Striving for Business Excellence in Belarus

- Tendencies of quality management in IT industry

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ABSTRACT

Nonetheless IT sector is considered as highly competitive Belarus is listed in the top five, while also being in the transitional stage. Thus, this thesis examined the tendencies of the quality management in Belarus IT industry. TQM, commonly used control system – ISO, and Business Excellence Models – Malcolm Baldrige National Quality Award (MNBQA) and European Foundation for Quality Management (EFQM) were used as the basis for our research. The main premise for the research is that it is not necessary to excel in all concepts of TQM, where ISO was used as the primary step towards total quality.

Hence it was deduced that quality in the collected sample differs among the concepts. Even though the main concept of customer satisfaction is acknowledged, the human factor is still undervalued. This might also be the flaw hinged by ISO. However, further research could be done, covering bigger sample and observing the shift of these tendencies.

Key words: Total Quality Management (TQM), International Organisation for Standardisation (ISO), Business Excellence Model (BEM), IT, Belarus, transitional economy, tendencies, Leadership, Strategy, Human Resources, Culture, Infrastructure
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1. INTRODUCTION

1.1 Background

In the first half of 1980s the level of managers realized the influence of quality on a company’s and its future development. All this combined with stiffening rivalry from Japan and shifting quality requirements of customers increased the interest in quality issues among top executives. Since then, the concept of quality has expanded into service organizations. It had become clear that service organizations also should be managed systematically and must embrace the whole organization rather than only front office personnel (Sandholm, 2000).

Starting from the mid 1980s a number of institutions were established to promote quality campaigns at national level. Results of this are Malcolm Baldrige National Quality Award (MBNQA) and European Foundation for Quality Awards. Their models have gained a significant recognition in U.S. and EU. However, the quality in the countries with transitional economy is still questioned. More challenge is faced in service sector, within the IT industry.

1.2 The problem of quality

The initial purpose of quality management is to reduce costs and improve customer satisfaction. This is closely related with the Porter’s view of competitive advantage of a superior cost structure or ability to differentiate products that add value for customers. In other words, improved product quality reduce amount of rework, these savings can help lower firm's costs and by producing products that better satisfy the needs of customers, there is the possibility for differentiation (Reed et al., 2000).

As the international competitive hostility increases, companies tend to enhance their quality systems in terms of both infrastructure and core practices (Zhao, 2004). Quality management (QM) has become one of the most widely accepted philosophies in organisations, and one of the most popular research fields (Hardjono and Marrewijk, 2001).

Today, every company to some extent realizes the importance of implementing quality strategies. The results of this are higher revenues, greater market share and company’s welfare in the long run (Kunst, and Lemmink, 1992). Some managers, such as those at GE and Stanley Engineered Components, ob-
serve a real link between the management of quality and competitive advantage of the company (Au and Choi, 1999). In GE’s 1997 annual report, it was explained that their quality initiative, adopted in 1995 improved the firm's operating margin from 10% to more than 15% (Reed et al., 2000). According to Bob Galvin’s claim, Motorola’s former chairman, the gross national product of the USA could go up by some 0.5 - 1% per year if there was a national policy on quality (Au and Choi, 1999).

Nevertheless, the meaning can be sometimes misinterpreted and blindly relied on the latest trend (Sandholm, 2000). It was pointed out in the Economist (1992) that three-fourths of U.S. and British companies used some type of quality management programme, but the expected result often was not achieved (Reed et al., 2000).

Hence, the true weight of quality implementation is underrated, partly, because it is difficult to measure. According to Harmon et al. report (2006), implementing a measurement system is a difficult but important first step towards improving the productivity of services. However, still quality is a very abstract meaning and the relevance of those factors affecting one company might be different for another. Moreover, performance indicators used to monitor quality can be very confrontational (Geraedts et al., 2001). According to one of the Fortune 1000 companies, 76% of companies in the list implemented TQM programme (Stashevsky and Elizur, 2000).

1.3 The problem in theory and practice

In due course of developing understanding of quality and its definition, a lot of theories appeared as a result of distinctive practices. The most enduring philosophy of quality theory is Total Quality Management (TQM). Even though it has undergone the number of changes and offshoots, it is still the mostly used philosophy and is not another management fad that is able of delivering competitive advantage (Bellis-Jones et al., 1989).

The TQM originally appeared from statistical process control that Deming, one of the founders of TQM theory, put as the basis for his work. Deming emphasised the importance of customers and continuous improvement. Other major gurus of TQM are Juran, Crosby and Ishikawa. Crosby put forward the human factor when discussing TQM. Juran’s main contribution was the concept of managerial breakthrough. This concept relied on the fact of leadership and manager’s ability to embrace change (Armstrong and Stephens, 2005). Ishikawa also emphasised important role of leadership and top man-
agement commitment to quality. However, his idea of quality goes beyond improving product quality to services after the original purchase.

TQM is seen to be a critical management philosophy for laying foundations of competitiveness for firms. However in due time it has evolved into business excellence, as a result of a need to confront the internationalisation of the economy and a hostile and turbulent environment in which competitiveness requires more and more management to satisfy over changing customer needs (Camison, 1996).

The consequence of this trend is emergence of Business Excellence models (BEM): MNBQA model in U.S and EFQM model in EU that gained considerable attention from enterprises. These models were introduced as an attempt to measure quality and give general guide for companies that endeavour at excelling in quality matters. The main focus of these models is leadership commitment through strategic planning and drive of the whole organisation to improve processes and eventually achieve customer satisfaction and higher business results.

The role IT plays in most organisations in practice results in a long term investments and risks as well. Not to mention the fact of reliance and trust on the third parties (when outsourcing) in achieving companies goals (Moran, 2005). According to Kanakamedala et al. (2006) new IT solutions and a more competitive environment made it more expensive to serve customers. Nevertheless, serving them well and cost-effectively has never been more vital. Therefore, being closer to customers and assisting them in their endeavours will help to achieve better quality of service and overcoming the difficulties raised. On the other hand, the importance of IT has increased due to the disruption in the flow of critical data because of the internationalisation of suppliers (Pande et. al., 2006).

Standardisation has played a significant role in planned economy, where quality was neglected. The result of this was a hidden inflation (an effect of worsened quality that masked higher costs to ensure zero inflation). Three generations of such policy were embedded in the culture and could not be changed over night (Inglehart, 1990). Therefore, the biggest challenge in these countries is to realise the importance of customer satisfaction and commitment of all organisation to continuous improvement. Support and motivation from top management are also important factors in these countries.

This has been said, it is obvious that for companies willing to compete in international arena it is necessary to develop the skills that not comply with local needs and create competitive advantage that is sustainable in a long term. However with the challenges faced in Eastern companies it can be difficult to
achieve. On the other hand Zhao et al. (2004) and Lemak and Reed (2000) present evidence that it is not necessary for a company to do well in all aspects of quality management in order to succeed. Therefore, it is interesting to observe what aspects of quality management are relevant for transitional economies and what level of quality is sufficient to ensure effective and efficient performance.

1.4 The significance of the problem

The beginning of outsourcing era makes an impulse for IT industry in Belarus. Among the positive factors of IT sector development were high educational level of employees and former Soviet past. Belarus was considered as a computer lab in the whole Soviet Union, and it took its advantage in network operations, application development, security, web site development/management, architecture, data centre operations, application management and customer support. The activity of IT outsourcing has been increasing year after year, and though Belarus hardly can compete with India, it goes right after them and Russia and Eastern Europe as a whole. Thus, Belarus takes 4th place in the outsourcing destinations. The researchers underline that among the success factors the most important is ongoing management, and the nearness of business is quite crucial (the location of Belarus right in the centre gives advantages in time for travelling).

The selection criteria show that the most important are specific skills, then goes reputation/references and only after these two goes the price. Taking into consideration this fact, it could be easily proved that reputation or references are the form of companies’ image or customer feedback, and they are based mostly on the quality of product or service. As it has been mentioned above, the ongoing management stands on the first place of success factors, and this can be connected to the quality as well (as there is an intention of study quality management system based on the model, not the phenomena of quality itself). In the sphere of major challenges identified on the first place managing process/relationship, which is interrelated with ongoing management as a success factor. The both sides of the one medal – quality management covers them all. (Trestle Group Research Report, 2004)

1.5 Research question

Based on the above discussion the following research question was raised:

- How do companies manage quality in a country with a transitional economy?
Particularly, the thesis analysed the following questions to be able to answer the main research question:

- What is the significance and role of leadership in achieving quality?
- What is the effect of strategy in adopting quality?
- How are employees committed to quality?
- What is the focus and role of a quality policy in firms?
- What is the role of infrastructure in supporting quality level that companies pursue?
- What is the level of quality in companies operating within a transitional economy?

1.6 Aim of the thesis

The aim of the thesis is to find out how do companies manage quality in the transitional economy of Belarus, what level of quality they are able to reach, and is it sufficient.

Thus, it will first assess and discuss the different factors influencing quality within the organization. As a result, the research model will be built to reflect the company and theory on Total Quality Management (TQM). Hence, the research will deduce on developed quality system from the collected sample and will highlight the best quality management practices. The attempt will be taken to identify the best practices with regards to managing quality in IT industry in Belarus.

The collected sample reflects more than several companies, of different size, operating in IT sector in Belarus. The sample will also reflect companies with and without quality management systems (ISO). Thus, it will be observed whether the ISO implementation has any effect on a company perception of quality. The accuracy of claim that ISO gives a good basis for the further implementation of the TQM model (EFQM or Baldrige) will be also tested.

It will be also identified whether the suggested research model gives a good framework for assessment or it is too general and needs additional concepts for justified conclusions.

All in all, the endeavour in this research will facilitate the general understanding of authors in IT industry operations within the field of quality management.
1.7 Limitations

It is necessary if not obligatory to draw some limitations specific to this research. The limitations are mostly based on the three main factors: time, country and industry.

The time limitation is associated with the period of research. In the other words, the time of gathering information from questionnaires will take approximately two and a half weeks: from 19 of April to 5 of May. However the purpose of the research is not associated with the time rather the sample to be collected. Therefore, the data collection had been stopped when the sufficient number of answered questionnaires was received (49 received responses).

The research will be also conducted in a single country – Belarus, within IT industry. The questionnaire will be distributed only among people working in IT companies, regardless of the personnel position, i.e. from top level managers to front level employees.

1.8 Research strategy

In this section the methodology used to collect data will be discussed and then the process of the research will be briefly presented. This involves the three stages of decision-making. The first is whether the research is quantitative or qualitative, second, the actual design of the study, and third, how evidence is to be collected. The limits of time and available resources as well as the character of the research question will be taken into consideration (Brewerton and Millward, 2001). The methodology will be concluded with validity and reliability of the research and the brief presentation of the research procedure.

1.8.1 Quantitative and qualitative research

Even though the quantitative research is perceived as the more respectful, it is also known that a qualitative research can give a greater depth and understanding on the topic. This is due to the common belief where science is related to numbers and precision. Also the qualitative research takes much longer and requires a greater clarity of goals and can not be analysed using the computer programmes (Berg, 2004).
“Quality refers to what, how when, and where of a thing – its essence and ambience. Qualitative research, thus, refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things” (Berg, 2004, p. 3).

Due to the nature of the topic – quality management – it would be more appropriate to conduct a qualitative research. However, this would not give more justification to the already ambiguous concept of quality. Therefore this research will strive at measuring the quality upon the concepts derived from the literature review, presented in the research model. This is also more appropriate according to TQM literature, where management by facts is vital. Thus, we believe that quantitative study will provide enough facts to make necessary deductions.

1.8.2 Data sources

There are two types of data sources: primary and secondary. Primary data is considered to be a better source of internal validity, because the researcher collects this data specifically to suit the research and the field to be studied (Thietart, 2001).

“Because it is formalized and published, secondary data often comes to be attributed with an exaggerated status of ‘truth’” (Thietart, 2001, p. 74). However, the objectivity of secondary information is usually taken at a face value; its reliability should be considered with regards to the published source.

Thietart (2001) suggests that primary and secondary data can complement each other at all stages of the research. If primary data is incomplete, it can be supplemented with secondary data for better understanding or to evaluate the information collected. In the same way the secondary information can be backed up with primary to give more weigh to information ready at hand.

In our research the information was collected using both sources. The primary data was obtained from questionnaires. The secondary information was collected from the articles and other scientific publications to form an overview of the IT industry in Belarus.

1.9 Research design

According to Brewerton and Millward (2001) the design of a research pertains to the strategy used to collect empirical data, to analyse the findings and draw conclusions. “A design is a way of arranging the
environment in which a survey takes place. The environment which consists of the individuals or
groups of people, places, activities, or objects that are to be surveyed” (Fink, 2003:2, p.31). The design
must fit the research question and the type of evidence that it is necessary to obtain (Brewerton and
Millward, 2001).

Fink (2003:1) suggests two designs of survey based studies: experimental and descriptive. Experimental
design is characterised in terms of comparison of two or more group, where one is an experimental and
another is a control (or comparison) group. Descriptive or observational design “produces information
on groups and phenomena that already exist. No new groups are created” (Fink, 2003:2, p. 33). Descrip-
tive research design is mostly appropriate for this type of research. This is due to the fact that the group
under observation constitutes a sample from IT industry in Belarus and the result will show its quality
development level.

Further the descriptive research can be divided into cross-sectional designs, cohort designs and case-
control designs. Cross-sectional designs give a description of one or many groups at one point in a time,
while a cohort study observes the group of people that have something in common and remain so dur-
ing the extended period of time. Cohort designs are also prospective and provide data about changes in
specific population. Case-control designs are retrospective (go back in time) and explain why the current
phenomena exists. This involves investigation of two groups where one is under phenomena (Fink,
2003:2).

Due to the fact that this research investigates the level of quality in a sample from IT industry in Belarus
at one point in a time the cross-sectional design is most appropriate to apply. The other designs are not
suitable because the time does not have anything to do with our research question.

1.10 Research methods

The following section concerns research methods and discusses them in depth. The research method as
mentioned before is a survey. “Surveys are systems for collecting information from or about people to
describe, compare, or explain their knowledge, attitudes, and behaviour” (Fink, 2003:1, p 1).

Gerald and Whicker (1998) divide surveys into two different types: “interviews (face to face interviews
or phone interviews) and self administered surveys (normally sent through mail)” (Gerald and Whicker,
The four types of survey instruments are outlined in Fink (2003:2). These are self-administered questionnaires, interviews, structured record reviews, and structured observations.

