soviet period. However, this experience is hiding next problem.

3.6.1.2 Understanding of quality

Systematic work in the field of improving the quality of products was carried out in the Soviet Union since the middle 50s. The development of quality systems in the Soviet Union had a regional character, so the proposed approaches have been associated with the place of their development (every city applied its own standards). Producers understood quality as a compliance with the standard, this psychology in the market system can lead to the situation when the companies are producing quality product from her point of view, but the products will have no demand.

Thus, the experience of Soviet Union can be considered as one of evolutionary stages of development of TQM philosophy in Russian business, but the interests of the state were the driving force of the quality management, unlike the West, where the determinant was the customer and his interests. In addition, the Soviet experience has formed a school, which preparing the specialists in the field of quality. On the one hand it is an undeniable advantage, but on the other hand it is pitfall for the implementation of TQM tasks in Russia.

3.6.1.3 Experts in quality field

Soviet Union raised an army of experts in quality field. Many of them are involved in creating a new quality philosophy in Russia today, but these professionals have a technical background, and it is a problem - a problem that is not quite obvious, and correlates with the first two. Approach to the quality as to compliance to standards is not useful anymore and the quality management nowadays is a prerogative of economists and managers. Nevertheless, Russian experts still concentrate on technical part of production.

3.6.1.4 Customer satisfaction

Customers' opinion became important for Russian companies when they had to fight for them. Russian companies are already enough well mastered the skills of market research and attract new customers. However, customer satisfaction is not only the ability to impose your goods, it is an art - to give the customer what he expected and even more.

Russian business should realize that customer satisfaction leads to the loyalty to the company, the more loyal customers you have - the more confident you feel on the market.

3.6.2 Experience of leading companies

Implementation of TQM in Russia, as well as any changes that related to the transition from central - planned to a market economy, accompanied by a number of barriers, some of which are the consequences of Soviet past, the other - the objective reality of the present. The success and realization of the potential of Russian business in the first place depends on the adequate perception of what is happening by all participants of the process, and the market as an macroeconomic regulator and indicator will provide an evolutionary development of process of TQM implementation in Russia, but the dynamic of this process is dependent on the performance of each of its members.

Chief Executive Officers (CEOs) of leading Russian companies that have implemented a process-oriented quality management system, believe that the success of development and improvement of system is largely determined by a deep understanding of the importance of TQM principles by top management and employees; involvement in work of the whole team and formation of leadership system; lifelong learning of employees, aimed at the development of the competencies required for the successful implementation of professional activities.

In such circumstances, the enterprise personnel management system is an integral part of its quality management system, and staff is perceived as a source of intellectual capacity that is necessary to ensure sustainable development of the enterprise. Maximum use of the intellectual potential of staff and involvement in the work of the whole team becomes possible when:

- The objectives of the enterprise comply with the objective of each individual employee;
- Atmosphere of free discussion of problems is formed;
- Favorable conditions for successful work are created;
- Developed a motivation system for employees to perform work correctly from the first time;
- Continuous training programs are established.

3.7 Importance of wholesale companies

Wholesale is any activity for the sale of goods and services to those who purchase them for further use or resale, therefore for wholesale trade - goods are purchased in large quantities and in large volumes. Market space includes not only the direct producers and consumers of commodity products, but also a significant number of active intermediaries that establish business relationships between them. These intermediaries include the wholesale companies that provide essential services to both - producers and end consumers. Wholesale is very important part of market, which accelerates the process of product distribution.

During the Soviet period in Russia was an extensive system of wholesale offices, depots, warehouses and refrigerators that were engaged in wholesale of various product groups. These were the major units of trading industry, which carried out the function of centralized distribution of commodity resources, established the discounts and defined ways of product distribution and other important issues. Such enterprises had a specialization, so there was no competitiveness. Material and technical base of wholesale trade had been building up for several decades in Russia, but after collapse of Soviet Union there was a sharp decline in wholesale operations. In conditions of market economy wholesale companies fell into a deep crisis, most of them had been destroyed. Wholesale was forced to engage in new activities (retail, manufacturing, delivery of storage space for rent, etc.), to change specialization and to introduce new forms of wholesale trade organizations (associations, unions, etc.). One of the main problems of wholesale sector in Russia is the lack of infrastructure, namely the lack of development of trade-related infrastructure. The infrastructure in this case means not only to the basic infrastructure

facilities such as roads, ports, warehouses, shopping facilities, the electricity grid, but also infrastructure services for the trade sector, which includes the presence of the necessary number of highly developed logistics companies, distributors, certification and licensing organizations, companies operating in the advertising market, and educational institutions. A specific feature of the Russian wholesale business is very weak development in the region. More than 37% of the turnover of retail trade enterprises accounted for Moscow, which leads to a less wide range in the regions.

As it was mentioned above due to the collapse of Soviet Union wholesale in Russia had significant problems, but since 2000 the situation began to improve gradually, the opportunities linked to open economy attract new entrants into wholesale sector and the turnover of wholesale has an increasing trend for last 10 years.

3.7.1 Definition, objectives and classification of wholesale companies

The terminology of wholesale company is defined in GOST R 51309 - 99, "Trade": "Trading company, exercising purchase and sale of goods for resale, as well as providing services for the organization of the wholesale turnover of goods."¹⁰

The main objectives of the wholesale companies are:

- Sourcing the suppliers of products for retailers and other buyers;
- Purchasing goods from manufacturers, their delivery and storage;
- Formation of trade assortment in accordance with the requirements of retailers;
- Conducting market research for producers and retailers with the current and forecasted condition of supply and demand for the products;
- Implementation of modern and advanced methods of wholesale trade;
- Information and consulting services;
- Ensuring the highest possible total savings by reducing costs of treatment at all stages of the process of wholesale trade.

¹⁰ Occupational Safety and Health, GOST R 51309 – 99, Available at http://ohranatruda.ru/ot_biblio/normativ/data_normativ/37/37831/ (Accessed on 1.12.2015)

Wholesale companies can be classified by:

1. The scale and type of the activities:
 - **Federal** - form the product distribution channels for large producers and create conditions to foreign suppliers to enter the Russian market;
 - **Interregional** – ensure the distribution of products between regions
 - **Regional** – buy products from federal wholesalers and distribute between the retailers inside the region.
2. The number of employees:
 - **Small** – less than 50 employees;
 - **Medium** – from 50 to 100 employees
 - **Big** – more than 100 employees
3. The specialization on product:
 - **Specialized enterprises** - carry out the purchase and sale of goods of one or more product groups, if the wholesale company is specializing in the sale of a certain product, then it is called the “dealer”, if it is specializing in the sale of certain manufacturer - an “authorized dealer”;
 - **Highly specialized** - carry out the purchase and sale of individual subgroups or types of goods;
 - **Universal wholesale** – carry out the purchase and sale of a universal assortment;
 - **Mixed** - engaged in realization of both food and non-food products;
 - **Combined** – carry out the purchase and sale of several product groups that are associated (ex. products for the garden)
4. The role in wholesale trade and type of transactions:
 - **Independent** - wholesalers that acquire ownership rights of goods, which they sell;
 - **Intermediary organizations** – do not acquire ownership rights, but provide services of delivering products from the producer to the consumer.

4 Practical Part

4.1 Texman OOO.

Full name: Texman OOO is a Limited Company (hereafter referred to as Texman)

The company was founded by Yury Alekseev in august 4, 2001. Headquarter is based in Moscow on Shosse Enthusiastov, 56. Texman can be classified as a small specialized enterprise that operates on a federal level.

The main activity of the organization is wholesale of lining fabrics for men's suites and women's coats; the organization is independent; all goods are purchased in China for subsequent resale in the territory of the Russian Federation.

Texman was on of the pioneers in wholesale of lining fabrics, at the very beginning when the company just started to operate its main activity was wholesale of men's suits, but the director saw an opportunity in the lining fabrics segment. At May 2003, Texman imported first 20ft container with cheap lining fabric 190T from China. The success came soon – the first batch of goods was sold within 3 months, but in the end of the year company increased the imported volume to one 20ft container per month, and in the end of 2007 import increased to four 40ft containers per month.

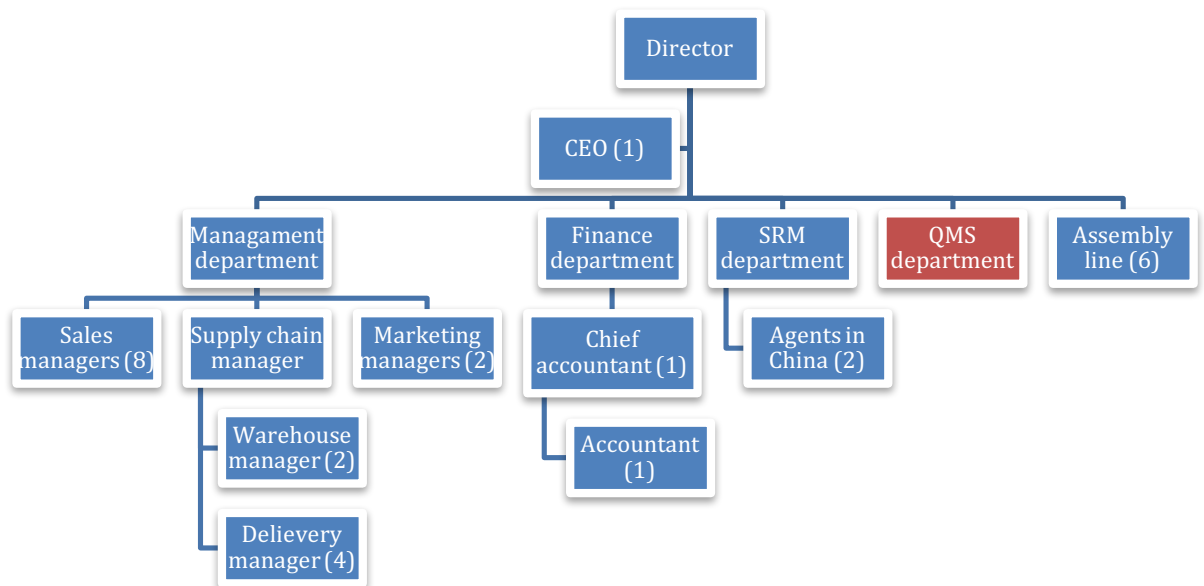
However, the situation began to change dramatically when the market felt the gap in the lining fabrics segment – German, Czech and Turkey companies entered the market, few lining factories were opened in Russia, and more and more entrepreneurs were interested in growing potential of this type of business. As a result, market became very competitive during recent years, European and Turkish companies offered high quality product at high prices, while small enterprises fulfill the market with cheap, low quality goods. Texman at that time still had a good position, but there was a need of radical changes to adopt the situation and stay profitable, this was a turning point, when the company's leadership decided to embark on the path of quality improvements in all areas of its activity.

Currently Texman offers one of the widest assortments of lining fabrics on the type, design, quality and color, throughout the Russian Federation.

4.2 Personnel structure

Texman is a small enterprise that has 28 employees, including the director of the company; 6 of them are working on recently opened assembly line – it is the minimum number, which is necessary for production maintenance. There are three different departments that include 26 employees, Quality Management Systems department is not a part of the personnel structure of the company as this service is provided by outsourcing company.

Figure 5 Organizational structure



Source: Source: Staff list of Texman, own creation

Below is analyzed the personnel structure on 1 January 2016 by three criteria: level of education, age, work experience and gender.

Table 2 Level of education

	Totally	Masters	Bachelor	Secondary	Middle
Number of employees	28	5	11	10	2
(%)	100	17.9	39.3	35.7	7.1

Source: Staff list of Texman, own calculation

Table above shows that just 17.9% of workers have Masters degree, but that is not critical for organization, because during the process of selection of staff, company is more focused on the personal characteristics of worker, on its performance and ability to adapt and solve new tasks, then on educational level (more in capture 4.2.1).

Table 3 By Age

	Totally	<20	21-40	41-60	>60
Number of employees	28	1	10	16	1
(%)	100	3.6	35.7	57.1	3.6

Source: Staff list of Texman, own calculation

Company eliminates any type of discrimination during the selection process and and in relation to its current employee. Everything depends solely on individual qualities of the candidate, which are disclosed during the interview, if the employee is suitable for all company's criterion – he or she is sure to be hired regardless of age, sex or experience. (2.4.1)

Table 4 By work experience

	Totally	<1 year	1-3 years	3-5 years	>5
Number of employees	28	2	10	8	8
(%)	100	7.1	35.7	28.6	28.6

Source: Staff list of Texman, own calculation

From table above follows that most employees have long been working in the organization, but in April 2015 Company created marketing department and hired two young employees. The purpose of this department was the promotion of the company's web site as well as the preparation of samples, stands, posters and direct participation in exhibitions. This allowed to get rid of the extra duties of sales managers and thus they can focus on finding clients and selling goods.

Table 5 By gender

	Totally	Men	Women
Number of employees	28	20	8
Number of employees	100	71,4	28.6

Source: Staff list of Texman, own calculation

Just 28.6 % of employees are women, the cause is heavy work schedule and duties that are assigned to a certain position.

Workers of QMS department were not included in the analysis of staff, as this department is part of the company that supply outsourcing services for the development of quality management systems.

4.2.1 Selection of staff under TQM

The selection of employees became one of the most important Human Resource Management (HRM) tools at Texman. Often issues of HRM are taken as not very significant. However, if we talk about the principle of complexity, it makes sense to consider two sides of quality management: "hard" and "soft." "Hard" includes a set of methods associated with the usage of basic quality management tools, whereas "Soft" includes the management of human recourses and cultural changes. It is assumed that the well-trained and active employees are able to make a greater contribution into organizational success.

Capable workers are those who can solve certain problems. Traditional selection process at the company includes a detailed description of the work, based on the analysis of tasks that are consistently solved in the process of its implementation. This approach is implemented further in determining the personal qualities of the employee, which are constructed according to the description of work. Standard techniques of personality determination allow taking into account the following factors: appearance, education, motivation and mental abilities of candidates.

The problem solving method has been criticized for a number of reasons. In particular, the analysis of the work depends on the constancy of requirements to a particular position. In a changing environment, where flexibility is becoming one of the important characteristics of the business, the requirements for a particular position may be constantly changing. The selection that is based only on the candidate's ability to perform strictly defined tasks is not efficient, because tasks can be changed fundamentally. Currently the company has been transited from selection on the basis of tasks to the selection that is more focused on the human. In this situation arises the question - how the selection process in the organization allows to identify individuals with the skills that can

have an impact on quality. TQM strategy should be reflected in the list of so-called competencies, which are considered during the selection of personnel. The importance of this becomes clear when we take into account that there are skills that are inextricably linked with the general personality traits. Therefore, it is necessary to emphasize that some of the skills are very difficult to engraft to those employees, who did not have them at the moment of selection.

The organization seeks to measure the competence by using structured interviews, which require candidates to give examples of past cases, when they behave in a certain way. The logic of such an interview is easily understandable: it is considered that if the candidate has provided evidence that he / she has shown competence in the past, then he / she is likely to repeat this in the future. The company has become increasingly turn to the assessment center, which include a group of methods for measuring the competence required for a given position. For example, the ability to "flexible approach" to issues could be potentially measured within an individual questionnaire and group discussion.

The process of employee selection is focused on identifying the most suitable person for a particular position, but there is no guarantee that the appropriate methods will be used correctly in any situation. To ensure the good results, Texman exposes the selection process itself to scrutiny, from the perspective of psychometric and legal requirements.

4.3 Adherence to the main principles of TQM

In the Russian reality, large number of organizations due to the lack of competence of the management and employees, simply ignore main principles of TQM. The leading organizations do not improve the assortment and the quality level of products for years; apply an authoritarian leadership style within enterprise; they speculate on the volatility of the ruble in an attempt to deceive both suppliers and consumers; and quality of services is extremely poor.

For Texman eight principles of TQM was the primary objective; Yury Alekseev personally started a campaign of its implementation in practice.

The organization operates already for 15 years and is quite familiar with customers' needs and wants, but lining fabrics market is quite specific and depends on such factors as the fashion, so the customer's needs may change. It was found that lining fabric trend in

Russia lags behind the world trend for two years, so that the representatives of the company regularly visit the international exhibitions of light industry in Russia, China, Paris and Milan to forecast the customers' future desires. Furthermore, Texman by itself participating "CPM" and "TextilExpo" exhibitions in Russia and "Intertextile" in China, where every customer can not only see the wide range of products, but also meet the representatives of the company and immediately make an order.

Texman's management relies on full openness of the company to customers. Indeed, any potential buyer can come to the central office to meet with the director and managers, to check the newest offer, after they are invited to come and see the warehouse and assembly line that are located just next to the office. This practice attracted many customers, because for most of them is very important to see the approach of company to the business: how does the assembly line work, how and under what conditions is arranged storage of fabric, who works at the company etc., usually after visit customers feel the reliability of Texman, and they are actually interested in coming more often because company is constantly increasing the range of products.

Today the company offers to its customers 56 different designs of lining fabrics (jacquard¹¹, printed¹², plain¹³, stretch¹⁴), 11 designs of sleeve¹⁵ fabrics, 6 designs of pocket¹⁶ fabric and color card includes 97 colors and shades. The fabric is usually high quality, but there are some exceptions. So for example printed fabric initially had little demand because of its composition and rough texture, but due to very low prices it acquired a certain group of loyal customers. However, in late 2014 the company has ordered suppliers to perform batch of printed fabrics with the use of twisted yarn technology, which gave it a very soft texture and noble shine to the product, so that the fabric has become pleasant to touch and to look at. What is interesting is that this is low-

¹¹ Appendix 1,

¹² Appendix 2

¹³ Appendix 3

¹⁴ Appendix 4

¹⁵ Appendix 6

¹⁶ Appendix 5

cost production technology and therefore the fabric is not greatly increased in price, so the company gets undeniable competitive advantage. At the moment there is a great demand for this type of product and it one-sixth of the company's sales.

Special attention is paid to the creation of a catalogs, there are totally five types of them (jacquard + print + stretch¹⁷, pocket, sleeve, plain dyed, stock); catalogs are mainly focused on usability - on each piece of fabric is first depicted item, then color, then the weight and width, and at the end of the composition of the fabric. The color card is the same for all types of fabric (except pocket pairs and sleeve), whereas competitors make for each individual type of lining fabric a different color map. Should be mentioned that customers first choose color and then design of the fabric, if desired design is not available, the manager can offer another design in the same color, and the customer will not be afraid that the fabric will differ from the main batch. The company has spared neither effort nor resources for the production of catalogs, it may seem that they look very primitive, but in fact that there are no experts on creating directories in Russia, and again cognition comes through comparison¹⁸.

Organization is trying to offer to buyers everything they need and even more, for example producers of men's suits buy pocket fabric from Texman, but they also need the waist band (made of pocket fabric), which is not offered by Texman, so the customers have to buy it in another place, what is not very convenient for them, because it is very hard to find the color and quality of waist band that would be similar to pocket fabric. That is why at the end of 2013 the company's leadership decided to invest in the waistband assembly line, which is not very expensive, but from the point of view of return on investments is not a reasonable step and the payback period is very long. However, the main aim was achieved, this step not only helped to retain customers of pocket of fabric but also to attract new ones, because now all the necessary range of lining fabric is available in one place.

Since the company operations throughout the whole Russian Federation, it is not possible to arrange personal meeting with most of the customers and to show them the

¹⁷ Appendix 7

¹⁸ Appendix 8

catalogs, so managers have to send catalogs by post or by private delivery services such as DHL. However, the production of catalogs (being renewed twice a year) and their subsequent sending process is not only expensive, but it also time-consuming procedure, which can push out the client, so that has been launched the web site, where the customer is able view the latest offers through it; to make an order; to leave comments and even to communicate directly with leadership. Another important innovation was the implementation of international “Pantone Color Guide For Fashion Home + Interior”, which makes the communication with customers much easier, but Pantone colors are available only for pre-orders and the waiting time is 3-4 months. Texman has not fully moved on these standards and for regular catalogs still uses its own color card, nevertheless the company is moving along a well-defined path to standardization.

No serious business will be carried out effectively, if the people who led it do not take over leadership functions. The leader must create a concept that would allow the organization to move from its current state to the desired state. Leadership is a necessary condition for sustainable success, the director of Texman was aware of it, so it was decided to appoint CEO. Because of the specifics of the activities of the organization, it turned out that it is not easy to find a specialist in this area. However, after an extensive search finally was found the right candidate with experience in the textile industry.

In January 2014, CEO took over all responsibilities regarding strategic plans of the company and personnel management, he had also to ensure that the quality would become part of the objectives and strategy of the company, however only the director executed the relationship with suppliers. One of the most important goals of CEO is to motivate employees to participate in the business processes and to ensure the quality improvement of these processes. Employees are a natural source of ideas on how to improve quality and customer service. The more people that work in the organization acting for the benefit of the organization, the brighter prospects are opening up before it. Respectively, it is necessary to motivate people for quality work and, thus, involve them into processes of continual improvement of activities of the organization. To achieve this goal, three types of awards were introduced:

- Financial
- Social

- Psychological

Company is trying to remove barriers between professionals and create a favorable climate for teamwork, to apply the free exchange of knowledge and experience in teams and groups. All solutions ranging from small and insignificant to very important are taken with the participation of employees, such as planning the order proceed not only from the analysis of sales, but also from personal opinion of staff about how popular will be a particular product. This allows company to make staff more enthusiastic to the work and to make them proud of belonging to their organization, and the collective problem solving experience proved to be most effective.

In the very beginning the Texman made decisions based on personal beliefs and assumptions of director, today all decisions are based solely on the facts. Before taking action to improvements, organization performs measurement in the area to make a decision. If there is no certainty that the planned improvement will benefit the organization, it should not be carried out. For instance the importance of financial analysis increased for recent years, based on its findings are made decisions on the volume of future orders, investing in new projects, participating in various light industry exhibitions etc. Another important approach is analysis of customers' feedback. In December 2014 Texman launched the web site "textileman.ru" that allows customers to see the main and seasons catalogues and to leave their wishes regarding to design, colors and texture of fabrics and they can mark the item "like" bottom; later the managers analyze the data and determine the most popular and desired goods. During the personal meetings customers are asked to give their opinion and wishes regarding to new designs and then, based on the analysis of customers' feedback and world trends company plan and execute each following order from China.

Texman has 5 main suppliers in China, with most of them organization cooperating for more than five years. During this time were established good relationships and the companies gained great confidence in each other. The heads of China's garment enterprises are very familiar with the director of the company and its relation to the business, respectively, both sides are trying to please each other and improve their activities for the benefit of both. For example, when company developing its own design, suppliers commit themselves to secure property rights for Texman and not to sell this design to anyone else

over the next two years, thus Texman becomes the owner of a unique products, which has no competitors. The biggest advantage is payment delay up to 180 days provided by suppliers, delivery of goods takes from 40 to 50 days, so during that time company sells a certain quantity of goods and able to partially repay their debts to suppliers. This allows to increase the volume and frequency of orders, which benefits both suppliers and Texman.

Organization uses the policy of continuous improvement of the quality for the last few years; it has brought the company a lot of bonuses and a strengthened market position in Russian lining fabrics industry. The company kept afloat through the financial crisis 2008, however, came an even deeper crisis in 2014 and here it is necessary to and here it is necessary to take drastic measures such as a certified company according to international ISO standards.