The objective of our survey is to determine the level of quality of organisation. Quality is a combination of the important factors (see research model) determining company’s level of excellence. Thus, self-administered questionnaires are considered to be most appropriate. This is due to the purpose of the research to measure the level of quality and inability to conduct interviews.

Questionnaire development procedure can be described according to six steps of presented in Gerald and Whicker (1998, p. 88):

1. **Statement of purpose.** In the first step the problem and purpose of the research were defined. This has evolved from the numerous literature reviews on the topic of Quality and Total Quality Management (TQM).

2. **Define relevant variables.** After an extensive literature review, the important concepts of Quality were highlighted and put together to represent the model of this research.

3. **Develop questions.** Once the research model was developed and approved by the supervisor, the necessary questions were asked to collect the necessary information for analysis. The questions were structured to measure the attitudes on a scale of five: completely agree, agree, uncertain, disagree and completely disagree. As was suggested by Fink (2003:2) uncertainty was used to denote either respondent’s low knowledge or hesitation on a topic.

4. **Construct questionnaire.** The questionnaire was constructed following the suggestions from Fisher (2004) and Fink (2003:1). The questionnaire then was constructed, i.e. the introduction was written and questions were structured in a logical way.

   - The questions were structured as short as possible in order to avoid vagueness.
   - They were designed to look attractive and formal. The questions were highlighted and the spaces were left in between. The BBS logo was also put on the first page of the questionnaire to give a sense of significance and formality.
• The questionnaire was divided into the parts to reflect the subject of the group of questions. The parts were named after the concepts of our research model.

• The questions were put in order of significance and difficulty, easy questions first and hard ones last.

5. Pretest questionnaire. To avoid any mistakes and inconsistencies, the questionnaire was submitted to the supervisors for pretest and final confirmation before sending it to the respondents.

Once the questionnaire was approved, it was translated to Russian language. This is because the country of the surveyed company is Belarus where Russian is widely known and accepted language. After translation, the questionnaire was once again pretested this time by sending to our colleagues from programme and acquaintances in IT sector. After final correction, the questionnaire was put into Microsoft Word programme (to be able to fill it with the help of computer) and sent to the respondents.

6. Administer, code, and report. After receiving the answers from respondents, the information was put in an appropriate programme for data systemisation – “Sphinx”. The programme produced graphs and other statistical data that was used as a basis for chapter 3 – empirical data. This was then used to analyse and answer the research question.

1.10.1 Sampling

As defined by Fink (2003:2) sample is a portion of a larger group (population) and is used to define tendencies of this group.

Inclusive criteria for the respondents is concerned with the country respondent works – Belarus, the industry company operates - IT and have access to the internet. Due to the inclusive criteria discussed above, the nonprobability sampling will be used as it is not guaranteed that all eligible units will be included in the sample. Therefore, the so called snowball sampling (Fink, 2003:2, p. 41) will be applied, i.e. the questionnaire will be sent to the people working in the IT companies in Belarus and these are expected to forward the questionnaire to their colleagues.
The number of received responses or the sample of the research is 49 people. Thus, due to a low representative level of the sample our thesis will avoid any generalisations and will instead emphasise tendencies of the sample collected.

1.11 Quality of the research

Four concepts can describe the quality of the research. Among them there are reliability, generalisability, validity and credibility. Basically, validity is defined as an accurateness of the results, reliability as the ability of the results to be repeated, generalisability – the ability to have a meaning beyond the data set and credibility as a soundness of data. These key elements of the assessment are crucial during and after data analysis. (Maylor, Blackmon, 2005)

1.11.1 Reliability and generalisability

With this study we hope that we enter the new world – a world of investigations in the area of quality management in Belarus IT industry. The research which has been done could be assessed as a beginning of the big adventure to the nuances of quality management understanding. It could be reliable in terms of the start for new researchers limited by time, but we agree that more detailed specification and methods of quantitative research could lead to the higher level of reliability. Also in terms of generalisability our research can be compared to the probation of the soil on containing some geological material, and the evidence that there is something can be assured by further deeper and more thorough research.

1.11.2 Validity and credibility

Speaking about validity of the research, we think that tendencies which we have captured haven’t been affected by other influence from the outside. As both of the researchers don’t have any experience in working in IT company, it gave more fresh and objective view on the problem and the out coming results from the questionnaire. We don’t claim that the results which we have got are highly rigorous, but we hope that we avoided shallow impressionistic overview of the problem by trying to look on the problem from different perspectives. More over, the presence of two researches that can check the analysis after each other can protect it from the one-side findings. The credibility of the research can be proven by the outcome which have been received after the analysis of data.
The actual problem of the research could be sample size which doesn’t allow generalizing the outcomes, but at least we hope that it makes possible to draw some tendencies in the process of quality management in IT industry in Belarus.

1.12 The research process

In this part we will briefly present our research procedure which was structured upon the spiralling research approach suggested by Berg (2004). In this approach one begins with an idea, and then gathers theoretical information, after the idea is reconsidered and refined. Then, the possible design was considered; once the design of the research is developed theoretical assumptions and even original or refined idea are re-examined. “Thus, with every two steps forward, you take a step or two backward before proceeding any forward” (Berg, 2004, p. 19).

However, the general procedure of the research can be seen as: Ideas → Literature review → Design → Data Collection and Organisation → Analysis and Findings → Dissemination (Berg, 2004, p. 20). Here, the research idea should flow into a potential research question that may continue to change as the research process unfolds.

First, the idea of the research - Quality management in geographically dispersed services - was presented and the feedback was received. Then, when reviewing the literature the research idea was refined and constituted a more general topic - Quality management: Striving for Business Excellence.

Consequently, the research design was selected to reflect the level of accessible information. Because conducting research within one company was not possible the questionnaire was agreed to be most sufficient for collecting primary data and answering the research question. Further, the questionnaires were developed (see section 2.5 for how it was developed and Appendix 1 for the example) and sent to the people\footnote{The acquaintances were used to fill the questionnaires and spread it among their colleagues.} working in IT industry using the internal mailing service. The research questions and the purpose of the research were again revised.

Our subsequent activities involved data collection by receiving answers on an email address that was created specifically for this research. After having received 49 responses the data collection was stopped. Then the information was systemised using “Sphinx” programme and analysed. The final part of the research involves an appropriate reporting and presentation of the findings with the help of graphs and
other statistical methods. The purpose of this was to make the data collected easy to analyse, representati-
ve and clear for a reader.

1.13 The outline of the thesis

The outline of the thesis followed a standard structure, but some chapters (introduction and methodol-
ogy) were merged to create a balance between the chapters.
The outline of the thesis starts from introduction where the problem of quality in general with some examp-
les in theory and practice are presented, thus leading to the significance of the problem. A logical result of this is a purposeful research question formed along with the aim of the thesis. The thesis was also delimited within the time, country and industry aspects.
As a result of the merger discussed previously, the research strategy (or methodology) part followed,
where the research design, data collection sources and methods were defined and discussed. This part con-
cluded with validity and reliability of the research followed by description of the research process.
Further, the most relevant literature review will be presented in chapter 2. This part was mostly based on TQM literature as the most widely used quality philosophy in our days. The review of the literature represents the evolution of thought on quality. It starts with general idea of quality and its different per-
ceptions. Then, the ideas and different outcomes of various researchers are presented preceded by total quality gurus. The thought develops further into business excellence with presentation of major models of Europe (European foundation for Quality Management) and U.S. (Malcolm Baldrige National Qual-
ity Award). Thus the literature develops from quality to total quality to business excellence.
The result of this is an own developed research model used to develop the questionnaire (see Appendix 1) and collect empirical data presented in chapter 3. Thereafter, the research model was also used to present the empirical data, structure the overall analysis (chapter 4) and draw up the conclusions (chap-
ter 5). The final part also included suggestions for further research and practical implications.
2. FRAME OF REFERENCE

2.1 Introduction

In this part the most relevant literature review will be presented and the different opinions will be discussed. This will help to highlight the important concepts to be included in the research model that will follow as a conclusion of the literature review. The section will be constructed in the following way. First, the discussion on quality and its evolution will be presented. Then, the TQM main contributors and their main ideas will be presented. Afterwards, the main TQM researches will be summarised in a discussion on the major outlined TQM concepts. Then the main standards and Business Excellence Models (BEM) will follow. It will start from presenting ISO 9000 as the most widely used. Then the Baldrige and European Quality models will be illustrated. This section will end up with a summary on the main discussions and presentation of the research model deduced from the overall literature review.

2.2 Quality

First when talking about quality management a lot of questions arise what does it really mean. Therefore, the quality concept should be discussed and defined. In this part we will present the debate on the sense of quality and attempt to define it.

Despite the fact that quality is a part of every organisation’s strategy it is still an ambiguous concept. Even though a number of authors have contributed with both classifications and definitions of the quality there is still substantial confusion about the application of quality. It seems that these concepts are used just because they are in fashion. However it seems that the use of this concept is justified and is one of the most important factors for gaining competitive advantage (Hansen, 2001, p.204).

Among people and some managers quality is usually perceived as something expensive, luxurious and error-free (Edvardsson and Gustafsson, 1999).

A lot of authors define quality as simply meeting customer requirements (Hansen, 2001). The propo- nent of this idea is Grönroos (1991) state that the perceived service quality is influenced by corporate image that is formed by the technical and functional qualities.
Sandholm (2000, p. 12), referring to International Standard for quality vocabulary, defines quality as “the ability of a set of inherent characteristics of a product, system or process to fulfil requirement for customers and other interested parties”.

The modern perspective is taken with the focus on the corporate social responsibility where quality is welfare of society while taking care of the core business (Hardjono and van Marrewijk, 2001).

Hansen (2001) summarising the literature on quality suggests five concepts: quality as consumer’s perception, adaptation to expectations, quality as a value and adaptation to technical specifications. The former two concepts are based on the customer’s criteria, while the latter two reflect producer’s criteria more. The fifth element – business excellence - is suggested to meet the highest standards and therefore is the most abstract. It may include all criteria without specifically referring to any of them. Thus, it can constitute a general goal for the business.

Therefore, the above discussion “quality seems to mean that some people may judge certain things to be better than others” (Hansen, 2001, p. 209) which is based on vague factors, such as perceptions, expectations and experience of the parties involved (Brown et al., 1991) and therefore depends on the context and purpose of the organisation.

2.3 From Q to TQM

Here, the authors will narrow down the concept of quality to Total Quality Management (TQM) and will attempt to justify its selection. Also the different branches of TQM thought will be mentioned to explain the further structure of the literature review on TQM.

To insert the concept of quality, i.e. a system of values cultural fabric and transform its members' ways of perceiving, thinking and acting, requires a certain method (Camison, 1996). Edvardsson and Gustafsson (1999) compare the choice of existing concepts with ordering a food in a restaurant. There are a lot of concepts and different contributing authors within each of them. This is due to the different methods developed as a result of varying organisational culture and its competitive strategy. As a result, Samson and Terziowski (1999) literature review identified over a thousand articles on TQM philosophy and its methods.
The fundamental concepts of quality management are TQM, Six-Sigma, ISO 9000, etc. For the past two decades there is an increasing interest in total quality and its application throughout the organizations. The TQM perspective was found in Japanese organizations and somewhere is even called the Japanese Quality.

Authors Reed et al. (2000) and Stashevsky and Elizur (2000) present a literature review and the research based results that there is a number of empirical studies supporting the relationship between the TQM and improved organisational performance, competitive advantage and sustainability.

Referring to ISO 8402, TQM is a “Management approach of an organisation focused on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organisation and to society” (Edvardsson and Gustafsson 1999, p. 113).

By Edvardsson and Gustafsson (1999) it is described as a “quality Nirvana” as a state in which a company has control over all processes that satisfy the needs of stakeholders and customers and at the same time working for continuous improvement. Quality Nirvana, that can not be achieved but can be rewarding in its attempt if it is done in “the right way”.

However, TQM practices are hardly adopted in western organizations, or will necessitate an organisational revolution (Kunst and Lemmink, 1992). Nevertheless, there is a series of broad theories, based on a relevant number of successful practices. The most known Total quality gurus are those of Crosby, Deming, Juran and Ishikawa.

Also, worth mentioning different approaches that come out from the different quality prizes which encourage the implementation of total quality in companies. The first award, established in 1951 in Japan, was called Deming (after Dr. Edwards Deming). After more than three decades, in 1987, the Malcolm Baldrige award was created in the USA. This initiative was followed in Europe in 1991, when the European Foundation for Quality Management (EFQM), created the European Quality Award in order to improve the quality and reliability of products and services. These and other practices and theories will be presented further and will constitute the literature review on TQM.
2.4 TQM gurus and their main contributing ideas

In order to understand the theory it is necessary to refer to the basis. Thus, hereunder the main gurus of TQM: Deming, Juran, Ishikawa and Crosby - and their main contributing ideas will be presented and discussed. This is necessary to understand what are the main schools of TQM and in what direction they were developing.

2.4.1 Dr. W. Edwards Deming

"It is not enough to do your best; you must know what to do, and then do your best." (Deming, 2006)

He was invited to Japan at the end of World War II by Japanese industrial leaders to turn Japanese industry from producing imitations to producing innovative quality products. Deming's biggest contribution is laid in his famous 14 Points that serve as course of action for management. These tend to result in a more efficient workplace, higher profits, and increased productivity may grow (Deming, 2005).

The Deming’s 14 points, originally highlighted in his work “Out of the crisis” are: construct the purpose, adopt the new philosophy, cease dependence on mass inspection, end lowest tender contracts, improve every process, institute training on the job, institute leadership, drive out fear, break down barriers, eliminate exhortations, eliminate arbitrary numerical targets, permit pride of workmanship, encourage education, top management commitment and action (Deming, 2005).

The above discussion can be summarised by Anderson et al. (1994) who postulates that Deming’s quality starts from leadership to create a cooperative and learning organization to assist the adoption of process management practices. Thus, this would result in sustained employee fulfilment and continuous improvement and ultimately in customer satisfaction and organizational survival.

2.4.2 Kaoru Ishikawa

"Quality can go one step further” (Ishikawa, 2006)

Ishikawa wanted to change the way managers think of their work. He was opposing with managers attitude of only improving a product's quality, stating that quality improvement can always go one step further. His idea of total quality calls for continuous customer service or service even after receiving the prod-
uct. This service would extend through all the company and all levels of management, and even to the everyday lives of those involved. This idea is expressed in his famous cause and effect diagram he emphasised the problem analysis through assigned teams (of all levels and departments) and in depth scrutiny of every aspect of the problem (Ishikawa, 2006).

Ishikawa believed in the importance top level management and specifically their support and leadership. He strongly believed that any quality programme without the strong commitment of top executives to drive the whole organisation would fail. Another area of that Ishikawa emphasized quality improvement throughout a product's life cycle. He felt that standards should be constantly evaluated and changed to achieve customer satisfaction. Thus, he called all managers to base their decisions from the ultimate goal of satisfying customers. Ishikawa (2006) also expanded Deming’s model of Plan-Do-Check-Act into the following six:

- Determine goals and targets.
- Determine methods of reaching goals.
- Engage in education and training.
- Implement work.
- Check the effects of implementation.
- Take appropriate action.

### 2.4.3 Joseph M. Juran

"Commitment is the daily triumph of integrity over scepticism." (Juran, 2006)

Joseph M. Juran made many contributions to the field of quality management throughout his research career (Armstrong and Stephens, 2005). He contributed a lot in changing the Japanese philosophy on quality management and shaping their economy into the industrial leader it is today. Juran was the first to include the human aspect of Total Quality Management (Juran, 2006).

His main contributing ideas are summarised in the table below.
Table 2.1: Juran’s Quality trilogy

| Quality Planning | • Identify who are the customers.  
|                  | • Determine the needs of those customers.  
|                  | • Translate those needs into our language.  
|                  | • Develop a product that can respond to those needs.  
|                  | • Optimise the product features so as to meet our needs and customer needs.  |
| Quality Improvement | • Develop a process which is able to produce the product.  
|                     | • Optimise the process.  |
| Quality Control     | • Prove that the process can produce the product under operating conditions with minimal inspection.  
|                     | • Transfer the process to Operations.  |

Source: Juran, 2006

2.4.4 Philip Crosby

"Do it right the first time." (Crosby, 2006)

While Deming and Juran were the great brains of the quality revolution Phil Crosby excelled in finding an appropriate terminology for quality. His main contribution is laid in “Quality without tears” and “Quality is Free” (Crosby, 2006). He introduced the popular idea - cost of poor quality – saying that it costs a lot more to correct afterwards rather than do them right the first time.

His main focus is on zero defects, however meaning that zero defects is not something that is found on the assembly line. This underlines the management as responsible for creating an appropriate atmosphere for employees to follow and perform better. The benefits for companies that pursue this idea, is a dramatic decrease in resources used and time spent producing goods that consumers do not want (Crosby, 2006).

Crosby defined quality as specifications set forth by management that conform to customer needs rather than some level of goodness or elegance. He has derived the four absolutes of Quality Management (Crosby, 2006) presented below:
1. Quality is defined as conformance to requirements, not as “goodness or elegance”.
2. The system for causing quality is prevention, not appraisal.
3. The performance standard must be Zero Defects.
4. The measurement of quality is the Price of Non-conformance, not indices.

2.5 TQM according to other researches

Having presented the main thoughts of the TQM philosophy, we can go further to present the different ideas and results of the developed TQM thought. This part will be divided to highlight the different concepts of TQM that were emphasised or deduced to have a great impact on TQM implementation in the company. First, the quality definition in connection to TQM will be presented. Further, TQM definition, its concepts and techniques will be presented and discussed. This will follow with discussion of different scholars on TQM concepts that we outlined during the literature review. These are strategy, leadership, management of human resources, innovation, learning, supporting system. In the end the general conclusions will summarise the discussion on those concepts.

2.5.1 Quality definition in connection to TQM

Referring to the topic of our research – quality management – we found necessary to define quality in terms of TQM. This will help to understand the concept of quality as it is described by different scholars of TQM.

Customer perception is the factor on which quality of the product or service depends, and customer input to manufacturing product in this case is vital. Thus level of customer satisfaction can be managed by better understanding of customer needs. (Chong and Rundus, 2004).

Quality has no more physical definition, and quality management can not perceived as management of production process. It is multidimensional construct and strategic resource, which is a component of firm’s dynamic capability. (Perdomo-Ortiz et al., 2005).

2.5.2 TQM and Strategy

Some of the researchers claim that quality should be included into strategy and thus become important on the strategic level. This action could make an impulse into developing the whole quality system
TQM provides a combined structure of background and direction for resources improvement as a variety of good management practices. In this case TQM provides the whole range of competitive advantages to the company: cost or differentiations based, and as a result it produces barriers for imitation. But competitive advantage depends on the firm strategy, firm orientation and environment and executive commitment.

Many companies with TQM transferred their attempts from tool and techniques of TQM to integration with organizational culture. Quite often lack of organizational culture leads barriers in co-operation, joint action and problem solving. (Reed et al., 2000).

Before achieving TQM it is better to define organization culture, as introducing TQM changes frames of references and shared postulates, which organization itself gained through the environment. As the influence of these changes is quite high on employees, their beliefs and values, companies, which want to introduce TQM before try to identify their own organizational culture. (Irani et al., 2004).

“TQM is a philosophy that organisations can use to improve their performance but, often there is an overemphasis on its tools and techniques, which may take precedence over the need to create a culture that is open to change. The following measures are essential to obtaining cultural change:

- the organisations policies, procedures and processes must emphasise quality;
- everyone in the organisation must have a clear understanding of the importance of quality in achieving their business objectives;
- people at all levels must be aware of the requirements and needs of the customer;
- the structure of the organisation should allow for continuous improvement;
- there should be integration of internal and external customer requirements in the business plan; use of customer-based measures of performance is important;
- there is a need to develop strong communication lines;
- customer commitment should be fostered; and
- emphasis on customer-oriented values and beliefs must be supported by top management.” (Irani et al., 2004, p. 645)

Corporate culture with continues improvement and TQM improves companies abilities, and especially for innovation (Irani, et al., 2004).
2.5.4 TQM and Leadership

Since the inception of the TQM movement, quality leadership by top management has been supported by many researchers. To achieve total quality, top managers must clarify quality goals, treat quality as a strategic issue, set quality as a priority, allocate adequate resources to quality improvement efforts, and evaluate employees based on their quality performance (Jun et al., 2005). They can also lead by example, providing training and education, and supporting the team can flourish (Reed et al., 2000). Obviously, top management leadership and employee empowerment are the most important components of TQM because of its connection to customer satisfaction. There is a positive correlation between top management leadership, employee empowerment, job satisfaction, and customer satisfaction. Employee empowerment and improved levels of job satisfaction are facilitated by top management leadership and commitment to the TQM goal of customer satisfaction by creating an organizational climate that emphasizes total quality and customer satisfaction (Ugboro and Obeng, 2000).

The role of CEO in the introduction or acceptance of new values and principles as business fundamentals in the forthcoming transformation process is very crucial, because in order to integrate new values, he has to go through the process himself first. Otherwise he will not be able to lead his company into the transformation process, even without being a charismatic and visionary leader (Hardjono and Murrewijk, 2001).

The main mistakes which top management can do are showing little interest in undertaking quality improvement thus ignoring their fundamental role to inspire and guide in the necessary cultural change towards total quality as a main method for continuous company improvement. If they have no commitment, they can not recognize efforts and achievements of individuals and groups have no provision of necessary resources, little participation with customers and suppliers in improvement projects, and their almost non-existent involvement in promoting quality in their environment becomes evident (Reed et al., 2000).

2.5.5 TQM and management of HR

From the HR point of view TQM is a management philosophy that is meant to authorize employees of the organization, as well as reduce their frustration and fear to change in order to promote long-continues improvement. These principles base on the fact it is cheaper to prevent than to correct. (Au and Choi, 1999).
HR-related TQM practices could be identified as infrastructure practices which works like supportive environment for the core quality management practices. TQM key attributes include employee training, employee empowerment and employee involvement. They are important for organization, as they help to use full human potential, reach business goals and accomplish actions plans. (Jun et al., 2005). Training, reward systems, teamwork, leadership are considered as more important factors for providing quality in service by employees. (Lemak and Reed, 2000).

The employee participation in decision-making program (PDM) as mutual influence of supervisors and subordinates in organizations could be the major factors affecting employee improvement efforts. A comprehensive survey of Fortune 1000 companies revealed that applying TQM together with PDM had a strong relationship with organizational performance. PDM is the most important component of the TQM process that affects improvement efforts and individual performance, because its influence on participation in PDM is higher that that of Quality Management (Stashevski and Elizur, 2000).

There is empirical evidence that employees consider PDM as the major motive for participating in TQM. On the other hand, doubts have been raised concerning the practicality of combining TQM and PDM (Stashevski and Elizur,2000).

The common problems which faces HR managers while evaluation HR performance in TQM frames are laying all responsibility on the worker for an error, though the result of it could be system and applying control measure over employee.

The literature contains few references to empirical studies on performance evaluation in the context of quality management. Moreover, the number of theoretical articles is not impressive. Although the majority of these articles confirm the disadvantages of HR performance evaluation practices in a TQM context, some of them argue that performance evaluation and quality management precepts are not compatible. For instance, performance evaluation function is criticised and support Deming’s view in 1986 that TQM and HR performance evaluation are incompatible.

Further investigation may be necessary in order to bridge the gap between current performance evaluation and a TQM-based HR performance evaluation, and identify those criteria and measures of employee performance that could benefit both organisations and employees. Among the main criteria of Quality focused HR Performance Evaluation are helping employee improve their performance, customer focus, active involvement of employees into modification of current system, collective responsi-
bility for quality, focus on behaviour/process to performance evaluation, judgement by absolute standards and managerial responsibility for system performance (Soltani et al., 2003).

2.5.6 TQM and Learning

Rosabeth Moss Kanter claims that “total quality” and “continues improvement” became one of the hottest themes in encouraging incremental innovation. They can assist to any business in striving for higher standards with making little steps towards superior performance. Organizational learning and adaptation is crucial right now because the pressure on business is increasing (Moss Kanter, 1989).

TQM can be linked with the organic or learning approach (Prajogo and Sohal, 2004). There are two ways of applying TQM concepts named Total Quality Control which is related to conformance, and Total Quality Learning in terms of innovation.

Learning is a process of continues improvement as “TQM, JIT and TPM have similar fundamental goals of continuous improvement and waste reduction” (Cua et al., 2001, p.675). It is important to use measurement system in the organizations with continues improvement with the high speed, as by this process managers could get to know what is going well and what is needed to be improved. When TQM is introduced to the company, these measurements can become self assessment techniques.

The role of self assessment in the organization is getting more attention in strategy as well as in planning process. The potential of this process also makes organizations to look for areas of improvement. In order not to reduce the effects of the self-assessment process it is necessary to link it with business cycles of strategic planning, human recourses, budget and other, because otherwise it will never everyday activity of the company. Due to the interviews held with the practitioners, they estimated that the success lies in the using results of self-assessment in further strategies.

The criteria for successful self-assessment process include the following: support from the staff, including self-assessment into business planning, support of performance monitoring, actions of pervious self-assessment, not letting increasing workload on employees and etc. The process of self-assessment makes easier to communicate for companies which employ it and prepare them for the future competition. (Ritchie and Dale, 2000).
2.5.7 Supporting system (Resources and infrastructure)

Normann (1991) claims technology and physical aid can fulfil a key function creating the desired human behaviour. Taking as an example the service, the dependence of it on specific action or tools can ensure quality, as well as productivity raise can ensure employee motivation for improving their jobs. Technological environment could produce advantages in costs or differentiation, and information system provides data for quick and effective solutions in order to reach continues improvement. (Camison, 1996).

Under a total quality approach (resource management), the hotel, for example, should focus its material resources on the improvement of its infrastructure for quality. “Instead, there is a minimum effort at maintenance and modernization of installations which, together with many hotels being old, leads to obsolete and poorly maintained hotel plant requiring high investment to fulfil both technical norms set by current legislation and market requirements” (Camison, 1996, p. 194). In general, equipment and physical tools and premises can all be employed to facilitate and create any of the different types of client participation, and at strategic level, physical aids can certainly contribute to the strategic positioning of the company. The used equipment can standardize production and quality (Camison, 1996).

Quality of products or services is connected to suppliers, and in order to get the control over quality it means that to influence these companies. Cutting costs and improving quality leads to outsourcing, and “to ensure quality while buying from outside firms call for redefinition of the vendor relationship” (Moss Kanter, 1989, p. 128).

2.5.8 General conclusions

According to Chong and Rundus (2004, p. 155), “the use of TQM practices has a synergistic impact on organizational performance.” It was also found TQM reduces manufacturing process variance, eliminates reworks and improves quality performance. Moreover, “there is considerable anecdotal evidence on the extent to which TQM initiatives enhance the potential for firms to improve their performance” (Chong and Rundus, 2004, p. 156).

Despite this, some researchers claim that “the disappointing results of TQM practices may be attributed to inadequate resources, negligence in making complimentary investments in organizational structure and human resources, and inadequate appreciation of system dynamics” (Chong and Rundus, 2004, p. 156). The authors claim that the adoption of TQM practices and market competition improve organiza-
tional performance. The main contributors to the TQM theory all stress the importance of TQM practices of customer satisfaction and better product design to gain a competitive advantage. The poor performances of many new TQM initiatives are due, partly, to too much reliance on management accounting systems that fail to provide relevant information. (Chong and Rundus, 2004).

Proponents of TQM argue that the widespread adoption of TQM, fuelled by same industry benchmarking and the institutionalization of numerous quality awards, could be regarded as evidence of the validity of institutional theory. Thus, organizations implementing TQM are perceived as managing their operations in a similar fashion and commonly benefit from the implementation of TQM (Jun et al., 2005).

Recently, however, the lack of homogenous success with TQM among firms has led researchers to cast doubt on the universal applicability of TQM. Some researchers believe that a firm’s success with TQM is contingent upon the fit among the firm’s structure, strategy, and environmental conditions. In fact, whether the TQM framework is universal or contingent still remains a controversial issue (Jun et al., 2005).

There are two main purposes like content (A) and four main activities as process (B) of quality management, which are crucial for successful strategy implementation.

(A) The authors agree that customer has its central role in quality definition and quality itself satisfies the customer and improve company’s competition. Also waste cost and rework should be reduced. As a result, customer satisfaction improvement and cost reduction are the most points which can affect strategy in terms of TQM.

(B) In the management of the process there are four areas of agreement like leadership and commitment, training and education, teamwork and corporate culture. For functioning TQM long term commitment of top level management is important as well as quality concept education and techniques for employees and managers. The role of communication in the process of TQM is quite important and organizational culture affects on quality commitment, production and practices.