4.4 Scheme of development and implementation of QMS based on ISO 9001:2015 requirements

Texman was always concentrated on the quality of products, at the very beginning the director of the company had to fly to China to verify the quality of the products before shipping it, it happened that products were defective and it was necessary to delay shipment in anticipation of the replacement. Later company employed the agent in China that was responsible for quality control and was verifying each order. All this certainly took a lot of time and money, and after many years of work in this mode was decided not to check products as the relationships with suppliers were at a good level and the last batches came without defects. It was a critical mistake, because even the tested Chinese suppliers in order to save money sent goods without the proper output control. After this case Texman changed the policy and from January 2010 required from suppliers to check for compliance with quality by independent certification agencies¹⁹. Few big suppliers such as DEVETEX Co, ltd. provide their own certification²⁰ with compliance to ISO standards. This approach is cheaper and significantly improves the quality of work and relationships

¹⁹ Appendix 9

²⁰ Appendix 10

with suppliers. It is also important due to stricter laws regarding school uniforms, only goods with a certificate of conformity can be used for sewing uniforms, and the companies that produce school uniform make up a large part of the Texman's customers.

For Texman itself the certification is becoming more and more relevant with the development of Russian textile market. The presence of certificate attracts a large number of potential buyers. At the moment on the territory of Russian Federation about 10 major wholesalers of Chinese lining fabric and none of them does have the ISO certificate, respectively certificated enterprise will get a big competitive advantage.

To obtain ISO certification is necessary to implement in the company Quality Management System (QMS), but the process of creation and implementation of QMS is not simple, and therefore to achieve this goal Texman decided to it was decided to outsource experts of QMS implementation. Outsourcing of QMS often is cheaper then independent work. And time and effort are not comparable at all. This scheme is used even for large enterprises. Engaging a third party company to avoid rushing and error. But it does not mean that Texman can relax. The issue of quality is too serious and it is needed to be monitored. The main condition for selecting an outsourcing company was an experience in the textile industry, soon such a company was found and the process started. At first it was necessary to plan the development of QMS, table 6 shows the sequence scheme of works for the implementation of the requirements GOST R ISO 9001:2015 in QMS of Texman.

Table 6 Development of QMS in Texman

Stages	Work content
Stage 1 - design of QMS (1-3 months)	1.1 Analysis of existing QMS
	1.2 Determining the field of application of the QMS
	1.3 Determining the necessary lists of processes, the formation of the group on the development of the QMS
	1.4 Preparing the schedule of works for QMS
	1.5 Training the employees
	1.6 Distribution of responsibilities and authorities in QMS
	1.7 Development of aim in the field of quality
	1.8 Development of recommendations on improvement of the

	administrative management system
Stage 2 - development and implementation of the QMS documents	2.1 Analysis of the technical documentation, identifying inconsistencies to GOST R ISO 9001:2015
	2.2 Determine the structure and composition of the QMS documentation
	2.3 Development of QMS documentation
	2.4 Distribution of QMS documentation between employees
	2.5 Practical testing of QMS documentation in the workplaces
Stage 3- Preparation of QMS for certification	3.1 Preliminary internal audit of QMS
	3.2 Development of corrective actions to eliminate the discrepancies that was identified during the internal audit
	3.3 Assessment of the degree of preparedness of QMS
	3.4 Execution of an application for certification

Source: Own creation

The organization began preparing for certification in July 2015, at the moment company is on the stage of registration of the application. As an independent body for certification of management systems was chosen “Russian Registr”. Soon organization should receive the certificate of compliance with the QMS requirements of GOST R ISO 9001:2015.

Texman’s top management decided to get the ISO 9001:2015 certificate based on the fact that the largest customers of lining fabric in Russia refuse to work with non-certified organizations. Company already has an oral agreement on the supply of lining fabrics to such giants as the “Bolshevicka”, “Elena Furs” and “Slavianka” etc., as soon as Texman will be certified, they will be able to sign the contract with those companies.

Despite the company jut recently started improving the quality by following TQM concept, already now is seen the progress of this approach, and it is possible to analyze how changed philosophy of the organization influenced its activities.

4.5 Analysis of Texman’s current situation

In order to determine the effectiveness of the implementation of TQM concept in this chapter will be conducted analysis of returns, analysis of customer, analysis of financial

ratios. To achieve representative results were taken the data before TQM implementation (2010, 2011, 2012, 2013, 2014) and after it (2015). At the end will be conducted PEST and SWOT analyzes, which are based on the practical part of the research, they will indicate the main factors that increasing the competitiveness of the company and the factors that may negatively affect its activity.

4.5.1 Analysis of returns

Returns are very important for the Texman, because the company is not able to send the defective product back to the supplier, thereby returned goods bring additional costs associated with the transportation and warehousing, respectively large amounts of residue are formed in warehouse. Table below illustrates the the development of returns within time for each type of product (measured in rolls).

Table 7 Returns by type of fabric

Type of fabric	Year					
	2010	2011	2012	2013	2014	2015
Printed	42	84	34	38	32	25
Jacquard	39	97	44	48	39	31
Pocket	27	31	14	13	16	8
Sleeve	19	22	14	17	15	6
Plain dyed	14	12	8	11	5	7
Stretch	16	9	4	5	8	6
Total	157	255	118	132	115	83

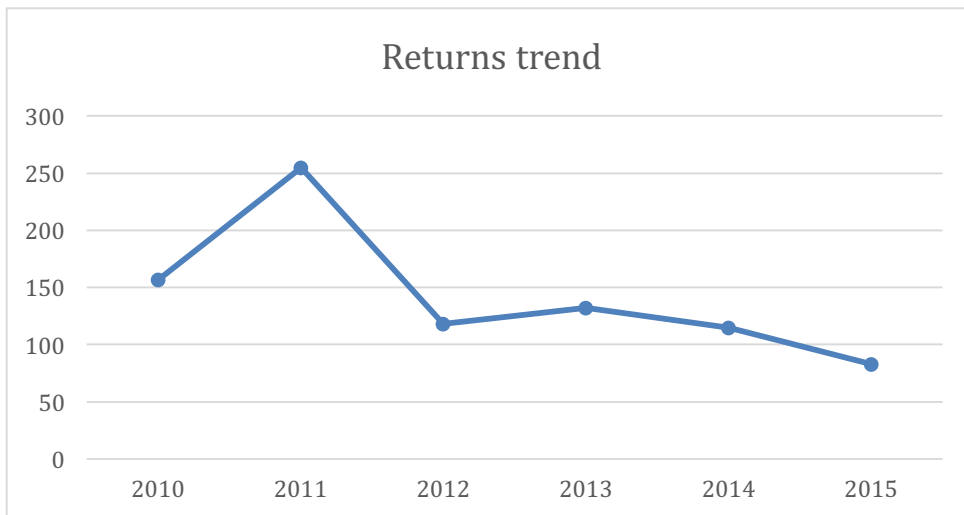
Source: Own calculation

Must be taken into account that the defective product can be considered only the fabric that has that has a serious defect throughout the whole roll, small defects that can not influence production and number of outputs are mostly not returned by the customer.

Number of returns in 2011 was very high, the cause was that the company just broke off relations with its largest supplier of jacquard and printed fabric, and they urgently had to make an order from unreliable suppliers, as a result a lot of defective fabric was shipped. It was solitary instance and since that time number of returns was constantly decreasing,

but was still at a high level and the company suffered big losses. In 2015 because of the crisis and increased competition the company had to reduce the prices of products, and so there was a necessity to reduce all costs, including costs associated with returns. Texman had to apply drastic measures in relation to their suppliers, of course penalties were not a solution as it would only worsen the relationship, then was concluded an agreement with suppliers for providing discounts on defective goods. Accordingly, the supply of defective products has not been beneficial to both parties, and thereby the cost of defective products and the number of returns were sharply decreased by 27.8 % in 2015 (comparing with 2014). The sells are growing year by year when the number of defects has a decreasing trend (graph 1 bellow).

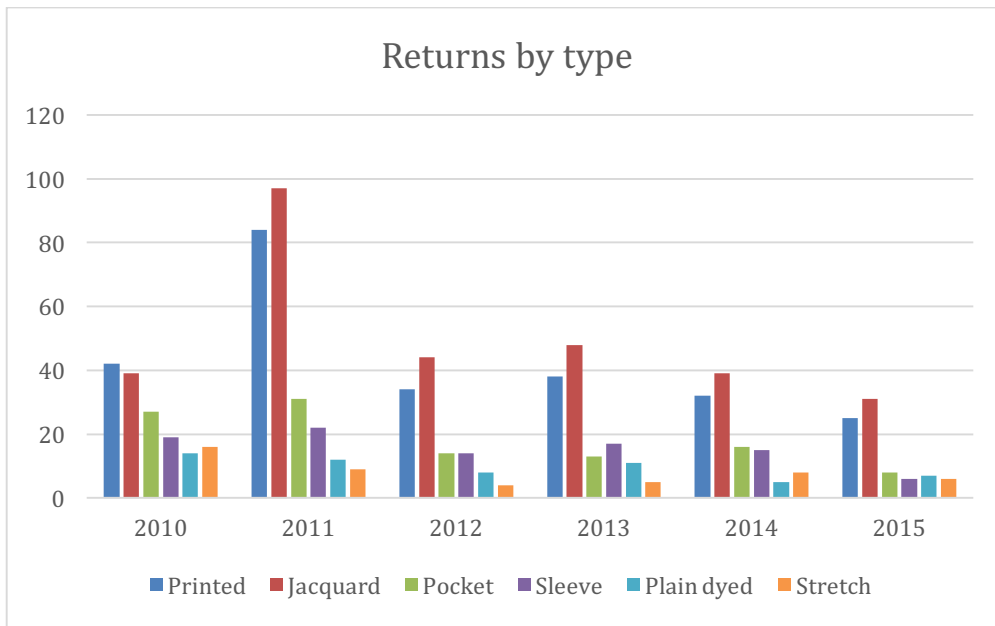
Graph 1 Trend of returns



Source: Own creation

Histogram below shows the number of defects per item per year. The biggest number of defective products are accounted for printed and jacquard fabric and it may be explained partially by that these items are the most salable, but on the other side plain dyed fabric is also well salable and it has a very low number of returns, because of its supplier. Dyed plain fabric is supplied by a very big company called “DEVETEX”, which uses the newest technologies and the best raw materials in production and conducts a very thorough final inspection of products, while the jacquard is supplied by many different size companies.

Graph 2 Histogram of returns by the type of the product



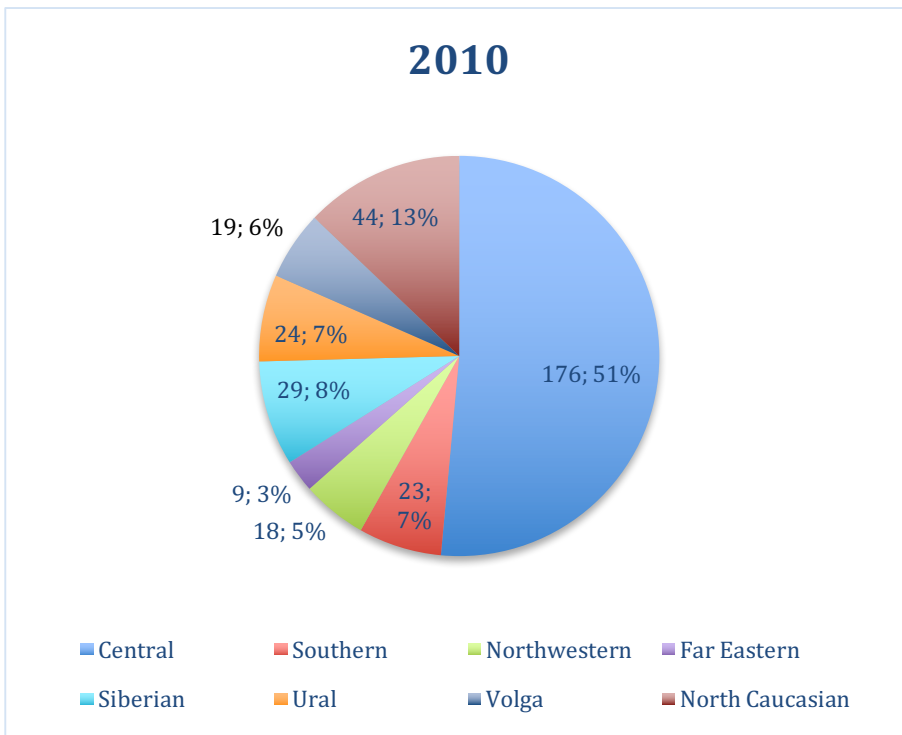
Source: Own creation

In 2015 company got just 60 returns, that is 5 returns per month; and on average per month was sold in 2765 rolls of fabric, which means that there was about 0.2% of defective goods. That is seem to be an incredible index and that is true, few of the competitors reach this level, since it is a completely new level of quality for Chinese products and this fact will undoubtedly attract many more customers.