In summary all these parts must be seen as the whole, not as the separate ones of TQM. Thus, the whole system makes difficult to imitate and gives sustainable advantage for the companies. (Reed et al., 2000)
2.6 From TQM to International standard and Excellence Models

While adoption of TQM has received a wide acceptance among leading firms, Ritchie and Dale (2000) state that TQM has received a negative response over the past few years. This fact is mostly due to a misconception of the method as a whole. Among managers it is perceived to be too technical or control oriented. Therefore, only certain aspects of TQM are adopted producing a diluted version of TQM. Zhao et al. (2004) explains that it is not necessary for the organisation to do well in all areas of quality management in order to achieve a good performance. Edvardsson and Gustafsson (1999) call this shift from Management of Quality to Quality of Management also known as Business Excellence.

Study of the companies show that business excellence is perceived as a measure of “how good we are” and the system by which business moves forward. In their study of business excellence model Ritchie and Dale (2000) also find that it was seen as delivering the needs of stakeholders and internal customers, and at the same time meeting set goals and objectives in the long-term. Business excellence was considered to deal with the key strategic issues of developing quality framework in order to provide excellent customer service.

Below, the three widely used models – ISO, EFQM and MBNQA - of Business Excellence will be shown and discussed.

2.6.1 International Organization for Standardization (ISO)

According to Geraedts et al. (2001) ISO 9000 standard has three main characteristics:

1. The principle focus is on the process of service delivery itself, not on the outcome.
2. Working processes and resources are identified and regularly measured, using performance indicators.
3. “The system has to be verifiable by means of documents such as a quality handbook, procedures describing the most important working processes, standard operating procedures/instructions, and the measurement of performance indicators” (Geraedts et al., 2001, p. 217). These documents have to be updated formalized and distributed according to the standard documentation. Employees are constantly informed about the improved procedure.
The benefits of ISO 9000 system are associated with more transparent processes within the organization that enable controlled changes. The processes are audited by both internal and external auditors. It also creates certain procedures and protocols that are continuously maintained. It is also quite suitable for continuous improvement actions by means of performance indicators (Geraedts et al., 2001).

On the other hand, the biggest disadvantage of this system is that performance indicators, used in ISO 9000, can be quite controversial tool for monitoring quality (Geraedts et al., 2001).

**Concepts of ISO model**

Below, the main concepts of ISO will be presented referring to the Quality Management Principles (2001) based on the ISO 9000 standards.

**Customer focus** is the first concept of ISO model, which claims that organizations depend on their customers and thus they should understand customer needs. If they do, they can benefit from increased revenue and market share, effectiveness in use of resources to enhancing customer satisfaction and increased customer loyalty.

The second concept is **leadership** which aims to establish unity of purpose and direction of the organization. With the help of this concept people will understand and be motivated towards the organization's goals and objectives. The activities are evaluated, aligned and implemented in a unified way and miscommunication between levels of an organization will be minimized.

The third concept is **involvement of people**, as people are the essence of an organization and their full involvement enables to be used for the organization’s benefit. With introduction of this concept the organization gains motivated, committed, responsible and involved people, whose innovation and creativity is furthering the organization’s objectives.

The fourth concept is **process approach**, which claims that a desired result is achieved more efficiently when activities and related resources are managed as a process. It brings lower costs and shorter cycle times through effective use of resources, improved consistent results and focused and prioritized improvement opportunities.
The fifth concept is **system approach to management** which identifies, understands and manages interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives. The key benefits of it are integration and alignment of the processes that will best achieve the desired results, ability to focus effort on the key processes and providing confidence to interested parties as to the consistency, effectiveness and efficiency of the organization.

The concept of **continual improvement** of the organization's overall performance should be a permanent objective of the organization. The main positive sides of it are performance advantage through improved organizational capabilities, alignment of improvement activities at all levels to an organization's strategic intent and flexibility to react quickly to opportunities.

The concept of **factual approach to decision making** is based on the analysis of data and information. In applying this concept several chances are showing up such as informed decisions, an increased ability to demonstrate the effectiveness of past decisions through reference to factual records and increased ability to review, challenge and change opinions and decisions.

The last concept is **mutually beneficial supplier relationships** which enhances the ability of both an organization and its suppliers to create value. The benefits of it are the following: increased ability to create value for parties, flexibility and speed of joint responses to changing market or customer needs and expectations and optimization of costs and resources.

### 2.6.2 Malcolm Baldrige National Quality Award (MBNQA)

The Baldrige Award is presented annually by the President of the United States to organizations that demonstrate quality and performance excellence. The MBNQA was designed to raise awareness of quality management and recognize U.S. companies that have implemented successful quality-management systems. Three awards are given annually in each of five categories: manufacturing, service company, small business, education, healthcare.

Zhao et al. (2004) in his theoretical review states that MBNQA is used in a number of TQM studies as a mean to measure quality practices and performance. The validity of the MBNQA model has been tested by many scholars.
The criteria of the MBNQA demonstrates the branch of TQM practices embodied in six criteria: leadership, strategy and planning, customer focus, information and analysis, people management, and process management (Prajogo and Sohal, 2004). The detailed description of each category can be found in Samson and Terziovski (1999).

Juran in his last international appearance in 1996 in India summarised the best practices of Baldrige Award and emphasised the great work by CEO’s: “the CEO personally took charge, they provided a lot of training at senior levels and throughout the organization, they used accelerated continuous improvement, they opened up the business plan to include quality goals, they set up measures to assess progress toward those goals, they made provision for participation by the workforce, and they provided a great deal of recognition” (Juran, 1996).

**Concepts of Baldrige model**

Baldrige 7 criteria for performance excellence - leadership, strategic planning, customer and market focus, measurement, analysis and knowledge management, human resource focus, process management and organizational performance result (Samson and Terziovski, 1999, p. 396)- will be further discussed:

- **Leadership** - primary attention is on how the senior leaders set and imply clear values and potential for high performance that attend to the needs of all stakeholders. It also includes organisation’s duty to the public and its practices of good citizenship.

- **Strategic planning** - how the organization establishes and implement strategic directions that address action planning and deployment of plans. This issue stresses customer-driven quality and operational performance excellence that need to be integrated into the planning process.

- **Customer and market focus** - examines how organization builds current and emerging customer requirements and expectations. This information is then supports marketing, business development, and planning. In a competitive environment, many factors shape customer preference and loyalty, hence it necessary to continuously listen and learn and integrate the utilised learning with business strategy.

- **Information and analysis, and knowledge management** – This part addresses organisation’s ability to select, manage, and effectively utilize non-financial and financial information
(i.e. knowledge management) in support of its processes, planning and management of performance.

- **Human resource focus** – the meaning behind this is organization’s capacity to empower and involve its workforce. This also refers to development and use of their full potential, aligned with organisation’s objectives.

- **Process management** - How the organization designs, manages and improves its key processes. This involves customer-focused design, product and service delivery, support, and supplier and partnering processes among all work units.

- **Business/organizational performance results** – organization’s performance results and improvement in terms of customer satisfaction, product and service performance, financial and marketplace performance, human resource results, supplier and partner results, operational performance and performance level relative to the competitors.

### 2.6.3 European Foundation for Quality Management (EFQM)

EFQM – model appeared as a result of fourteen well-known CEO’s of the companies such as Renault, Fiat, Philips, British Telecom, KLM and Ciba Geigy with a general purpose of stimulating the quality in European business (Hardjono and van Marrewijk, 2001). This concept is reflected in a structured management system, and is now being used by tens of thousands of organizations across Europe and beyond.

The EFQM Excellence Model is based on a nine broad concepts used to assess organisational excellence progress. It recognizes that there are many ways towards sustainable excellence and strives to show that excellence is not a theory - it relates to the tangible achievement of an organization in what and how it does, the results it achieves and the confidence that these results will be sustained in the future. Its principle idea is that excellent performance in, customers, people and society is achieved through leadership driving policy and strategy that drives people, processes, partnerships and resources (Sandholm, 2000).

Camison (1996) describes EFQM as management system that emphasizes leadership for achieving quality, policy and strategy formulation for followers, employing and developing the appropriate personnel
and resources and guiding the design of all the processes in the organisation towards attaining excellence in results: customer satisfaction, personnel satisfaction, a positive social impact and key economic results in achieving competitive advantage.

The model is divided into “Enablers” and “Results” to distinguish two categories of criteria where the former is concerned with how the organization undertakes key activities, the latter concerned with the results being achieved. The arrows in the model emphasize innovation and learning that help to improve enablers which thus lead to better results. The nine criteria of the model are used for assessing the progress towards excellence and are given the separate definition (Sandholm, 2000).

At the heart of the EFQM model is the RADAR logic (abbreviation for Results, Approach, Deployment, Assessment and Review). The Approach, Deployment, Assessment and Review elements are used when evaluating Enabler criteria and the element of Results is used when assessing Results criteria.

Figure 2.1: The EFQM Excellence Model

Source: Sandholm, 2000, p.42

The criteria of the above presented EFQM model will be further described (EFQM: Introducing Excellence, 2003):

- **Leadership** - Excellent Leaders develop and facilitate the achievement of the mission and vision. They develop organisational values and systems required for sustainable success and implement these via their actions and behaviours. During periods of change they retain a con-
stancy of purpose. Where required, such leaders are able to change the direction of the organisation and inspire others to follow.

- **Policy and Strategy** - Excellent Organisations implement their mission and vision by developing a stakeholder focused strategy that takes account of the market and sector in which it operates. Policies, plans, objectives, and processes are developed and deployed to deliver the strategy.

- **People** - Excellent organisations manage, develop and release the full potential of their people at an individual, team-based and organisational level. They promote fairness and equality and involve and empower their people. They care for, communicate, reward and recognise, in a way that motivates staff and builds commitment to using their skills and knowledge for the benefit of the organisation.

- **Partnerships and Resources** - Excellent organisations plan and manage external partnerships, suppliers and internal resources in order to support policy and strategy and the effective operation of processes. During planning and whilst managing partnerships and resources they balance the current and future needs of the organisation, the community and the environment.

- **Processes** - Excellent organisations design, manage and improve processes in order to fully satisfy, and generate increasing value for, customers and other stakeholders.

- **Customer, People, Society and Key Performance Results** Excellent organisations comprehensively measure and achieve outstanding results with respect to their customers, people and society, policy and strategy.

*Concepts of the EFQM model*

The model is linked with certain concepts which are referred to behaviours, activities or initiatives based on Total Quality Management. These concepts are (EFQM: Introducing Excellence, 2003): results orientation, customer focus, leadership & constancy of purpose, management by processes & facts, people deployment and involvement, continuous learning, improvement & innovation, partnership development and corporate social responsibility – presented and discussed below (EFQM: Introducing Excellence, 2003):
The concept of **Results Orientation** is put in practice by measuring and anticipating the needs and expectations of company’s present and future stakeholders, monitoring their experiences and perceptions, and monitoring and reviewing the performance of other organizations.

**Customer Focus** is creating sustainable customer value by addressing customer’s present and future needs and expectations.

Excellence is achieved through visionary and inspirational **Leadership**, linked with **Constancy of Purpose**. The latter refers to values, ethics, culture and an organizational structure that provides a unique identity and attractiveness to stakeholders. Leaders on their part constantly drive and inspire everyone towards excellence.

Base for **Management by Processes and Facts** consists of a set of interdependent and interrelated systems, processes and facts. Decisions are based on reliable information derived from current and possible future performance, process, stakeholder needs.

It is also observed how organization identifies and understands the competencies needed for its present and future processes. The meaning behind this is maximizing the contribution of **People** through their **Development and Involvement**.

Excellence is challenging therefore it necessitates change through **Continuous Learning** to create **Innovation and Improvement** opportunities.

**Partnership Development** are based upon clearly identified mutual benefit and are important in order to deliver enhanced value to the stakeholders through utilised core competencies and. These partnerships may include customers, society, suppliers and even competitors.

The concept of **Corporate Social Responsibility** means deployment of a highly ethical approach by being transparent and accountable to ones stakeholders for the performance.

### 2.6.4 Summary of discussions on the models

As was previously stated these are the most commonly used models in their respective regions and their validity is proved in a number of researches. Since the mid 90’s the topic of quality awards and
self-assessment received a considerable attention in literature and among researchers. Irrespective of company’s area of operations, services or manufacturing the same framework is being used (Sandholm, 2000).

In their observation in Medical Centre in Utrecht, The Netherlands, Geraedts (2001) found that after EFQM is a very good tool after establishing ISO 9000. They state that after using the ISO for two three years, they reached the limits of the benefits of ISO. The EFQM model was found as a complementary to the ISO. The EFQM model helps to enlarge organisation’s viewpoint on quality management and to take an objective look at the results it achieves. However the ISO system even being a solid base for TQM will stay to provide control to all critical processes.

But at least there is an overlap between EFQM and ISO, and this could be easily seen from the Figure 2.2, where overlap between accreditation, visitation, EFQM and ISO models is shown. Due to this figure, EFQM is large and has strategic, generic and outcome aspects of quality management. Taking the example of health care, the group of experts found out these overlaps, as the focus of ISO is mainly to processes. The experts show their opinion in the fact that high mature organization can introduce EFQM, although the companies beginners in this process can shape their strategy and approach through quality management. Thus EFQM is not competing with other models, but gives broader perspectives to the organizations. (Nabitz and Klazinga, 1999)

Figure 2.2: Overlap of different self-assessment models

Source: Nabitz and Klazinga, 1999, p. 70

Stashevsky and Elizur (2000) claim that while for some organisations ISO standards may be a good way to demonstrate that their processes are under control for others attaining ISO is essential to survive. They also point out that while ISO and TQM both focus on quality ISO lacks the two basic principles of TQM - employee participation in decision making and continuous improvement.
EFQM create awareness about TQM power and demonstrate benefits of its application among managers. During the past decades the growth of TQM confirms many successes across Europe. (Nabitz and Klazinga, 1999)

The EFQM must answer the following questions for itself, but these should have been considered before stripping out “quality” and “TQM” from the model’s criteria and replacing them with “excellence”:

In the EFQM guidelines (EFQM: Introducing Excellence, 2003), “excellence” is defined as outstanding practice in managing the organization and achieving results, all based on a set of eight fundamental concepts. These fundamental concepts of excellence are results orientation, customer focus, leadership and constancy of purpose, management by processes and facts, people development and involvement, continuous learning, innovation and improvement, partnership development, and public responsibility.