4.5.2 Analysis of customers

The main customers of Texman are manufacturers of men's and women's outerwear, suits, caps as well as textile retail enterprises. In year 2010 company had 342 customers on the territory of 8 districts of the Russian Federation, more then half of them were from Central district. On the second place is North Caucasian district – 13%, that is very important region because most of manufacturers of fur coats are situated there and despite of high competitiveness from the side of Turkish enterprises – Texman is very focused on this district. The smallest number of buyers were from Far Eastern district, so far as this region is very close to China and most of manufacturers cooperating directly with Chinese suppliers.

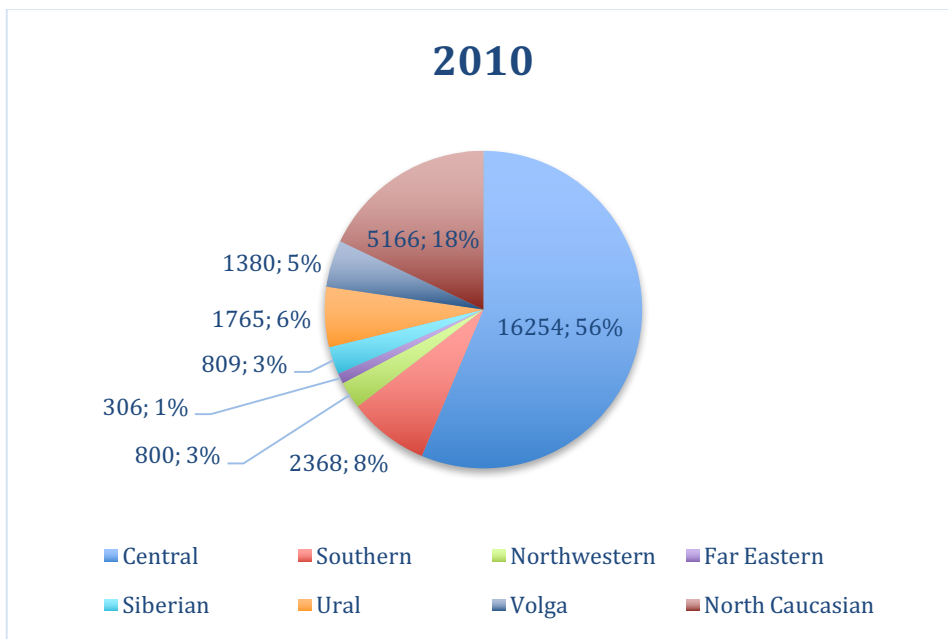
Graph 3 Number of customers by federal district



Source: Own creation

In 2010 was sold 28,849,800 meters of lining fabric, thereafter the the largest number of sales were in the central district (56%).

Graph 4 Number of goods sold by federal district

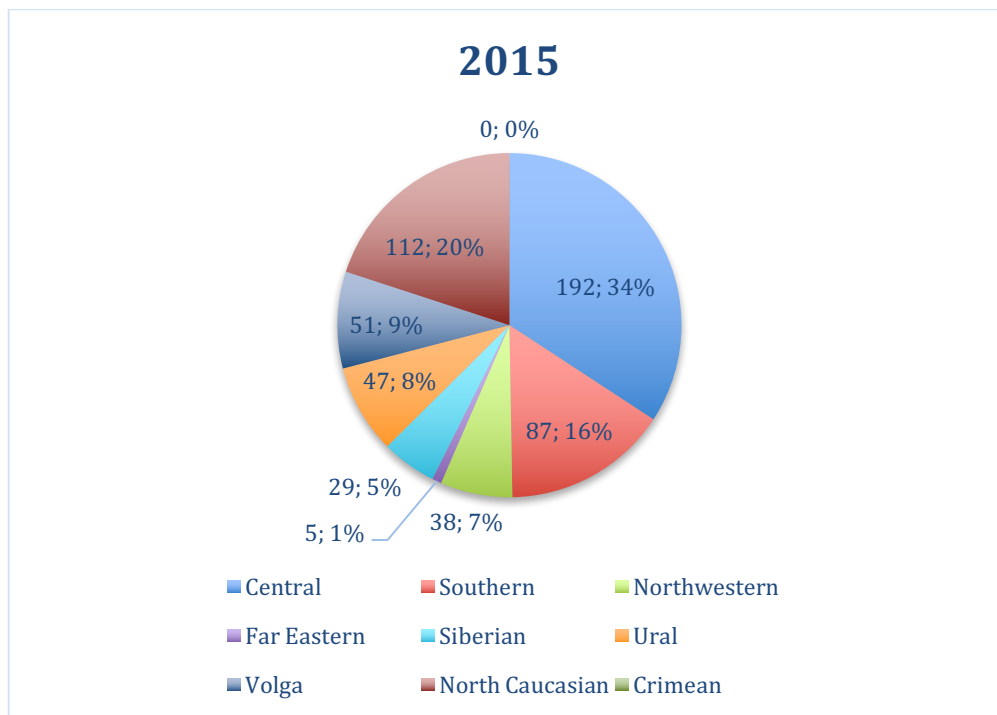


Source: Own creation

The company was actively developing relations with other regions and was looking for new customers there, communications elaborated thanks to textile exhibitions that are regularly held.

At the moment the Texman is cooperating with 561 buyers (498 customers in 2014) thank to the efforts of marketing department, which used Search Engine Optimization (SEO) process for increasing visibility of the web site, and conducted a large-scale advertising campaign on the Internet, so that potential buyers acquainted with the company not only through exhibitions, but also from the Internet. This proved to be a very good tool because Russia is very big and not every customer is able to fly to the exhibition in Moscow. A major role also played the Department of Sales, managers were actively distributed information about the web site between the existing and potential customers. As large garment companies are moving to work on international standards, they were attracted by the presence of a Pantone color guide and about 10 companies have begun to make pre-orders on next seasons.

Graph 5 Number of customers by federal district

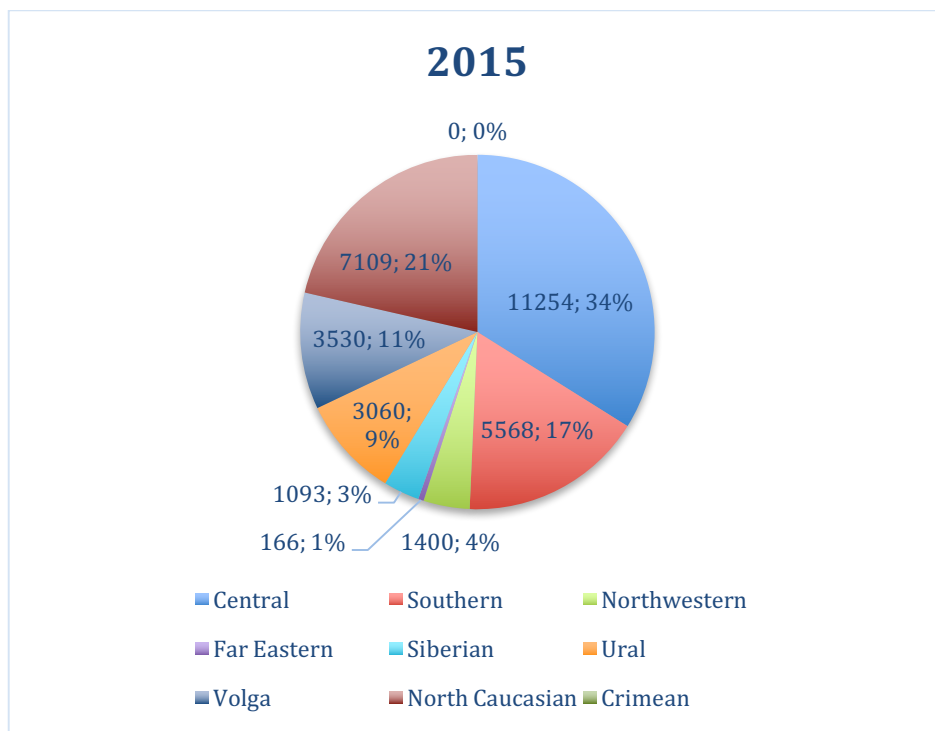


Source: Own creation

Thereby increased the share of customer in Central, North Caucasian, North Western, Ural, Volga and Southern districts. The biggest increase was in Southern district, whereas Far Eastern district even declined by 45%. In 2014 Russia joined the Crimean Federal District, but Texman is in no hurry to cooperate with companies from this region. However, in the future this area can be considered as a development perspective and a good base of potential customers.

Company noticeably increased the number of products sold, thus the end of 2015 Texman sold 33,180,000m of lining fabric (in 2014 was sold 30,909,000m). The most rapidly developing are Volga, Southern and Ural districts, sales there enlarged almost twice, whereas in Far Eastern and Central district sales declined by 79% and 31% respectively (Graph 6).

Graph 6 Number of goods sold by federal district

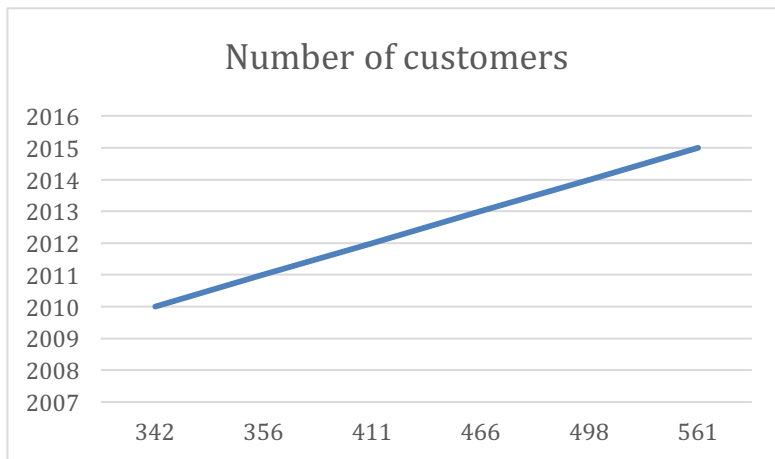


Source: Own creation

Most probably Texman will leave Far Eastern market in next years and will concentrate on North Caucasian, Southern, Volga and Ural markets due to its constantly growing potential. Company has slightly lost its position in Central district, because two biggest buyers leaved the market, but despite this, the number of products sold are still dominant in comparison with other regions.

The graph 7 below demonstrates that the efforts aimed at meeting the needs of customers have not been wasted, since 2010 there is a constant growth in number of customers, the biggest increase was in 2012 and 2015 by 13.4% and 11.3% respectively; in these years company conducted an aggressive marketing campaign. These figures are undoubtedly having a positive impact on the activities of the company, however, number of customers is more subjective ratio, because it does not directly affect the company's sales and revenues, much more important is the purchasing power of customer; the larger the company is the more it can goods buy. Nevertheless, it must be taken into account that despite of diversity of customer base, Texman applies equally carefully to all its customers, and in compliance with business ethics.

Graph 7 Number of customers



Source: Own creation

4.5.3 Analysis of financial ratios

Financial analysis - a method of evaluating and forecasting the financial condition of the company based on its financial statements. To survive in a market economy and to prevent the bankruptcy of the enterprise, it is necessary to know how to manage the finances, what should be the structure of the capital, which proportion should be covered by own funds, and which by loan.

To determine if the implementation of quality improvements lead to better activity of Texman, was decided to compare the following financial ratios: liquidity, profitability, activity and leverage.