There is no firm grounding on which the “principles of excellence” (Dale et al., 2000) have been developed. The basis on which the word “excellence” is used in different works includes some of the following challenges for senior management teams (Dale et al., 2000):

- a bias for action;
- getting closer to the customer;
- entrepreneurship and innovation;
- people-based productivity;
- management commitment through hands-on involvement;
- business focus;
- streamlined processes and operations;
- team-based work environment which is driven by shared values
- process-based culture.

Thus, the EFQM model was largely based on the concept of total quality management (TQM) as both a holistic philosophy and an improvement on other TQM-based models, such as the Malcolm Baldrige National Quality Award (MBNQA). In 1999, the EFQM revised the model and, among other things, made a noticeable switch in language from TQM to organizational excellence. Nabitz et al. (1999) noted that the word “quality” does not appear in either the sub-criteria or the areas to address on the revised model.
When examining the history of TQM, it was noted that TQM was founded on a historical mechanistic tool and technique basis but gradually developed a social/people/soft skill focus. It was also identified that the development of these broader areas has been more of an attached rather than being the root cause of TQM development. This implies a shift in focus from “management of quality” to “quality of management” (Edvardsson and Gustafsson, 1999). This development in itself was a problem for many organisations since a major challenge was to broaden ownership of TQM from the quality department, its historical owners, to everyone within the organization.

A study of TQM change attitudes (Adebanjo, 2001) found that it was often difficult to convince the likes of sales and production managers (and directors) that they should hold some responsibility for "total quality management". Part of the resistance was because they saw issues concerning "quality" as the sole responsibility of the quality department. Moreover, having the overall agreements on the core elements of TQM, there was no overall approach. Some of the managers wanted to adopt Deming or Corsby approaches, or other “gurus”. The large amount of different consultants did not help the situation as they were presenting their own approaches to TQM.

On the question why TQM was not successful in some cases there are several answers. One of them is mistakes in communication, training, infrastructure, teams and projects, involvement, problem solving, and measurement. Another one is management failure of basic perception of TQM. (Adebanjo, 2001)

It is unclear where the drive came to change from quality and TQM excellence. It could be originated from the European Foundation for Quality Management (EFQM) and certain management consultancies. The EFQM acted in response to the perceived tarnished image of TQM, whilst the consultancies sought to address the diminishing demand and increasing competition for their services. In response to the “fallen star” image the EFQM, in its excellence model, has progressively stripped out the references to TQM and quality. In the 1999 version of the model, the members of the steering group responsible for the development of the revised model appear to be proud of this. Describing the move from quality management to organizational excellence, Nabitz et al. (1999) point out that “the world “quality” does not appear in either the sub-criteria or the areas to address” and “in the new model, the switch form total quality management to organizational excellence is a fact.” This development has, in turn, been followed by national quality bodies such as the British “Quality Foundation (BQF)” (Dale et al., 2000).
There are also some experience based studies that gave some suggestions concerning these models (Hardjono and van Marrewijk, 2001). Although there are some differences between these models, they have a number of common concepts as well (Ritchie and Dale, 2000).

Biazzo and Bernardi (2003) summarized and compared the concepts of EFQM and ISO to Baldrige (MBNQA) as a reference model. The results are presented in table 2.2.

Table 2.2: Key components of process management: a conceptual framework

<table>
<thead>
<tr>
<th>MBNQA</th>
<th>EFQM</th>
<th>ISO 9000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visionary leadership</td>
<td>Principle developed in the same way</td>
<td>Principle developed in the same way</td>
</tr>
<tr>
<td>Customer-driven excellence</td>
<td>Principle developed in the same way</td>
<td>Principle developed in the same way</td>
</tr>
<tr>
<td>Organisational and personal learning</td>
<td>Principle developed in the same way</td>
<td>Principle developed partially in the same way (focus on continuous improvement of company performance)</td>
</tr>
<tr>
<td>Valuing employees and partners</td>
<td>Principle developed in the same way</td>
<td>Principle developed partially in the same way (focus on both personnel and supplier involvement)</td>
</tr>
<tr>
<td>Agility</td>
<td>Principle not developed</td>
<td>Principle not developed</td>
</tr>
<tr>
<td>Focus on the future</td>
<td>Principle not developed</td>
<td>Principle not developed</td>
</tr>
<tr>
<td>Managing for innovation</td>
<td>Principle given less emphasis</td>
<td>Principle not developed</td>
</tr>
<tr>
<td>Managing by facts</td>
<td>Principle developed in a similar way, but with more emphasis on processes</td>
<td>Principle developed in a similar way, but with more emphasis on processes and on their interconnections</td>
</tr>
<tr>
<td>Public responsibility and citizenship</td>
<td>Principle developed in the same way</td>
<td>Principle developed in the same way</td>
</tr>
</tbody>
</table>

Source: Biazzo and Bernardi, 2003. p.159

Therefore, from the above table it can be seen that the EFQM and MBNQA are almost the same except that EFQM does not have a well developed concepts on agility and future focus. Also it can be seen that ISO really gives a good basis for further establishing Excellence models as it has a well developed leadership and customer focus.
2.7 General Conclusions of the literature review: presentation of a research model

In this part, the concepts from the previous discussions will be highlighted and integrated into the research model presented below. This research model is helpful in structuring the research and answering the research question.

The literature review on quality reveals a lot of concepts and needless to say that their accent is different. As was previously discussed this is a result of the various context within which these theories have arisen. However, among these and other models on quality, general ideas could be identified within the framework of TQM philosophy. The most important concepts will be further presented.

The first concept that is clearly identified by all authors and even different models is the role of leadership in achieving total quality. Leadership, as recognised by all major researchers, is the first and the most important factor driving organisation towards TQM (Reed et al, 2000 and Kaynak, 2003). Thus, it was included in our research model (see figure 2.3) as a first and major concept. This includes top and middle level managers’ commitment and ability to commit others towards excellence. They have to set and incorporate the value of quality in a strategic direction into the organisational culture and be able to undergo a number of changes through organisational learning and personal development. This concept is focused on commitment of top level managers, unity of organisation moving towards single purpose, ability to manage environment and encourage organizational change, and empowerment and use of shop-floor ideas for business improvement (Samson and Terziovski, 1999).

The second viable concept of TQM that was observed by most of the authors is a view of TQM as a strategy on a business level. To make quality more visible and top management commitment viable it should be incorporated with a strategy (Zhaoa et al., 2004). It will further move organisation towards meeting stakeholders’ needs and thus producing competitive advantage and sustainability. Therefore, strategy was chosen as the second concept, subsequent to leadership (see figure 2.3). Specifically the company’s core values and success factors will be analysed.

Even though the cultural concept, is incorporated into strategy in EFQM model, we have decided to distinguish it like in MBNQA as a source of organisational policies, believes and norms. Therefore we included culture as a result of implemented strategy that influences people perception of quality (Irani et al., 2004).
The fourth concept that was viable throughout the literature review is the **human factor**. People are the most important in the organisation and hence require appropriate care. Even though it was stated by some of the authors that leaders are responsible for the appropriate environment we distinguish it as a separate point. The meaning behind this is to observe the created surroundings for the employees to grow and prosper in the organisation (Soltani et al., 2003). Thus, we decided to include this concept in our research model after strategy. This can be explained as an extent to which organisation's managers emphasise human factor in their strategic objectives. The specific topics for observation are training, motivation (Lemak and Reed, 2000) and participation in decision making or involvement (Stashevski and Elizur, 2000).

Having observed the four fundamental concepts in the organisation devoted to quality there is one more important factor that is vital in every organisation and would complete our research model – **supporting system**. Even though it was not explicitly mentioned by all authors it has its place in the EFQM model. In this concept we enclose organisation’s ability to provide the necessary infrastructure, network and database for successful performance. This also includes organization’s knowledge management and ability to support its key performance with necessary information (Camison, 1996). This concept is specifically observed from developed network of partners and suppliers, technical environment of the workplace and informational system supporting it.

**Figure 2.3: Research Model**

![Research Model Diagram]

Source: Own model
The last three concepts of the model – human resources, culture and infrastructure might be similar or inclusive. To distinguish these concepts we will refer to the sub-questions of the research (see chapter 1.5). The concept of human resources will observe how companies commit their employees in terms of training, motivation and involvement. The concept of culture will show the perception of quality by people and its significance. The concept of infrastructure will estimate the environment that supports employees in accomplishing their daily work. This concept will examine the value of developed network of partners and suppliers, the efficiency of technical environment and informational systems.

2.7.1 Bridging for further chapters

In the following chapters the research model will be used as a general structure. However, the empirical data will start with short IT industry description in Belarus and general information about the sample that participated in the survey. Then, the empirical data will be presented with reference to the structure outlined in our research model and the data collected from received questionnaires. Thereafter, the analysis will be presented, where again the research model will form a structure of analysis. The theoretical framework outlined in this chapter will be used along with the empirical data to infer on the tendencies from the collected sample. The tendencies will be after summarised in conclusions (chapter 5).
3. RESULTS

3.1 Introduction

In the following section the empirical data collected for the analysis will be presented and summarised. The research model\(^2\) (see figure 2.3, p.46) was used as a basis for developing the questionnaire (see appendix 1) and thus collecting the primary data. Therefore, the link between the questions asked in the questionnaire and the different concepts of the research model have to be discussed. Also, the questionnaire included the general information about the companies respondents work in.

First the short industry overview will be presented to familiarise the reader with the issue. Then, the general information on respondent’s companies will be first presented. Thereafter, we will follow the structure of the concepts outlined in the research model, starting from leadership followed by strategy, human resources and culture, and finalising with infrastructure. The arguments for asking the specific questions will be first presented, and then the information collected will be reviewed and discussed.

3.2 Industry overview

Belarus has the largest and most established European IT outsourcing companies to the east of Germany. Fifth largest IT outsourcers are 10 years old, which is an age well above average for a private business in Belarus. Two main players, IBA Group and EPAM Systems encounter 1500 and 1200 employees (Radkevitch, 2006).

EPAM and IBA are on the first two positions of the "Top 5 to Watch in Central and Eastern Europe" section of the "Offshore 100," a list of the world's leading IT. A few other local outsourcers such as Sam-Solutions, Belhard, and ScienceSoft employ 150-400 IT staff. Headquartered in Princeton, New Jersey, where it has over 50 employees, EPAM is the winner of Technology Fast 500 award in 2002, 2003 and 2004, while its development centre in Minsk became the first CMMI 4 certified company in Europe (Radkevitch, 2006).

\(^2\) Research model was developed as a result of the extensive review of the literature and studies of different theories and models on quality management and TQM the summary of which is presented in the 3\(^{rd}\) section.
IBA earned its CMMI 4 certification just two weeks after EPAM. In 1999, IBM withdrew as shareholder of IBA but remained its main customer and strategic partner. Currently, about 600 out of IBA's 850 software engineers in its Minsk office work on projects for IBM. Smaller companies cannot get CMMI certifications although they can be proud of their high growth. ScienceSoft, founded in 1989, has increased its revenue by 34 percent and its staff by 27 percent to 180 employees in 2004, according to its owner Dr. Val Tsourikov (Radkevitch, 2006).

A typical Belarusian IT service provider is a small dedicated team of less than 100 employees. Belarus IT companies introduce and adapt applications and develop the solutions, in the volume 75.9% and 72.4%, respectively. 48.3% of all companies provide IT-consulting and engineering. Encoding and testing services are provided by 44% of all companies provide, while 37.9% maintain and service technically. Software licenses are sold by only 13.8% of all companies (Radkevitch, 2006).

The map of the customers for Belarusian IT looks like following: U.S., 55.9%, Central Europe, 47%, Northern Europe, 29%, and Eastern Europe, 29.5%. Software development, marketing, promotion of products and opening representative offices are considered by Belarusian programmers as their main priorities. 79% of the total quantity of the companies count on their own funds while shaping their development strategies, and in promotion their products they rely on foreign partners, their own efforts and least on foreign investors (Radkevitch, 2006).

### 3.3 General Information

When analysing the tendencies from broadly defined group (IT industry in Belarus), one need to find out about the companies respondents are working in. This was necessary to spot the inclination from the wide variety of respondents and companies participating in the research. The general company information includes the name of the company, its size and presence of any quality programmes/systems. The personal information included the position in the company and time worked in the company.

#### 3.3.1 Company information

The first question of the questionnaire asked for the name of the company respondent is working in. This was necessary to ensure the variety of the responses to see the tendencies in more than one or two companies.
The overall number of collected responses comprised a wide variety of different companies. From 49 responses there were 28 different companies. The major number of responses was obtained from “Belsoft” company – 9 people or 18%. The second number of responses was from “EPAM” – 2 people or 4%. Both companies are the major players in the IT industry in Belarus. The other companies which did not constitute more than 1 response equals to 26 people or 54% of all respondents, while 12 (24%) people preferred not to indicate their company. The results can be seen below in the graph 3.1.

- **Name of the company**
  
<table>
<thead>
<tr>
<th>Company</th>
<th>Number of People</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belsoft</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>EPAM</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>54%</td>
</tr>
<tr>
<td>Not Stated</td>
<td>12</td>
<td>24%</td>
</tr>
</tbody>
</table>

Graph 3.1 Participating respondents by names of companies

- **Number of employees**
  
<table>
<thead>
<tr>
<th>Employee Range</th>
<th>Number of People</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 50</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>from 51 to 250</td>
<td>14</td>
<td>29%</td>
</tr>
<tr>
<td>from 251 to 500</td>
<td>18</td>
<td>37%</td>
</tr>
<tr>
<td>more than 501</td>
<td>9</td>
<td>18%</td>
</tr>
</tbody>
</table>

Graph 3.2 Number of employees among responded companies

The results of the second question on the number of employees working in the company can be seen above in the graph 3.2. The answers were categorised from small number of employees – less than 50, to middle number of 51 to 250 and from 251 to 500. The number of people working in a company that would be higher than 501 people was considered as large company.

- **Are there any quality management systems like ISO in your company?**
  
<table>
<thead>
<tr>
<th>Answer</th>
<th>Number of People</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26</td>
<td>53%</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>43%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>4%</td>
</tr>
</tbody>
</table>

Graph 3.3 Presence of ISO in the company
The results indicate that third of all respondents (18 people or 37%) are working in the companies with less than 251 to 500 people. 29% of all respondents, i.e. 14 people work in companies with 51 to 250 employees, while 8 people (16%) work in big companies with more than 501 employees.

Almost the same number of answers (9 people or 18%) was received from companies with less than 50 employees. Therefore, it can be said the major part, 32 people (around 66%) of the research sample, constitute middle level companies, i.e. from 51 to 500 employees.