Table 8 Liquidity ratios

	2010	2011	2012	2013	2014	2015
Current Liquidity	1.92	1.84	1.95	1.6	1.23	2.36
Quick Liquidity	1.3	1.12	1.26	0.94	0.81	1.30
Cash Liquidity	0.29	0.24	0.31	0.22	0.14	0.33

Source: Financial statements of Texman, Own calculation

All liquidity values grew up in 2015, a strong increase is partially explained by the crisis in 2014, however, even then ratios were at a healthy level, and the company could at any time cover its short-term debt. In 2015 current liquidity was equal to 2.36, which means that Texman can cover its short time liabilities 2.36 times and that it extensively uses its current assets, and has good access to short-term lending.

Table 9 Activity ratios

	2010	2011	2012	2013	2014	2015
Receivables turnover	22.6	24	17.6	15.1	13.2	28.8
Receivables period (days)	17	15	21	24	28	13
Payable turnover	14.4	12.3	11.9	15.1	14.1	14.4
Payable period (days)	25	30	31	24	26	25

Source: Financial statements of Texman, Own calculation

The payable turnover ratio shows how many times a company pays its supplies within one calendar year, while the receivable turnover ratio measures the efficiency in which a company can collect debts from its customers. Receivables turnover ratio is higher than payables turnover ratio in years 2010, 2011, 2012, 2015, respectively, during that time company did not have problems with paying off its liabilities. In 2013 the payable and receivable turnovers were equal, but in 2014 the payable turnover was even higher. The average receivables accounts were too big, because of fluctuating currency most of customers violated the contract and delayed the payment, as a result company had problems with paying off its obligations to suppliers. In 2015 the currency became more stable and the company in most cases charged partial or full payment in advance, and only the largest and most trusted customers get respite to 2 weeks, so that receivables turnover sharply increased and receivables period was just 13 days, while the payable period 25

days. Thus Texman collect its outstanding funds from customers almost twice faster then pays to its suppliers.

Table 10 Profitability ratios

	2010	2011	2012	2013	2014	2015
ROA	14.5	10.4	11.6	10.4	8.3	12.1
Gross profit margin	31.3	30.6	27,1	25.0	19.2	19.9
Net profit margin	17.7	17.3	13.1	12.4	7.9	8.3

Source: Financial statements of Texman, Own calculation

Return On Assets ratios was fluctuating within time, but since 2014 it grew up by 3.8%, which means that company is using its assets in more efficient way, so that each unit of asset brings more profit to organization. Gross profit margin ratio was continuously decreasing due to growing competitiveness, economical crisis etc. Logically net profit margin has been declining too. Nowadays company's gross margin is equal to 19.9% and net profit margin – 8.3%, which is still quite positive result for wholesale organization.

Table 11 Leverage

	2010	2011	2012	2013	2014	2015
Debt - to - equity	0.61	0.56	0.69	0.72	0.76	0.84

Source: Financial statements of Texman, Own calculation

It is an indicator of the debt and equity of the organization. It belongs to the group of the most important indicators of the company's financial position, which includes similar factors within the meaning of autonomy and financial dependence. Optimal, especially in the Russian practice, when the ratio of financial leverage is equal to 1, i.e. liabilities are equal to equity. The most common ratio value in the advanced economies is 1.5 (i.e. 60% of the borrowed capital and 40% of its own). Texman debt-to-equity ratio is lower then 1, which means that on the one side the company is not losing its financial independence, but on the other side it does not engage enough of borrowed funds to increase the return on equity. As follows from the table the company aims to normal value of leverage, but it is impossible on this stage, as the bank loans are not available to the company, and the main creditors of Texman are currently its suppliers.

4.5.4 SWOT and STEP analysis

Each organization in the market has certain advantages and disadvantages. SWOT-analysis (strength, weaknesses, opportunities and threats) allows to identify the strengths and weaknesses, opportunities and threats that require the most attention and effort from the management of the enterprise. The aim of the SWOT analysis is not to find all the strengths and weaknesses, it is too complicated and does not ensure achieving efficiency. The company should focus on those that can be key factors in the success or failure. Below is illustrated SWOT analysis of Texman, which is based on this research.

Strength:

- **The widest range of products;** no one of competitors has such a big assortment and the company always updating it, Texman was the first company that drew attention to the world market trends, whereas competitors have sold something on that in Russia has always been a demand - simple fabrics in dark and light shades.
- **Value for money;** Company offers mainly polyviscose fabrics with composition – 45% viscose / 55% polyester and 100% polyester printed fabric, which tactile quality is very similar to silk fabrics. All products have great indexes of shrinkage, breathability, slippage, water tightness, pilling, resistance to dyeing etc., so that the quality of the product is very close to European and Turkish fabrics, whereas the price is much less.
- **Market experience;** Texman has been operating on Russian market already for 15 years, during this time the company acquired the customer base and good reputation.
- **Understanding and implementing the TQM concept;** the company has successfully embarked on the implementation of TCM and achieved good results, but the main work is yet to come. Nevertheless, the results are already impressive the number of customers and number of goods sold increased since 2014 by 11.3% and 6.9% respectively, number of defects declined by 27.9%.

- **Relationships with suppliers** is one of the key principles of TQM and thus leadership always focused on it, for better convenience has been hired a special agent in China, whose responsibilities include checking finished orders, organization of timely shipment and etc., that facilitates the work of both the suppliers and the company itself
- **Free delivery;** Small bonus for Moscow companies is the free delivery for orders that exceed 1000m, which not only attract buyers, but also motivate them to make bigger orders.

Weaknesses:

- **Lack of capital and inability to take loans;** unfortunately, in the conditions of the Russian market is not possible to take large loans from banks, Texman was denied several times, even a loan in an amount not exceeding 5,000,000 rubles, and the equity of the company is certainly not enough for the organization of more productive activities.
- **Long delivery time from China;** delivery time from china takes 40-50 days, that is not a record figure, since many direct competitors' delivery time is equal to 30-40 days, while the European and Turkish even less. This fact can push out customers, who are depended on term.
- **Process of inventory;** currently the company arranging inventory process in the end of each calendar year, which does not allow to obtain precise information on the number of goods in warehouses, thus delaying the process of ordering, as the warehouse worker has to check whether there is a presence of a certain type of goods which the customer needs. Just the lack of this information complicates the planning of future orders in China.

Opportunities:

- **Sanctions against Turkish Textile Companies;** over the last year political relations with Turkey have deteriorated sharply, Russia imposed sanctions against Turkey on import of certain types of products such as fruits and vegetables. The key issue is that the Ministry of Industry and Trade proposed to impose sanctions on import of 70-80% of light industry products from

Turkey. That will push out a lot of players that occupy big part of textile market, and Texman will have big opportunities for growth and expansion.

- **New markets**, in July 2010 between Russia, Belarus and Kazakhstan signed a contract and formed a customs union within which goods in mutual trade shall not apply customs duties and restrictions of economic nature. In October 2014 Armenia joined the union and Kyrgyzstan joined and in may 2015. Texman is already working with the Belarusian organizations through intermediaries, in the plans - directly cooperate with garment factories of members of the customs union, only in Belarus are situated more than 120 different size factories and workshops.
- **ISO certification**; possession of international standard certificate, will allow the company to start cooperation with the major players on Russian textile market.
- **Office and warehouse rent may go down in Moscow at the price of a barrel of oil \$ 20-30**, which will reduce the company's costs and allow more to invest into the business.

Threats:

- **Unstable situation in economy**; in recent years, the Russian economy showed stable dynamics of growth, but the change in trend occurred in 2014. Western sanctions, supplemented by a significant decline in oil prices, demonstrated the vulnerability of the Russian economic system. Forecast for 2016 is not positive, it is expected to fall in GDP growth; rising inflation etc. About 20% of the external debt of Russia is denominated in local currency, i.e., with the growth of the dollar that much of the debt decrease, based on this fact is expected the possible devaluation of national currency.
- **Tough competition Threat of ne entry**; as it already noted there is large number of direct and indirect competitors in the market. Furthermore, China insist on the creation of a free trade zone within the framework of the SCO, Russia is one of the members of SOC, respectively Chinese textile companies will be able to enter Russian market without any barriers, in this case Texman's activity loses its value and meaning.

PEST (or STEP) analysis is used to evaluate the impact of market and consumer trends on sales and profit of the company. PEST-analysis helps the head of a company or the analyst to see the picture of the external environment of the company, to identify the most important influencing factors. All the information was taken from official recourses such as Ministry of Economic Development web site (more in references).

Political:

1. This year will increase restrictions for import of raw materials and will come into effect higher customs duties on import;
2. Growth of relations between Russia and the exporting country;
3. The high level of corruption and tax policy increase the pressure on small and medium businesses

Economic:

1. Ministry of Economic Development predicts GDP growth of less than 1.5%, but on the February 18, the international rating agency Moody's downgraded the Russian economy's forecast. Earlier it said the fall of Russia's GDP by 0.5-1.5 percent in 2016 and now is expected decline by 2.5 percent²¹;
2. The inflation forecast for 2016 is 10.4%. The maximum projected level of 12.4%. The minimum level of 8.4%;
3. The exchange rates will continue to rise.

Social:

1. People are more inclined to buy national products;
2. People prefer not to spend their income, but to focus on the formation of long-term savings;
3. The growing number of people in retirement and pre-retirement age and total population decline should force the government to increase the tax burden on wages, so that the level of disposable income will be reduced;

Technological:

²¹ Ministry of Economic Development, GDP 2016 prognoses by Alexey Ulyukaev, Available at <http://economy.gov.ru/minec/press/official/201504231> (Accessed 2.2.2016)

1. New garment factories are being built in connection with the import substitution policy;
2. Chinese manufacturers are using the most modern technologies, which enable to produce fabrics that are getting very close to South Corian's product;
3. The price is more and more preferred, then the design and technological properties of the product;

Estimation of the power of factor and probability of change. After all the factors that may have an impact on the sales and profit of the company are selected, it is necessary to assess the power of influence of each factor. Impact strength factor estimated on a scale from 1 to 5, where 1 is the minimum power on sales and profit, and 5 is the maximum. The probability of fluctuations of factors is measured by the same system.

Table 12 The power of factor and the probability of change

		Power of the factor	Probability of change
Political	Factor 1	3	1
	Factor 2	3	2
	Factor 3	5	1
Economic	Factor 1	4	4
	Factor 2	2	5
	Factor 3	4	4
Social	Factor 1	2	2
	Factor 2	3	3
	Factor 3	4	1
Technological	Factor 1	3	1
	Factor 2	1	1
	Factor 3	5	3

Source: Financial statements of Texman, Own calculation

It should be noted that the higher is the real power of the factor, the more attention and effort should be given to reduce the negative influence of the factor on the business. The most dangerous factors for the company are the corruption and high pressure on small businesses and low price products demand. If the last mentioned factor can change as soon

as the country will out of the crisis, then corruption factor is unlikely to change soon, however most of the companies are in the same situation, so so you just need to adjust to these conditions and try to minimize the threat of these factors.

5 Results and Discussion

The practical part of this research was focused not so much on the description of the implementation of TQM concept, as on an analysis of the effectiveness of it. The results showed that most of the works were carried out successfully and brought lower amounts of returns and other benefits. The organization strengthened its sphere of influence in almost all Russian districts and had a significant increase in the number of customers.

However, there are many political, economic, social and technological factors that threaten the activities of the Texman and the organization should not ignore them, but rather concentrate its attention to these threats and minimize possible effect. The situation related to the economic crisis led to the fact that many importers of lining fabric suspended its activities due to the large exchange losses, some of them altogether stopped existence while Texman amplifies its position on the market. Of course economic crisis had a considerable negative impact on the company, it lost few customers that prefer cheaper prices and does not focus on quality, however, the analysis of financial results showed that the company is healthy and some of ratios even exceed pre-crisis norm for the textile industry.

Most likely when a company receives ISO certification, it will strengthen even more its position, because the organization will become the 1st owner of ISO certificate among its direct competitors.

Small wholesale company is a particular type of organization, which is highly dependent not only on its customers, but also equally on suppliers, so that Texman concentrated on the needs and wants of customers and on improving relationships with suppliers, based on mutual cooperation and trust.

Texman just starting their journey on the way to improve the quality and there are still a lot of changes in the future. The situation in the country is not stable, but leadership of the company believes that by following TQM concept and its basic principles, organization can not only survive in fierce conditions, but will be able to keep leading position on the market.

5.1 Recommendation

For the period from 2015 to 2016 the company managed to partially implement the TQM concept that positively changed the business processes, the activity of all employees and as a result - the company's activity as a whole. The company focused on detailed analysis of customers' desires and tried in every way to meet their needs, and as analysis showed Texman was quite efficient in that. Nevertheless, management overlooked intra-organizational issues that slow down the flow of processes in the company and, accordingly, reduce productivity. Below are proposed set of recommendations that may be useful for the future development of Texman.

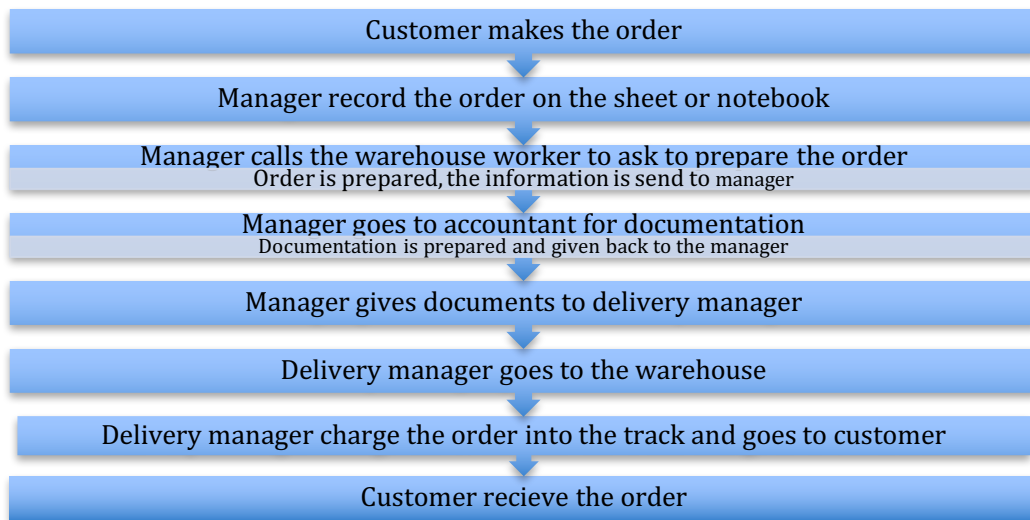
5.1.1 Business process modeling

The company should concentrate more on the process approach, because it determines the review of the activities of any company as a business processes network, related to the objectives and mission of the company, it is one of the most important sign of perfect management. Texman may implement the process approach in four stages:

1. Identifying business process network;
2. Ranking processes by relevance, document and model them ("AS IS");
3. Analyzing the constructed models and identifying the "bottlenecks" of processes;
4. On the basis of the results obtained building models "TO-BE" (in compliance with the same sequence of actions, as in the case of "AS-IS" models).

Today the processes in the company are not well organized and ordered, and as a result there may be interruptions or errors in the preparation of documentation, delivery and even in the preparation of the order. For example, the process of ordering fabric flows in the following way (figure 6).

Figure 6 Process of products ordering in Texman



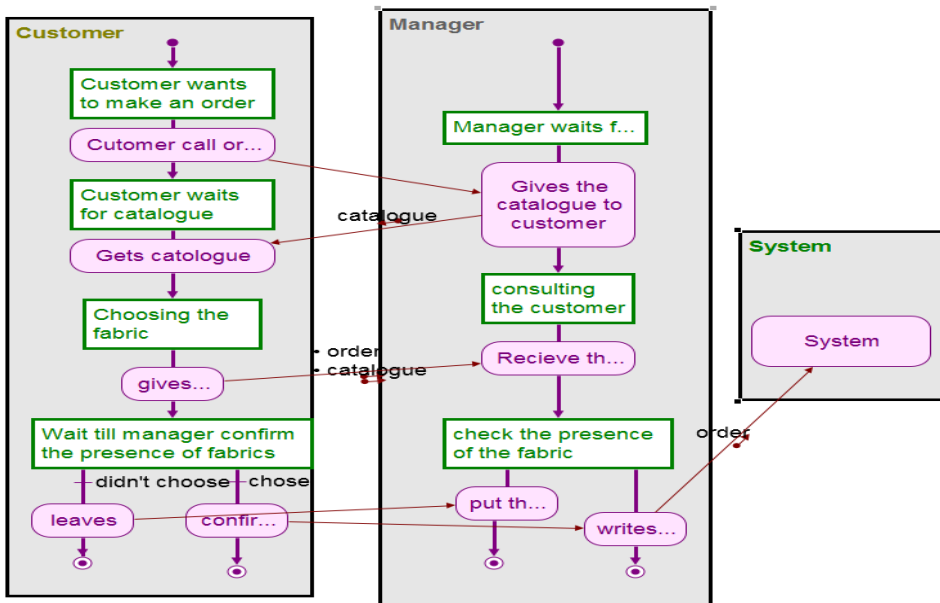
Source: Own creation

Large number of problems comes up within such approach. First of all it is very time consuming and during the process information may be lost or transferred incorrectly, furthermore managers spend a large amount of money on mobile communication and they do not act in the most productive way. If the manager violates the order - process failures may occur.

To improve the productivity of every employee in the organization must be implemented the structured system – so cold business process modeling, which describe the entire process from beginning to end. It is also desirable to integrate the computer system, which will link the processes and will save data of all conducted activities.

Insofar as the most important processes for the wholesale company are the processes regarded to ordering products, the organization should concentrate on it. The proposed version of business processes network was constructed by using program Craft. Case; below are visualized the diagrams that illustrate the process of order arrangement by customer. In the Process 1, the manager contacts the customer and records the order straight into system's database. Manager does not have to communicate with any of members of the processes; the information between participants is exchanged through the system.

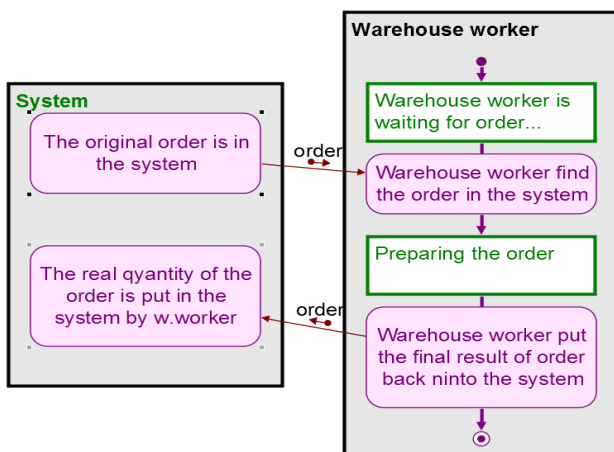
Figure 7 Process 1: Making an order



Source: CRAFT.CASE, Own creation

As soon as the order was put into the system, warehouse worker can start preparing of the order. The problem is that the quantity of fabric in stock is not known (more in 5.1.2) and the winding of the rolls (fabric) may be different, so that before warehouse worker has to call back to manager to confirm the availability or to report the real quantity that is in stock, but now he just put the information about the order back into the system (figure 8).

Figure 8 Process 2:Preparing the order



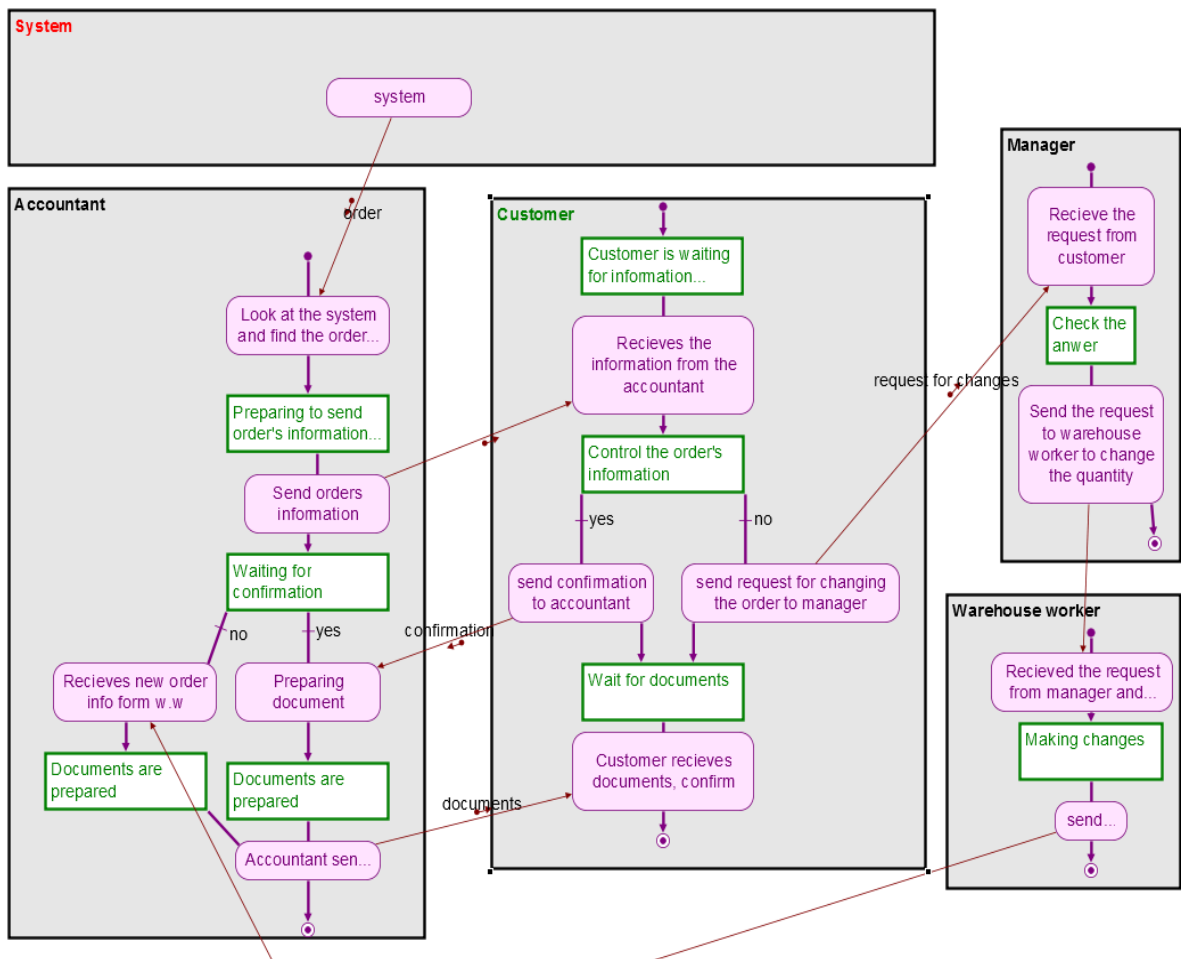
Source: CRAFT.CASE, Own creation

In next step the accountant is ready to prepare the documents, however it often happens that the actual quantity of fabric in the warehouse slightly differs from the desired

by customer, in this case it is necessary to get the confirmation from him / her, if the customer is not satisfied with the quantity – manager helps to correct the order and give the the correction details to warehouse worker. As soon as compromise is found the accountant is ready to prepare the documents.

In the end of the process the accountant makes and sends the documentation to customer (Figure 9).