The third question gives information on the percentage of companies among respondents that have any quality management system, like ISO. The given answers are yes, no, other and uncertain. The results (showed in graph 3.3) point to the fact that major number of responses were from the companies that either implemented or not the ISO with 26 people (53%) for yes and 21 person (43%) for no. Another 2 people (4%) either had another system of bug tracking\(^3\) or were developing control tools themselves. Hence, the sample of collected answers is almost equally divided among the companies with and without ISO.

### 3.3.2 Personal Information

The personal information addresses the variety of respondents in terms of their time worked in the company and the position in the company’s hierarchy. The given answers of the question on position in the company were: senior/middle management, junior management/supervisory and other (graph 3.4).

The above graph 3.4 illustrates that more than a half of all respondents (27 people or 55%) were junior managers or supervisors. Senior and middle level managers constituted 27% or 13 respondents, and 9 people or 18% were others. Thus, it can be claimed that more than 40 respondents or 85% of all number of responses were from managers.

Among the collected responses it was noticed that third of all people (16 respondents or 33%) worked less than six months (see graph 3.5 above). The second biggest group of 14 people (29%) work between one and three years, while groups of six months to one year and more than 3 years represent 9 people (18%) and 10 people (20%) respectively.

\(^3\) Bug tracking system is “designed especially to manage problems (software bugs) with computer programs” (Wikipedia, 2006).
3.4 Leadership

In this section the results of the questions under the concept of leadership will be summarised and illustrated with the help of graphs. Also, the reason for asking the specific questions will be discussed. The structure of this part will follow the main sub-concepts outlined in the research model. These are: managers’ commitment to quality, manager as a change agent, aim formation, empowerment and communication.

3.4.1 Commitment to quality

As was outlined in the literature of all authors, leadership has a significant role in pursuing quality. Because managers are the major executive force in any organisation, their commitment to quality should be observed in the first place. The question was structured on a scale of five: completely agree, agree, uncertain, disagree and completely disagree. The results of the question can be seen in the graph 3.6

- My direct manager is fully committed to achieving high level of quality

Graph 3.6 Direct managers’ commitment to quality
The graph indicates that in 38 cases (almost 80%) direct managers are strongly committed to the quality. This can be seen from a summation of answers of strongly agree (10 respondents or 20%) and agree (23 respondents 57,1%). Other 9 respondents (18,4%) of respondents were not sure about this, while only 2 people (4,1%) disagreed with this claim. Therefore, results demonstrate that respondents’ believe in their managers’ commitment to quality.

3.4.2 Change agent

The main reason for asking this question can be linked to the quality driven continuous improvement. Continuous improvement presumes self assessment and necessary action to be taken afterwards. Therefore, managers have to be able to commit an organisation towards needed changes. The question was structured on a scale of five: completely agree, agree, uncertain, disagree and completely disagree – and the results are illustrated below (graph 3.7).

- *I feel a huge commitment towards the changes in the organisation*

![Graph 3.7 Respondents’ commitment towards the change](image)

The graph 3.7 below points out that more than half of respondents (28 people) either agree (24 respondents or 49%) or completely agree (4 respondents or 8%) with the fact that they are fully committed to changes. However, it also can be clearly seen that 19 people (39%) are uncertain about their devotion to quality. The minority of respondents that disagree constituted only 4% or 2 people.

3.4.3 Unity of purpose

This question was important to find out whether the managers formed aims are understood by all employees and could lead everyone towards one goal. In terms of quality it is a crucial moment as it unifies all the employees and encourages to a better accomplishment of their work. For this the two questions
were asked, first, whether the person knows his aim and the second, whether the person knows how his work contributes to achievement of this aim.

- I know and clearly understand the aims of my company
- I know and clearly understand how my work contributes to achievement of company’s goals

This will help us to distinguish the deviation between the knowledge of aims and understanding of how one’s work contributes towards achieving company’s goals. The results were summarised using pie chart (graph 3.8 and 3.9), given the answers from completely disagree to completely agree on a five.

In the two graphs above 40 respondents (more than 90%) understand and know the aims of their company and how their work contributes to their achievement. Only about 4 people (8%) are either uncertain or disagree with this claim. In general, respondents tend to increase their attitude when talking about the contribution of their work in to company’s goals. It can be seen as (13 respondents) 27% of those that completely agree with awareness of company’s goals increase up to 41% (20 respondents) when talking about how their work contributes to these aims.

3.4.4 Communication

Information about the changes in the organisation has to reach all the necessary people. This is because being informed means being a part of the organisation you are working in. Therefore, dissemination of appropriate amount of information using the right channels plays a significant role within an organisation.
For this reason, the two questions were asked to find out the channels of information flow and to what extent respondents feel informed. The possible sources of information were: data base, rumours, direct manager, organisational letters and others. Respondents’ attitude was measured on a scale of five from completely agree to completely disagree. The results are shown below in graph 3.10 and 3.11

- **I find out about the processes, decisions and changes in the organisation mostly from**
- **I always feel informed about the events, processes or changes within the organisation**

![Graph 3.10 Sources of information as indicated by the respondents](image1)

![Graph 3.11 Respondents’ attitude of being well informed](image2)

From the above graph 3.10 it can be observed that most of the information about the different events, processes and changes are coming from rumours (as indicated by 16 people or 32%). However, the number of answers stating that information is coming from organisational letters and direct managers differs only by 2-3 people in average with 14 (29%) and 13 (27%) people respectively. The database is used the least in disseminating the information – 4 respondents or 8%. 2 (4%) answers indicated other sources of information like from a principal (executive) or system of quality management.

The graph 3.11 indicates that more than a half of respondents (28 or 57%) felt that they are informed with the happenings within the organisation, while the quarter (13 respondents or 27%) were not certain about that. Only 5 respondents (10%) completely agreed and the rest 3 (6%) disagreed with this claim.

Thus, it can be said that rumours, direct manager and organisational letters are very important and effective means of disseminating information, depending on the situation or its relative importance.
3.4.5 Empowerment

This is an important part of leadership described in many other literature it is also important in quality to distinguish it with enforcement. Empowerment positively affects employee commitment to accomplish the assigned work and his/her personal development. The question was structured to reflect respondents’ attitudes on a scale of five from complete agreement to complete disagreement with a statement. The summary of results can be seen below in graph 3.12.

- *I have a full capacity to try out my ideas*

![Graph 3.12 Level of freedom employees have in accomplishing their work](image)

Graph 3.12 Level of freedom employees have in accomplishing their work

The above graph 3.12 demonstrates that 29 respondents (almost 60%) agree (22 people or 45%) or completely agree (7 people or 14%) with the statement that they are fully empowered to try out their ideas. About a quarter of respondents (13 people or 27%) were uncertain and 14% (7 respondents) either disagreed (5 people or 10%) or completely disagreed (2 people or 4%) with the statement.

3.5 Strategy

Commitment of leadership is usually reflected in strategic response and inclusion of quality as a part of organisational strategy. Thus, it is important to see to what extent the organisation realises importance and real meaning of quality when developing competitive advantage. The questions asked were divided into two parts to address the actual priorities of the organisation (or competitive advantage) and the factors that lead company towards achieving this competitive advantage. Both parts were structured to measure the attitudes on a scale of five: completely agree, agree, uncertain, disagree and completely disagree.
3.5.1 Priorities of the company

The actual priorities of the company explain what company is trying to achieve. The results will indicate the area of quality that companies are trying to excel in and, thus, will help to find out the tendencies relative to the collected responses. For this, the question included options that were scaled into five from completely agree to completely disagree.

The options given were picked up from Irons (1994) research questionnaire developed to build a theoretical framework for the service companies. The options are divided into three parts of strategies: profit-driven (making high profit, keeping costs down) to customer-driven (keeping customers satisfied, getting repeat business from old customers) to employee driven (getting a high volume of work, having a keen workforce, providing good job prospects for employees) and other. The results are summarised below in a bar chart (graph 3.13) and followed with description of every concept separately.

Nearly all respondents agree with the first policy in the graph 3.13 below - making high profits – as 47 respondents (96%) either agree or completely agree with this fact.

The second concept of keeping low costs does not receive much confidence rather than general agreement on the issue (25 respondents or 51%). This is also seen from uncertainty of 11 people (22%) and disagreement by 4 people (8%) upon the issue.

- *What do you think are the actual priorities of the company?*

Graph 3.13 Actual priorities of the company among the respondents
The third idea of keeping customers satisfied was perceived with the same confidence as the first one, with overall number of 33 (88%) agreements and complete agreements. Only 6 people (12%) were uncertain about that.

A very strong agreement among 42 (86%) respondents with 29 (59%) for completely agree was received for the fourth concept - getting repeat business from old customers. Uncertainty as in a previous case constituted a small number of respondents – 5 people (10%).

The attitudes upon the fifth concept of getting a high volume of work are divided in two. The 18 agreed (a 37% of respondents) are followed with almost the same number of uncertainty – 17 people (35%).

Almost the same picture can be seen in the sixth concept – having a keen workforce. Pretty high level of agreement (22 people or 45%) is followed by third (16 people or 33%) of uncertain answers. Not to mention the fact that in both cases the disagreement rose to 10% or 5 respondents for each.

Despite the 16 respondnets (33%) that agreed with the last issue - providing good job prospects for employees – the opinions are mostly related with uncertainty (19 people or 39%) and disagreement (8 people or 16%). The other important factors outlined by the respondents were company expansion, high quality of order accomplishment and creation of better working environment.

### 3.5.2 Company’s most important factors

After revealing the priorities of a company, the further, deeper investigation is conducted to depict the most important factors. This will help to find out the way in which companies are trying to achieve the previously stated priorities.

The results are summarised below in graph 3.14. The question was structured to measure the attitudes for the given options that were taken from Irons (1994). The listed options in the questionnaire were: low prices, achievement of sales targets, technical excellence, high quality service, strong leadership, highly motivated stuff, stable workforce, work according to rigorous standards, being friendly and approachable to customers, having a well trained stuff, treating customers as individuals, guarantee of a good service and other. The attitude measures were structured on a scale of five: very important, important, uncertain, not important and not important at all.
**What do you think the company sees as the most important factors?**

Graph 3.14 Companies’ most important factors

The above graph 3.14 illustrates the importance of different factors in the companies as indicated by the respondents. The first concept of low pricing indicates relevant disagreement as the level of uncertainty and disagreement reach the highest point of 18 (37%) and 17 (35%) people respectively. This is followed by the quarter (12 people or 25%) of answers that agreed with the issue.

The much higher agreement can be seen in the second factor – achievement of sales targets, where the number of cases agreed reaches 37 answers (76%) with 16 people (43%) that completely agreed. The uncertainty reaches one fifth – 10 (20%) of all answers.

Technical excellence, the third concept, is similar to previous one with 80% (or 39 answers) of overall agreement, where 23 (47%) of respondents agreed with the subject. Uncertainty here reaches somewhat 14% or 7 responses.

Provision of a very high quality service, fourth factor, received a very high confidence level of agreement – 43 answers or 88%, where 29 (59%) of answers were agreements. Uncertainty level does not even reach the tenth of all the responses 4 answers or 8%.
The subject of strong leadership also received a high conformity level and embraces 38 responses (78%) (with 25 answers or 51% of agreement), while the level of uncertainty comprised modest 14% (7 people).

More than half of the respondents (26 people or 53%) agreed with the sixth aspect of highly motivated stuff within the organisation. Although, almost third (14 people or 29%) of the answers were uncertain about this matter. However, a higher level of resistance was also observed with 6% of disagreement and 4% of complete disagreement.

Almost the same results can be observed in the seventh statement of the question – stable workforce. There level of agreement reach 26 of all answer (53%) and 12 answers (24%) were uncertain about the statement.

Rather high level of resistance among the respondents was obtained on the next, eighth issue of working upon the rigorous standards, where 18 (37%) were uncertain and 12 (24%) disagreed with the issue. Nevertheless, almost third of answers – 15 respondents (31%) agreed with the statement.

More than half of respondents – 28 respondents (57%) agreed with the statement that their company is friendly and approachable (the ninth factor). At the same time almost third of respondents (14 people or 29%) showed uncertainty on this matter.

The tenth aspect shows high but not very strong level of agreement (27 people or 55%) among respondents concerning the highly educated staff and only humble level of uncertainty (8 people or 16%) and disagreement (4 people or 8%).

The total number of agreements concerning the eleventh aspect of individual customer treatment reaches 35 answers (72%) with 20 people having agreed on the matter, although the quarter of respondents either were uncertain (10 answers or 20%) or disagreed (4 people or 8%) with this issue.

The last, listed option about good service guarantees, comprise a fairly high level of agreement – 38 answers (78%), where both numbers of completely agreed and agreed respondent were 19 people or 39%. The results followed by a modest uncertainty level (9 people or 18%).

One of the respondents also indicated image as being a very important factor.
3.6 Culture

Culture in this regard covers organisational policies, norms and values, thus it is considered as a part of the strategy and its influence. However, the question focuses on quality within the organisation, or what does quality stands for in an organisation. This will help then to identify the meaning of quality among the responded organisations. The options for the question provided were taken from Irons (1994), and were scaled to measure attitudes from very important, important to uncertain, not important and not important at all. The results are summarised (graph 3.15) and discussed below.

In the first set of columns (graph 3.15 from the left), 39 (79%) of respondents stated that maintaining high quality standards is important in 29 cases (59%) or very important in 10 cases (20%). Although, somewhat 8 people (16%) hesitated about this and 2 (4%) disagreed.

- How important you think each statement is in describing what quality means in your job?

![Graph 3.15 The importance of factors in describing the quality](image)

The results on the second perception of quality as keeping customers satisfied were quite confident with 19 answers (39%) for both important and very important. Almost the same level of uncertainty and disagreement is observed in this situation accounting for 9 (18%) and 2 (4%) answers respectively. Similar picture can be seen in the next, third set of columns where quality is encouraging more customers to use...
service – 22 people (45%) stated this to be very important and 19 people (39%) as important. While the level of uncertainty decreased to 14%, 2% have seen this matter as not important at all.

A very high importance level can be observed in the fourth aspect – give our customers confidence in what we do, where nearly all respondents (46 which accounts for 94%) stated as being very important (25 respondents or 51%) or important (21 respondents or 43%). Uncertainty level covers modest 6% with only 3 respondents. Even though 23 (47%) respondents feel that meeting the “industry standards” is important and 13 (27%) even think that it is very important, a quarter of respondents (12) were uncertain about this fact.

Avoid making mistakes when talking about quality (sixth factor), was perceived as important by 26 respondents (53%) and very important by 12 (24%). However, 6 respondents (12%) were not sure about that and 5 respondents (10%) saw it as not important.

Quality as monitoring all the procedures, the sixth aspect, was perceived as important by 22 respondents (45%) and very important by 13 respondents (27%). This is followed by 11 people (22%) that were not certain about this claim, while 3 persons (6%) saw it as of low importance.

The last, seventh factor – make sure that I feel committed to my work received a very high level of uncertainty (20 respondents or 41%) followed by a slightly lower level of 18 people (37%) that marked it as important. Also, 6 respondents (12%) marked the subject as being not important to their work.

### 3.7 Human resources

In the section of Human Resources the role and influence of training will be proved, as well as the level of motivation and involvement among employees. These three points are the most crucial in defining HR of the company in terms of the presented research model. They can outline the tendencies of weak and strong sides of the whole HR system in IT companies.

#### 3.7.1 Participation in trainings

Education, knowledge transfer, learning organizations – it is all connected to people, as personnel or employees. In terms of Quality management, training is one of the parts of continuous improvement, for which stand many of the theories in TQM. The results which we have got show that only less then a
half of respondents (21 people or 43%) took part in trainings during the last year, and more than the half did not (28 or 57%).

- **During the last year I participated in trainings**

![Graph 3.16 Level of participation in training among the respondents for the past year](image)

3.7.2 Training as an instrument for improving operations

In the next questions we tried to figure out what impact the training has made on the people’s daily operations. In fact, the first question supporting the idea of continues improvement has been asked. The answers were scaled in to 5. 3 respondents or 14% completely agreed on the statement, that they became able to do their job better, 14 people or 67% relatively agreed, while 4 people or 19% stayed uncertain about this. Among all the results there were no negative answers to this question.

- **I was able to do my job better**

![Graph 3.17 Respondents’ ability to do job better after training](image)
3.7.3 Training as a source of frustration

The masses of information, new ways of doing things can confuse and frustrate employees. In order to measure the level of frustration, we asked this question. The results are striking: 2 people or about 10 % relatively agrees with this question, 6 people or 29 % are uncertain and 11 or 51 % relatively disagree and 2 or 10% completely disagree.

- I felt more frustrated by our work procedures

<table>
<thead>
<tr>
<th></th>
<th>Complete agreement</th>
<th>Relative agreement</th>
<th>Uncertain</th>
<th>Relative disagreement</th>
<th>Complete disagreement</th>
</tr>
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<tr>
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<td>2 (10%)</td>
<td>6 (29%)</td>
<td>11 (51%)</td>
<td>2 (10%)</td>
</tr>
</tbody>
</table>

Graph 3.18 Respondents’ feeling of frustration with the work procedures after training

3.7.4 Training as an instrument for transfer of company values

For any company it is important how an employee understands the goals, objectives and values of the company. In some way training can serve as a method of informing people about the internal culture of the company and involving into achieving goals and cherishing values. Our interest in this question was to measure how the firms in IT sector manage to do this transfer and if they succeed or fail. The results show that more then a half 11 people out of 21 or 52% relatively agree that they understood more clearly the goals of the company, 7 people or 33% remain uncertain, while 2 people or 10% and 1 person or 5 % accordingly relatively and completely disagree.
• *I understood more clearly what we are trying to achieve as a business*

Graph 3.19 Respondents’ higher level of awareness about what is attempted to achieve after training

3.7.5 *Training as an enabler for meeting customer needs*

Customer orientation is one of the main points in Quality Management, in every model of Business Excellence it has been mentioned that customer is the central part of any model. By this question we outline how effective the trainings are to satisfy the customer as the user of the service product. 3 or 14% of respondents completely agree and more than half of respondents or 12 people (58%) relatively agreed on the issue, that it has been effective, 28% or 6 people remain uncertain and there is no disagreement at all.

• *I felt more able to meet the needs of our customer*

Graph 3.20 Respondents’ ability to better meet customer needs after training
3.7.6 Motivation

Motivation is the moving part of any human activity, that’s why we thought that it is necessary to see the level of motivation among our respondents. On the question about general motivation we have got 1 person or 2% of complete agreement, 28 people or 57% of relative agreement, 14 people or 29% uncertain, 5 people or 10% relative disagreement and 1 person or 2% of complete disagreement.

- **I feel highly motivated to do my job properly**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number of Respondents</th>
</tr>
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<tbody>
<tr>
<td>Complete agreement</td>
<td>1 (2%)</td>
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<tr>
<td>Relative agreement</td>
<td>2 (57%)</td>
</tr>
<tr>
<td>Uncertain</td>
<td>14 (29%)</td>
</tr>
<tr>
<td>Relative disagreement</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>Complete disagreement</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

Graph 3.21 Respondents’ higher level of motivation

In this section we also asked the question about social benefits which are considered to be the part of motivation. The current situation in Belarus is that social benefits have just started to be introduced as an additional benefit and not by the high level of uncertain responses 23 out of 49 people, or 47%, we can see that not so many companies use it as an instrument of motivation. 2 respondents or 4% are completely satisfied with their social benefits, 14 people or 29% relatively while 6 (12%) and 4 (8%) are not satisfied relatively and completely.

One respondent outlined that training increased the efficiency of work by several times and the results were higher the costs of training.
• *The social benefits, which company provides me, fully satisfy me*

Graph 3.22 Respondents’ attitude towards satisfaction with the social benefits

### 3.7.7 Involvement

For the term involvement we would like to use the term support as a synonym. We wanted to try out how the practice of physiological support is spread out in IT companies in Belarus. For any employee in order to feel comfortable and safe at working place colleagues’ or managers’ understanding of personal problems is needed. 6 (12%) of respondent’s show that they completely agree that their personal problems are taken into consideration, 23 or 47% relatively agree, 12 people or 25% are uncertain and 6 (12%) and 2 (4%) are relatively or completely disagree accordingly.

• *Any personal problems at work are always taken into consideration*

Graph 3.23 Respondents’ attitude towards company’s concern with personal problems in the work
While analyzing the next question a bit different results are shown, though the questions are quite close to each other. 14 respondents or 26% complete agree on fact, that there is always someone to discuss any problems which a person has with his/her work, 25 people or 51% relatively agree, 8 or 16% are uncertain and only 2 people or 4% relatively disagree.

- *There is always someone to discuss any problems I have with my work*

![Graph 3.24 Respondents’ attitude towards company’s concern with problems in work](image)

3.8 Infrastructure

In this part infrastructure will be analyzed as a technically supported system with its own network of partners and suppliers and information technologies. Infrastructure is the most material part of our model, which can be at least estimated by outsiders, but in these questions we measure the attitudes of the respondents to these three components.

3.8.1 Network of partners and suppliers

Partners and suppliers as company’s stakeholders are even not less important than the customers. By making partnerships and establishing good relationship with suppliers the company obtains not only financial, but also “reputation” benefits. Having serious partner like Microsoft a company can strengthen its positions on the market and by that increase its market share.
6 or 12% of respondents completely agree on the fact that they are satisfied with their network of partners and suppliers, 26 people or 53% relatively agree, 13 people or 27% are uncertain, while 4 people or 8% relatively disagree.

- I feel that our network of partners and suppliers fully contribute to the achievement of our organization and accomplishment of my work.

Graph 3.25 Respondents’ attitude to efficiency of network of partners and suppliers in achieving company goals

3.8.2 Technical environment

The expectations and requirements to the working place of the employee in IT industry are high: programming or web-design is made on the newest computers with using the highest equipment. So in this question we try to find out the attitude of the employees to their working places and working instruments.

19 respondents or 39% of them are completely satisfied with their working environment, 22 of them or 45% are relatively satisfied and 2 people or 4% are uncertain and 6 of them or 12% are relatively unsatisfied.
• I think that I am fully equipped to accomplish my daily work.

![Graph 3.26](image)

Graph 3.26 Respondents’ attitude towards high equipment level in the organisation

3.8.3 Informational systems

Information system can be considered as a circulatory system of the big organism – a company, so it is important to have it constantly and stable working. The estimation of the information systems of companies presented in our research has shown that 10 (20%) of respondents are completely satisfied with their informational systems, 24 respondents or 50% relatively satisfied, 11 people or 22% are uncertain, 3 people or 6% are relatively unsatisfied, 1 person or 2% completely unsatisfied.

• I think that I am supported with all necessary information needed to accomplish my daily task or make an important decision.

![Graph 3.27](image)

Graph 3.27 respondents’ attitude towards the sufficient level of information in decision making
4. ANALYSIS

4.1 Introduction

In this part of thesis, the analysis will be presented. We strived at creating discussions, where possible, between the findings (4th chapter) and theoretical framework outlined in the 3rd chapter. The findings will be obtained from correlations of different conceptual questions (on leadership, strategy, HR, culture and infrastructure) with the ones of general information. Thus, the structure of the analysis will follow the research model concepts: leadership, strategy, HR, culture and infrastructure. This will be preceded by revealing some tendencies in general information. The discussions will be then summarised separately, after every concept, to form the basis for the subsequent section - conclusions.

4.2 General information

In this section the general tendencies will be highlighted by correlating the general company information, i.e. number of employees and the existence of ISO in the company. This will show whether implementation of ISO depends on the size of the company.

Graph 4.1 Percentage of ISO implemented companies and number of employees in the company

As can be seen from the graph 4.1 above, the ratio of companies with implemented ISO is not lower than 50% in all cases (except where the sample is only 6). Therefore, it can be inferred that the major sample of companies in this research have implemented ISO. What is more, presence of ISO in the company does not have any influence in our collected sample as there is no correlation between the size of the company and the level of ISO implementation.
4.2 Leadership

Here, all the sub-concepts of leadership (managers’ commitment to quality, change agent, unity of purpose, communication and empowerment) will be analysed using the empirical information. Also, the different correlations will be presented and then discussed along with theoretical framework, where possible. Mostly presence of ISO in the company will be used for correlation to show the difference of factors in the company with and without management system.

4.2.1 Commitment to quality

The results indicate that major part of respondents generally agreed on their managers being committed to quality. All the major literature on TQM (especially TQM gurus), ISO and Business Excellence (EFQM and Baldridge) described commitment of managers - the primary indicator of quality driven organisation (Chin et al., 2002).

However, there were also 11 of the respondents (18% and 4%, see graph 4.6) who were uncertain or even disagreed with this matter. Therefore, we found it interesting to observe the relation of ISO and level of commitment among the managers by correlating the graphs 3.6 and 3.3.

Graph 4.2 Relation of managers’ commitment to ISO presence in the company

In the graph 4.2 one can see the relation between management commitment to quality and presence of ISO in the company. The results show pretty strong relation between commitment of managers to quality to ISO in organisation as only 12% of respondents are uncertain against 24% uncertain and 10% dis-
agreement in the companies without ISO. Thus, we can infer and support the claim from the literature that ISO positively affects managers’ commitment to quality.

4.2.2 Change agent

Being committed to quality is not enough. Ability to commit every one to quality is the critical leadership factor. This primarily means commit everyone to the necessary changes and improvements as outlined by the TQM literature (Hardjono and Marrewijk, 2001).

The primary results indicate that half of the respondents agree with this, although 38% are hesitant about this fact. Hence, we will try to distinguish this by correlating the two alternatives of commitment to change with existence of ISO in a firm and managers’ commitment to quality (see graph 4.3 and 4.4).

Generally, from the above graph 4.3 we can not conclude on any tendencies as the results are almost equal. Therefore, we will try to find the correlation between the commitment of managers to quality and employees eagerness to change (see graph 4.4 above).

As can be seen in the linear graph 4.4 the level of employee enthusiasm to change (axis X) decreases as managers’ commitment to quality decreases (lines on the graph). In other words, this can support the claim of Reed et al. (2000) - managers that are more committed to quality have employees who are more committed to change.

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Thus, it can be said that implementation of ISO will not make people more ready to change; rather managers’ commitment to quality is the one to show and explain the significance of change. This can be found in Deming’s 14 principles, as a sequence goes: institute leadership and then drive out fear (for change).

4.2.3 Unity of purpose

As explained by Jun et al. (2005) to be able to commit everyone to change and improvement of quality managers have to unite the organisation and direct everything towards one goal. This goal has to reach the whole organisation, be acknowledged and clearly understood by every one.

The results of the questionnaire show reverse logic as the amount of people who fully understand company’s goals (27%) is smaller than the percentage of people who fully understand how their work contributes to their achievement – 41% (see graph 4.8 and 4.9. This could be the fact of human exaggeration of their own work beyond company’s goals, which basically means that this difference (some 7 people or 14%) either do not understand the company aims or have a wrong perception of it.

We will also try to distinguish the companies with and without ISO to find out where the 14% discrepancy belongs to (see graph 4.5).

Graph 4.5 Relation between ISO presence and questions on unity of purpose

The tendency in the graph above does not reveal the source of moving 14% found previously. Even though in both situations it is obvious that people tend to agree more with their understanding on how their work contributes to company’s goals. Thus, it can be stated that people are keen to overemphasize the importance of their work irrelevant of ISO existence in the company.
The above results emphasise the famous words by Edward Deming that first you must know what to do and then do your best. In our sample some tend to know that their work is important to company but not everyone is eager to admit that he does not know what it is for.

4.2.4 Communication

The primary reason for not being aware of company’s goals and how their work contributes to its achievement is the possible noise in the communication process and misuse of quality management tools (Adebanjo, 2001). Communication as defined by Irani et al. (2004) is one of the means to be effectively managed when pursuing TQM. Thus, here we will observe the influence of ISO in the company and the effectiveness of communication tools used.

Graph 4.6 Effectiveness of sources of information among respondents

Graph 4.7 Density of use of information sources in the companies with and without ISO

In the primary information it was noted that rumours, organisational letters and direct manager are the most common sources of information. However, as can be seen from the above graph 4.6 the efficiency of those can be argued. Ambiguous or doubtful information always creates some fuss within the organisation.

Unfortunately, the biggest amount of information comes especially from such source, i.e. rumours. Two thirds of respondents agreed (18 people or 37%) and were uncertain (15 people or 31%) about this matter. Especially visible is the 19% (9 people) disagreement level. Use of organisational letters is always
convenient just for informing employees on general matters. Thus, organisational letters are generally agreed to be efficient (39 answers or 79%), while managers’ role in disseminating information is not very strong. Quite surprising is the direct managers’ role, where respondents generally agreed (30 respondents or 61%) about its efficiency, but third (15 people 31%) were not certain.