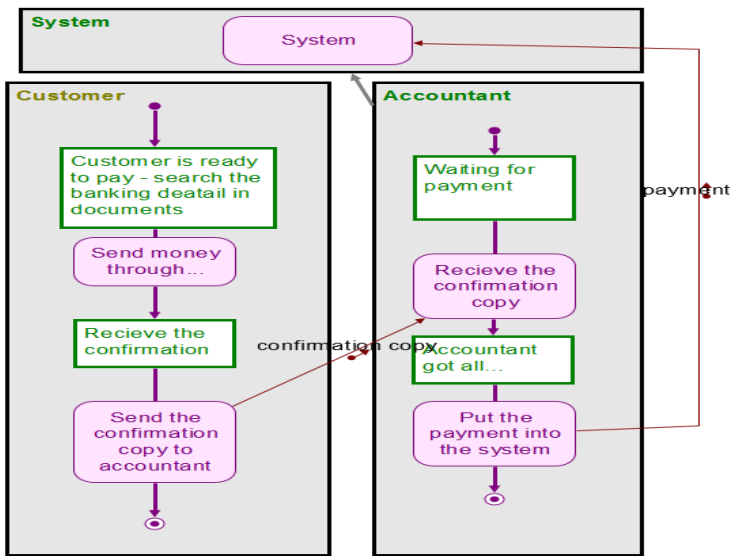
Figure 9 Process 3: Preparing of documentation



Source: CRAFT.CASE, Own creation

When the customer receives the documentation, he / she is ready to conduct the payment; then customer sends payment confirmation copy to accountant, and the last put payment information into the system (figure 10).

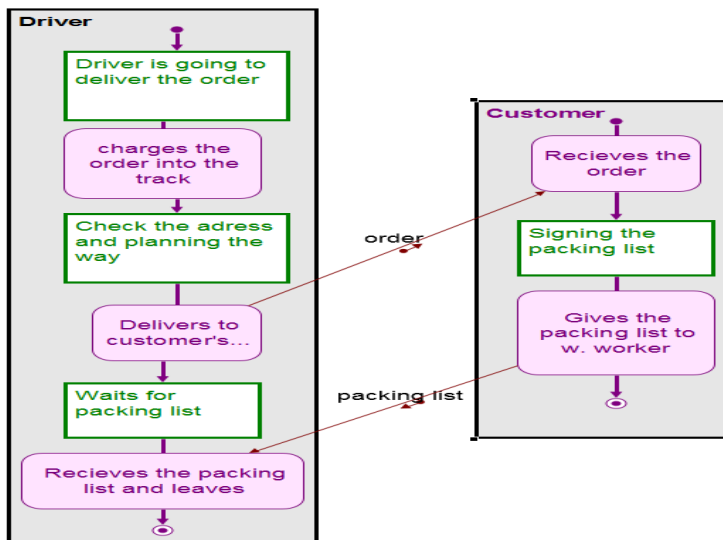
Figure 10 Process 4: payment



Source: CRAFT.CASE, Own creation

In the final step the company’s driver arranges the delivering to the customer, take from him the packing list, sign the documents and goes back to the office (figure 11).

Figure 11 Process 5: delivering



Source: CRAFT.CASE, Own creation

Since the process of ordering fabric is the main component of the company's activities, the integration of business process modeling could be a useful tool for Texman. This solution will not only increase the performance of employees, but it will also accelerate the process flow, cut the costs and eliminate the interruptions in the process.

5.1.2 Automation of inventory process

The company conducts stocktaking process at the end of each calendar year, but the results of inventory are often not in compliance with book of sales. The reason is that twice a year large amount of fabric is cut to create new catalogues with the samples, also if the customer buys the particular fabric for the first time he/she gets two meters long testing coupon; that is not reflected in the book of sales. Due to these facts the organization should arrange inventory process at least 4 times a year, but the process is extremely time consuming and the company does not have enough human capital to do that.

Automation of inventory process is the solution for Texman, it will save money and eliminate errors and thus enhance the quality of inventory process. Each unit of product is uniquely identified with the help of the bar code. This is more than enough for the automation of data collection. Bar coding of goods can be implemented in the enterprise not only for inventory purposes, but also to simplify sales. Furthermore, the bar coding will help to solve the main problem - the product recognition on the shelf of warehouse and its accounting. For these purposes, it is commonly used a special device - data collection terminal. There is a great choice very different characteristic among these devices. Basically terminals vary in capabilities of data collection:

- Scanning linear barcodes (usually all possible formats, as well as the color and the inverted and mirror);
- Recognition of two-dimensional barcodes;
- Reading radio tags.

Since the company uses 1C software for accounting, respectively, the terminal must be in the list of “officially supported devices” to be integrated into the system. One of the best offers in terms of value for money on the market is Symbol (Motorola) K-MC2180 (Picture 1 below), it gives easy data collection in real-time, efficient operation on the move. Data collection terminal: Symbol K-MC2180

Picture 1 Data collection terminal: Symbol K-MC2180



Source: <http://www.cleverence.ru>

The question is, if Texman should ask suppliers to attach barcodes to products before the shipping, or do it by themselves during the acceptance of the goods in warehouses. The second option is more plausible, because currently the enterprise uses its own names (items) for the goods that differ from suppliers' names (for greater convenience, because company has many suppliers and each has its own names for goods as a consequence it will be harder for customers to navigate in catalogues). Therefore it would be better for Texman to mark the goods with barcodes during the acceptance in warehouse, but the chosen data collection terminal does not have printing function, so it is necessary to purchase barcode printer. The best option is mobile barcode printer "Zebra QLn 320"(Picture 2 below); it allows by the piece printing, which is very convenient because there will be no lack or excess of bar codes.

Picture 2 Mobile barcodes printer – Zebra QLn 320



Source: <http://www.cleverence.ru>

Automation system can significantly increase the quality of inventory process and shorten the time of it. Furthermore, the linear barcodes will help to create a structured database, which includes all the indicators of a single product, such as item, footage, width, position in warehouse and the supplier of the roll, that will also accelerate and facilitate the cooperation with clients in case of ordering or complaint on the goods.

5.1.3 Defects reduction in production process

The production process was completely new activity for the organization, and logically there were a large number of problems related to the quality of products. The most common defects related to the waistband are illustrated in the table below.

Table 13 Table 8 Control sheet - number of defects in production of waistband – 100m rolls

Types of defects	Number of defects	%
2. Lack of thread	9 122	15.4
3. Thickened thread	6 578	11.1
4. Bad staining	9 002	15.2
6. Butt joint	34 580	58.3
TOTAL	59 282	100

Source: Own creation

Table 7 shows that 58.3% (butt joint²²) are caused by production technology, when 41.7% (lack of thread, thickened thread, bad staining) is typical textile defect. Textile defects are depended solely on the suppliers so the only way to reduce them is to require suppliers to carry out more thorough final inspection of fabric.

The butt joint defect also cannot be fully eliminated because for the organization of uninterrupted production: the end of one waistband is sewed together with the beginning of following waistband, and in the place of butt joint is forming “seam”. However, the number of butt joint defect can be decreased, today the company uses in production 100 meter rolls which are cut into strips (each strip is 100m), respectively every 100 meters formed defect, but if the organization will use in the production bigger rolls – logically, it will decrease this type of defect. The maximum possible winding from the supplier of pocket fabric is 300m, in this case for the company would be very expedient to start ordering 300 meter rolls (number of defects will reduce three times as the seam is formed every 300 meters).

²² Appendix 11

Table 14 Control sheet - number of defects in production of waistband – 300m rolls

Types of defects	Number of defects	%
1. Lack of thread	9,122	25.2
2. Thickened thread	6,578	18.2
3. Bad staining	9,002	24.8
4. Butt joint	11,527	31.8
TOTAL	36,229	100

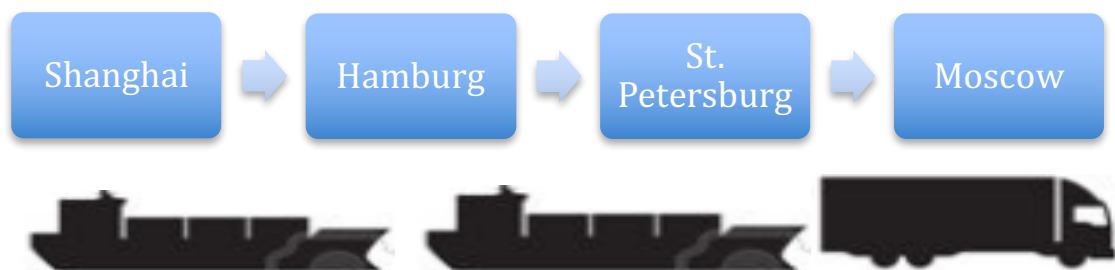
Source: Own creation

As the result total number of defects reduced by 38.9% and share of but joint defect to total defects decreased from 58.3% to 31.8%. Overrun of fabric caused by the removal of the butt joint defect is 5 cm on each unit of defect, respectively total overrun is equal to $5 \times 34,580 = 172,900\text{m}$, but if the company will use 300m rolls, then they will cut only 57,635m of fabric, ultimately this factor will have a positive effect on profit of Texman.

5.1.4 Delivery channels

Today, the company uses the services of a big and reliable forwarding company that provides delivery of goods from China at competitive market prices. There are two possible options of delivery channels, one is slow and cheap, another is fast, but more expensive.

Figure 12 Delivery channel 1

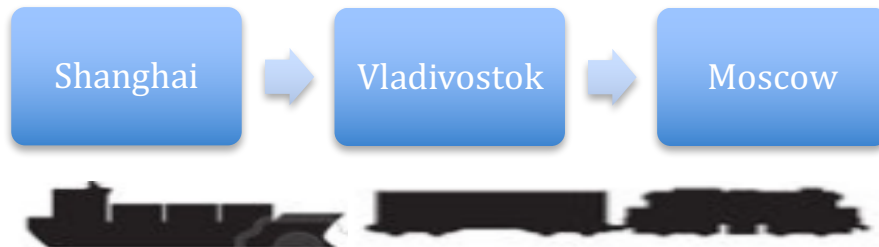


Source: Own creation

Cargo leaves Shanghai's harbor and is sent to Hamburg on large container ships, then in Hamburg cargo reloaded into smaller container ships and is sent to St. Petersburg port, there the cargo is loaded on trucks and sent to the final destination - Moscow. Besides that the cargo goes 40-50 days, also increasing the threat in the stopping points. Despite of

all limitations, this is the most popular channel, because it is the cheapest way of delivering the order from Shanghai to Moscow.

Figure 13 Delivery channel 2



Source: Own creation

The figure above shows an alternative route which is a plus delivery speed, cargo is delivered within 30-40 days, but the problem is that the railway service is much more expensive than shipping by sea routes. The price of the first option is 245,000 RUB/container (40ft), for the second delivery way forwarders asked to 4200000 RUB/container. For 10 days difference, the overpayment is too high, respectively Texman transports goods via Hamburg.

The thing is that the forwarder of Texman is one of the leaders in the field of logistic, which takes big commission for the quality of their services, only commission of Moscow agent is 78,000 rubles. Of course there are smaller players on the market that offers same services by cheaper prices, such as Estee Logistics Ltd. that delivers the container via Vladivostok just for 300 000 RUB. The difference is still significant, but for Texman would be beneficial to use the services of other smaller companies, not only to speed up the delivery process, but also to diversify its forwarders, in the case if the company break relationships with the current forwarder, it will not be necessary to look for new ones and business processes will not be interrupted.

6 Conclusion

The transition to a market economy, the priority of ensuring product quality and competitiveness have increased the importance of high professionalism and the creative attitude towards work. Knowledge of TQM in Russia is becoming the standard, and the usage of it - a powerful competitive advantage for companies. It is important that TQM contains not only new ideas and principles of management, but also a rich set of specific tools and methodologies of daily work manager. Total Quality Management is a business philosophy, based on the commitment of top management to continuous improvement of performance using the leadership, teamwork and involving of all employees in the improvement of all the activities on the basis of continuous and comprehensive training, and application of knowledge and skills to improve customer satisfaction.

In this research has been considered the topic of TQM as a part of quality management and its implementation and benefits in practice. Theoretical part has prepared the basis for further research, were investigated the evolution, development and establishment of the TQM as a scientific process, as well were illustrated main techniques, principles and tools of this concept, and then identified the specifics of trading companies and their value.

Principles, technics and tools that helps to achieve the quality improvements found application in a practice. In the second part of research was illustrated the process of implementation of TQM and analyzed the results of this implementation in the organization on the example of "Texman".

All the goals that had been set in this research have been achieved; the TQM concept is not only applicable for small trade companies, but what is more important it is very beneficial for organization. On the example of Texman it has been proved that the company has improved its activities even throughout one calendar year, so that company came to a completely new level of quality of products and services and at the moment has undeniable competitive advantage over the others. The main reason for the implementation of TQM is that company aims to cooperation with large domestic and foreign companies, this collaboration will allow Texman to enter new markets and to increase its sphere of influence in Russia and as a result increase the value of the company. The company also seeks to obtain the certificate ISO 9001:2015. The quality management system, built in

accordance with the requirements of the international standard, can actually increase enterprise value by 5-10%.

Given recommendations may be useful for Texman, since they can positively affect internal processes of the company and create a basis for further improvements.

It has to be taken into account that most of the changes in the company related to quality improvement have not caused big financial expenses, most of the innovations did not cost anything. The most expensive projects were the preparation for ISO certification and the opening of the assembly line, however, these costs can not be compared with the benefits that they may bring in the future. Accordingly, the initial stage of implementation of TQM concept is not the expensive process and is available to all players on the market.

Thus it can be concluded that the implementation of TQM is not only possible in small organizations in Russia, but it is a key factor for success. Since Russian moved from central-planned to market economy, the demand is formed on by needs and wants of customers, and to satisfy and even forecast their desires is necessary to use innovative approaches. Current market conditions do not allow to work in such a way as it was possible 10 years ago, today it is necessary to improve quality at all levels of the enterprise, otherwise inactive organizations are at high risk of bankruptcy.

Despite the fact that the analysis of activities of Texman showed that good results have been achieved, the main question which may arise is whether the Texman has done everything possible and it is not necessary to spend extra effort on the quality management, as impressive and record results were already achieved and it will be too difficult to exceed them? The answer is obvious, of course yes, it is extremely important to continuously improve the quality of products and services, without pauses and respites, because as Thomas Berry said “Total quality management is a journey, not a destination”²³.

²³ Berry T. Managing the total quality transformation. New York: McGraw-Hill; 1990.

7 References

BERRY, Thomas. *Managing the total quality transformation*. New York: McGraw-Hill; 1990. ISBN: 978-0070050716

CROSBY, Philip. *Quality is Free*, New York: Mentor book, 1980. ISBN: 0-451-62585-4

DEMING, Edwards, *Out of the Crisis*, London: MIT Press, Reprint edition, 2000. 24 p. ISBN 978-0262541152

Department of Defense, *Total quality management master plan*, Washington, D.C.: United States, 1988, 1p. OCLC 831675799

DRUCKER, Peter. *Management Challenges for the 21st century*, New York: HaperBusiness, 2001. ISBN: 978-0-88730-999-1

FEIGENBAUM, Armand V. *Total Quality Control 4th edition*. New York: McGraw-Hill Professional, 2004. ISBN: 978-0070220034

GRODZENSKIYI, Sergey. *Quality Management*. Moscow: Prospect, 2015. ISBN: 978-5-392-18815-4

ISHIKAWA, Kaoru. *What is Total Quality Control? the Japanese Way*. New Jersey: Prentice Hall, 1988. ISBN: 978-0139524332

BESTERFIELD, Dale, BESTERFIELD-MICHNA, Carol, BESTERFIELD, Glen, BESTERFIELD-SACRE, Mary. *Total Quality Management*. New Jersey: Prentice Hall, 2002. ISBN: 978-0130993069

JURAN, Joseph M. *A History of Managing for Quality*, Burr Ridge: Irwin Professional Publishing, 1995. ISBN: 978-0873893411

KANJI, Gopal, ASHER, Mike. *100 Methods for Total Quality Management*, London: SAGE Publication Inc., 1996. ISBN: 0 8039 7747 6

SWANSON, Roger. *The Quality Improvement Handbook: Team Guide to Tools and Techniques*, Boca Raton: CRC Press, 1995. ISBN: 978-1884015595

TAYLOR, Frederic, *The Principles of Scientific Management*, Charleston: Nabu Press, 2010. 43 p. ISBN: 978-1176526235

The Chartered Quality Institute. Factsheet: *Total quality management*, 13 p. London, England, Retrieved 2013-10-19

ZAREMBA, Hans, KOPER, Johannes. *Quality Management and Qualification Needs*, Heidelberg: Physica, 2000. 163p. ISBN: 9783790812626.

ZEKUNOV, Alexander. *Quality Management*, Luberci: Yurait, 2015. ISBN: 978-5-9916-2281-3

Internet sources:

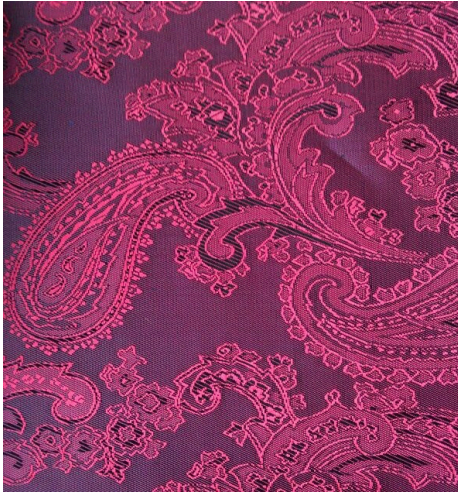
ISO, International Organization for Standardization, *ISO 9000 Quality Management*, Available at http://www.iso.org/iso/home/standards/management-standards/iso_9000.htm (Accessed on 13.11.2015)

Ministry of Economic Development, *GDP 2016 prognoses by Alexey Ulyukaev*, Available at <http://economy.gov.ru/minec/press/official/201504231> (Accessed 2.2.2016)

Occupational Safety and Health, *GOST R 51309 – 99*, Available at http://ohranatruda.ru/ot_biblio/normativ/data_normativ/37/37831/ (Accessed on 1.12.2015)

8 Appendix

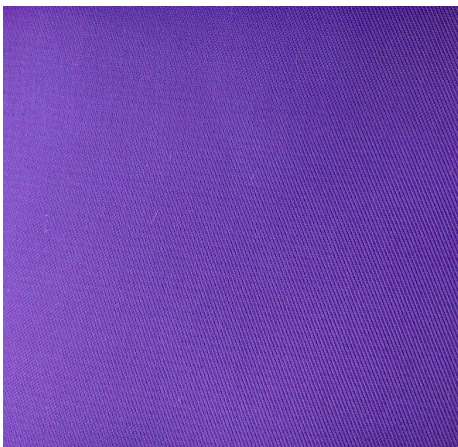
Picture 3 Jacquard lining fabric



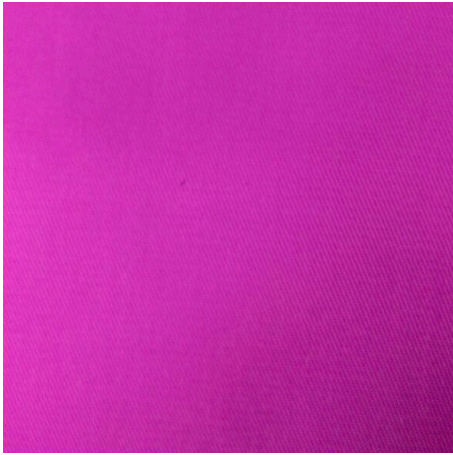
Picture 4 Printed lining fabric



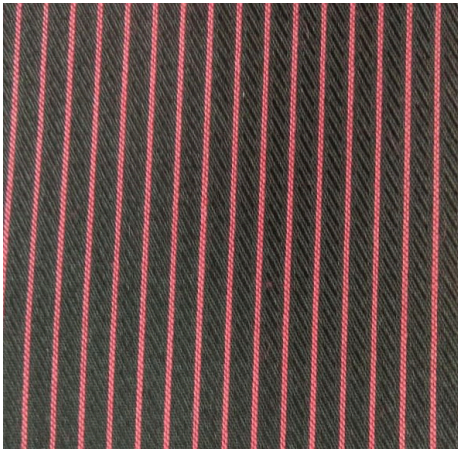
Picture 5 Plain dyed lining fabric



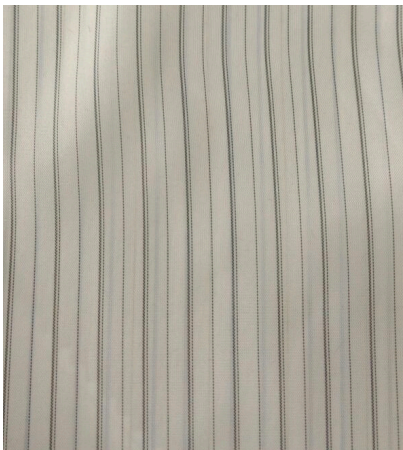
Picture 6 Stretch lining fabric



Picture 7 Pocket lining fabric



Picture 8 Sleeve lining fabric



Picture 9 Catalogue TM001 mixed



Picture 10 Catalog TM001 compared with competitors catalogues



Picture 11 Test report provided by INTERTEK

Intertek

Number: _____

TEST REPORT

Applicant: SHANGHAI XIANGYOU TEXTILE CO., LTD.
 RM. H-1, 10/F, NO. 1590, YAN'AN RD. (W.),
 SHANGHAI, CHINA

Samples Description As Declared:
 One (1) Pieces Of Submitted Cutting Said To Be VP-10 Woven Fabric
 Applicant's Provided Care Instruction/Label:-

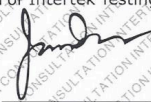
Date Received/Date Test Started: July, 2010
 Standard Next Standard
 Buyer's Name Next
 Manufacturer's Name Shanghai Xiangyou Textile

Conclusion:

Fibre Analysis	(A)
Dimensional Stability To Commercial Drycleaning	*1
Color Fastness To Drycleaning	M
Color Fastness To Rubbing	M
Color Fastness To Water	M
Grab Strength & Seam Slippage Of Woven Fabrics (Seam)	M
Grab Strength & Seam Slippage Of Woven Fabrics (Tensile Strength)	M
Elmendorf Tearing Strength	M
Pilling Resistance After Dryclean	M

Note: M = Meet Buyer's Requirement F = Below Buyer's Requirement
 # = No Specified Requirement * = No Submitted Information
 N/A = Not Applicable *1 = Conform To The Declared Fibre Content

Prepared And Checked By: _____
 For Intertek Testing Service Ltd., Shanghai



James Wang
 General Manager

Picture 12 Test report by DEVETEX

Devetex Soho (Suzhou) Co.,Ltd.		
戴维苏豪(苏州)纺织品有限公司		
Date: July 8,2013		
TECHNICAL DATASHEET		
Article Mechanical Stretch Lining	D2104	
Composition	100% Polyester	
Width	137 cm usable	
Weight	about 76 g/square meter	
Warp	Thread	83 per cm
	Yarn	50D Polyester
Weft	Thread	38 per cm
	Yarn	50D Polyester
Customs Tariff No.		
PHYSICAL TEST-METHOD		MINIMUM REQUIREMENTS
Tensile strength DIN EN ISO 13934-2		
Seam opening DIN EN ISO 13935-2 at load of 80N		
Dimensional stability to steaming DIN 53894-2		Warp 0.5% weft 3%
Dimensional stability to dry cleaning		Warp 0.5% weft 3%
Colour Fastness		MINIMUM REQUIREMENTS
DIN EN ISO 105-A01 dark colours →		change in shade bleeding
to dry cleaning DIN EN ISO 105-D01		
to ironing DIN EN ISO 105 X 11		4 4
to perspiration acid and alkaline DIN EN ISO 105-E04		
to water, heavy test DIN EN ISO 105-E01		4 4
to rubbing wet EN ISO 105-X 12		4 4
to rubbing dry DIN EN ISO 105-X 12		4 4
We hereby confirm that this article meets all requirements of OEKO-TEX Standard 100 Product Class II , Direct Contact With Skin		
Devetex Soho (Suzhou) Co.,Ltd.		

Picture 13 Example of butt joint defect on waist band