In the graph 4.7 the relation of use of different information sources in the companies with and without ISO is observed. The role of rumours increases to almost half in organisations without ISO, while in the organisations with ISO this constitutes only 11 people (23%). This is mostly due to the data bases used in ISO companies and increased role of managers as outlined in the fundamental concepts of ISO.

Thus, it can be said that the flow of information is mostly subject of data bases and the direct manager. The absence of ISO in the organisation leads to prevailing role of rumours. This is closely related to the effect of ISO as it focuses on factual approach on decision making and involvement of employees. In TQM this concept is defined as fact-based management (Chin et al., 2002). Nevertheless, the efficiency of managers in disseminating information is also not very certain and could be improved. Organisational letters are generally sufficient to inform employees.

4.2.5 Empowerment

As was discussed before one of the important roles of leadership is empowerment (Ugboro and Obeng, 2000).

![Graph 4.8 Relation between level of empowerment and presence of ISO in the company](image)

As can be seen from the graph 4.8 above, the relation there is no dependence between the level of empowerment and ISO system in the company. This is due to the relevantly the same percentage of attitudes in both sides of the graph.
Therefore, it can be inferred that the ISO system, as a system of management control over the processes, does not encourage managers for bigger empowerment. This goes apart with Chin et al., 2002 claim, but does not contradicts it as empowerment is not the result of ISO presence in the company. According to Ugboro and Obeng (2000) empowerment in connection with improved job satisfaction and leadership commitment creates a positive effect on quality. As was previously found, management commitment is influenced by ISO, but is not the source for employee enthusiasm for change. The job satisfaction or motivation level will be observed in subsequent chapters.

4.3 Strategy

In this part the strategic priorities and the most important factors will be analysed. First, the general tendencies will be highlighted and then the correlation with ISO existence in the company will be observed. Thus, we will conclude on the tendencies of strategic focus of companies in the observed sample.

4.3.1 Priorities in the company

The most important priorities among the responses (that completely agree) are getting repeat business from old customers, keeping customers satisfied and making high profits. These values constitute 29 (59%), 27 (54%) and 21 (43%) respectively (see graph 3.13). This goes along with the general concept of TQM, i.e. the customer satisfaction as a primary focus (Cua et al., 2001 and Geraedts et al., 2001). Getting repeat business is the part that is especially important for service companies and clearly emphasised by Grönroos (1991). According to the latter only customer satisfaction and getting repeat business from old customers will ensure making high profits and company sustainability.

Highly recognised, though with less confidence, were keeping costs down (25 answers or 51%), keeping customers satisfied and having a keen workforce having with an equal amount of 22 answers (45%) each. A bit less – (20 people) 41% considered making high profits as important. These results justify the major idea by Edward Crosby that quality is free, hence leads to lower costs. However the workforce is still considered as relevantly important which does not support the claim of human resources in TQM as one of the most important factors, but not so emphasised in ISO (Biazzo and Bernardi, 2003).

Relatively high uncertainty, around third of all respondents, expressed in providing a good job prospects for employees (19 respondents or 39%) getting a high volume of work (17 respondents or 35%) and
having a keen workforce (16 answers or 33%). In the same order, these values hold the biggest percentage of negative answers of 8 (16%) and 5 (10%) each for latter. Also, noticeable relevantly high number of responses of disagreement for keeping costs down – 4 people or (8%).

This can be explained due to the fact that ISO is focused more on the processes, performance and involvement of workforce, while training is to bigger extent considered in TQM and Business Excellence Models of MBNQA and EFQM.

4.3.2 Important factors in a company

Here, different factors reveal some interesting tendencies among the collected sample that are further analysed.

Even though there is no really strong agreement on the specific issue at the first sight as the biggest percentage of complete agreement covered a third of all respondents. These are guarantee of a good service, technical excellence, achieving sales targets and individual treatment of customers accounting for (19) 39%, (16) 33%, (16) 33% and (15) 31% respondents respectively (see graph 3.14).

All of these factors can be explained by referring to TQM concepts and models and come out mostly as a result of quality oriented company. Chin et. al. (2002) in this concern defines TQM as a strategic link between profitability, business objectives and improvement efforts. Quality as a good service guarantee, emphasised by Perdomo-Ortiz et al. (2005), goes beyond quality of the product, i.e. as a multidimensional construct of a company. Needless to say, customer focus and special treatment is emphasised in service sector as a primary objective and thus has to be considered Geraedts et al. (2001). Technical excellence can be explained as the result of the effort accomplished after numerous improvement endeavours. The achievement of these will lead to the results that were marked by respondents as achieving target sales.

Guarantee of a good service has to be verified, although the results on the graph provide more modest results. This according to Grönroos (1991) creates a gap between what is being communicated and what is being accomplished, thus leading to customer low satisfaction. Therefore, the service guarantees should be moderated to match the level of service provided.
Quite high level of uncertainty and disagreement can be observed in such factors as low prices and working upon the rigorous standards. Working upon rigorous standards is contrary to the ISO and TQM literature where the standards are the result of continuous improvement and development through involvement of employees. Thus, the standards evolve as a result of organisational synergy Chong and Rundus (2004).

Thus it can be said, that the important factors emphasised by all of the organisations are mostly concentrated on the quality, i.e. customer satisfaction and their individual treatment. The emphasis is also put on the improvement efforts and results to be achieved. The focus on workforce should be increased if properly following the TQM guides because it will eventually improve the provision of quality.

### 4.4 Culture

In the section analysing companies’ culture it will be also referred to the common graph presented in the empirical evidence part.

In the cultural concept the strong agreement prevail on the issues of customer satisfaction and to a lesser extent to industry matters, avoiding mistakes and keeping with high standards. The former one include keeping customers satisfied, giving customers confidence and encouraging customers to use services can be define the culture among the respondents as customer driven.

However, not least important factors as avoiding making mistakes and maintaining high standards can explain a low commitment of employees to quality. In other words, respondents’ focus seems to be blindly directed towards customers. This to some authors is narrowing view of the company and lowers innovation and creativity. This can be also explained by the fact that the feeling of commitment towards one work is not very welcomed as can be seen from the results from the graph 3.15 (the very right set of columns).

To summarise, it seems that the collected sample of respondents is blindly focused on customers, while other things like meeting industry standards and avoiding mistakes is important to a lesser extent. Mostly cautious is the fact of low personal commitment towards work. Even in ISO commitment and involvement of all employees is vital in good process control. This might lead to a narrow mindedness and low level of learning and innovation. However, this can be partly rejected due to the low importance of working according rigorous standards.

73
4.5 Human resources

In this part of analysis the empirical data on human resources will be analysed and discussed following the same structure: training, motivation and involvement.

4.5.1 Training

The interdependence which can be seen between the quantity of the employees who attend trainings and those who didn’t and installed quality management system in the companies is quite provoking. By the results 42 % from the “advanced” organizations have been trained, while in others almost 48%. The tendency which we can see can be explained by different hypotheses: interdependance

1) Organization of the work and internal training on the working place in the “advanced” companies is more effective and less time consuming than the “out of the company” trainings.

2) As it has been said in the industry overview, the average company in IT industry in Belarus has less than 100 employees, and as it is appeared by our research, these companies mostly don’t have any quality management systems. The average worker is a graduate, whose working place is mostly the first one. As we can see the second largest groups of the trainees are “freshers”, 50% of them have attended trainings. Larger companies attract more mature employees, whose working experience is more than 1 year.

3) The other explanation why small companies train their employees more is that they want to be more flexible in the changing environment, and one of the factors of flexibility could be educated person-
nel. While looking on the relationship between training participation and size, we can notice, that actually quite a lot people attended trainings in the middle-sized companies, which can be called as a companies on the way to adopt any quality management system.

4) Moreover, looking at the graph 3.14, we can find one more explanation, why there is not so “popular” to train people, when they are already in the company: people consider themselves and their colleagues as well trained. Thinking about IT industry, we can come up to the conclusion, that it is an area the education, as a basis, is quite important, and this basic knowledge people obtain in the universities. That is why we have a hypothesis, that the trainings are not so wide spread among IT companies employees.

![Graph 4.11 Company size and training](image)

In comparing the answers of trained respondents, both from “advanced” and ordinary organizations it appears that summing up complete and relative agreement there is quite equal quantity of people who agrees from the both sides. The only moment is that level of uncertainty of “advanced” companies’ employees is higher than the others. Thus, the answers show the tendency that there is no high interrelation between quality management systems and improving ability after training. From the one point of view it can be explained that this question was taken into consideration as a personal one, without taking into account existing systems and environment, which in one way can assist in completing the work, and in the other – prevent it.
• I was able to do my job better

Graph 4.12 Ability to improve operations and quality management system

Describing the level of frustration, which employees can feel after completing the training, by the results of cross-analysis, we can notice that they are quite the same, but in the section of complete disagreement, there are representatives of “advanced” companies. That gives us a hint that probably the organization of the work decreases frustration, or even removes it. And it is interesting moment that among the whole 10% marked that they agree with this statement and 33% remained uncertain. The next question which could be asked for would be how effective and suitable the education was.

• I felt more frustrated by our work procedures

Graph 4.13 After – training frustration and quality management system

In order to achieve a goal, it is necessary to set up it and understand it. We measured up this in the Belarusian IT companies and tried to find out relations between it and presence of quality management systems. As a whole, 52% of respondents showed relative agreement, and only 10% and 5% accordingly showed their disagreement. But by division the respondents as representatives of companies with ISO answered the same as the employees of other companies. The only difference is in the disagreement sec-
tion: those, who don’t experience any management systems, relatively disagreed with the statement, while in complete disagreement there is a representative of “advanced” company.

- *I understood more clearly what we are trying to achieve as a business*

![Graph 4.14 Goals understanding and quality management system](image)

While discussing the section concerning general understanding of company’s customer, we finally can find out the difference: the tendency shows that representatives of ISO companies became more customers oriented by completing the training. 70% and 60% of complete and relative agreement comes out from them. That can explain the fact that companies which install the quality management systems start to pay more attention to the customer and thus increase educational programs in this area.

- *I felt more able to meet the needs of our customer*

![Graph 4.15 Customer orientation and quality management system](image)
4.5.2 Motivation

Our research in this area clearly can be explained by the fact that in case of financial motivation, the high wages of the western colleagues are seductive for employees. In order to keep the price of the product as an attractive one, the companies provide social packages and options to organizing sports activities for their personnel. That is why there is no difference in the answers for general motivation, while in the question of social benefits we can evidentially see that the companies with ISO pay more attention to non-financial motivation than those without.

- I feel highly motivated to do my job properly
- The social benefits, which company provides me, fully satisfy me

Graph 4.16 General motivation and quality management
Graph 4.17 Social benefits and quality management system

4.5.3 Involvement

Analyzing the involvement, and in particularity, the personal problems at work, we can find out the tendency of the employees confidence of ISO companies, as about 20% completely agreed with the statement, but comparing the overall quantity of those who agreed it appears around 60% in both sides. Quite surprisingly can be seen 7% of complete disagreement, but if we sum up it, we can get the same amount of those who don’t agree by roughly 14% from the both sides.

In the area of discussing problems at work the wages are more on the ISO companies side: 42% completely agree with the statement, and 30% relatively agree, while on the other side there are 9% of com-
pletely agree and 75% of relatively agreement. And again we can see around 7% of relatively disagree-
ing in ISO companies.

Graph 4.18 Any personal problems at work are always taken into consideration

Graph 4.19 There is always someone to discuss any problems I have with my work

4.6 Infrastructure

In the field of infrastructure it is obviously seen that the companies who have ISO can enjoy more satisfaction from the employees’ side. The reasons why there is such a difference are the following:

1) Companies, which introduced ISO or other quality management systems, are seemed to be more reliable for the partners and suppliers. As an example, many of them demand ISO as one of the points by assessing which the company can get partnership certificate.

2) Technical environment and informational systems make more possibilities in maintaining standards of quality, thus it is not surprising that the attention to its issues is so high.
Graph 4.20 Network of partners

Graph 4.21 Technical environment

Graph 4.22 Informational system
5. CONCLUSIONS

5.1 Introduction

In the following chapter we are going to present our analysis based conclusions. Here, we first present the findings as regarded to the research question and its main sub-questions to show completeness of our purposeful research. Then, we will present our deductions divided into theoretical and practical implications. This will be followed by rethinking our research methodology and concluding on what could have been done better. After, we will finalise our conclusions chapter with suggestions for a further research.

5.2 Answering the research question

- How do companies manage quality in a country with a transitional economy?

Particularly, the thesis analysed the following questions in support for the main research question:

✓ What is the significance and role of leadership in achieving quality?

ISO implementation has a positive impact on managers’ commitment to quality.

ISO presence in the company does not affect employee commitment to change, rather, managers’ commitment to quality results in a more change enthusiastic employees.

ISO presence and therefore managers’ commitment does not create more empowerment. The same empowerment level in companies with and without ISO is based on the financial motivation. This is a flow of ISO which does not put a lot emphasis on workforce.

Respondents’ are generally tend to overstate the value of their position, due to the fact that they know how their work contributes to company’s goals but are not similarly sure about awareness of these goals. This leads to the fact that the goals might not be explicitly stated and communicated in the whole organisation.
It was also found that ISO presence in the company positively affects company’s means of communication. The level of rumours is used to a lesser extent due to the necessary data base and higher role of direct managers.

✓ What is the effect of strategy in adopting quality?

Generally, the common principles of customer satisfaction are widely accepted. There is also an emphasis on improvement efforts and results to be achieved. However there is a low focus on the human resources and having a keen workforce, which is contradictory to guarantee and provision of an appropriate service.

✓ How are employees committed to quality?

In general, there is no interdependence between training and ISO companies. More over, only in terms of customer orientation, the difference between companies with ISO and without it can be traced. In general, the tendency for educating people is stronger in the small companies, which don’t have ISO.

General motivation doesn’t differ in the companies as well, as they want to keep the costs down and the wages are not competitive comparing to the other countries. But in the companies which have ISO we can see the practice of improving this situation with introduction of other means of motivation – so called social benefits, which are not present in the companies without ISO.

Due to involvement in the companies with ISO, the confidence among respondents was higher, but overall results of general satisfaction and dissatisfaction can be similar for both groups of the companies.

✓ What is the focus and role of a quality policy in firms?

It was found out that the employee perception of the quality is narrowly focused on customer satisfaction. Other factors like meeting industry standards or avoiding mistakes or level of personal commitment to work, which are highly considered under ISO, are realised to a lesser extent. This can lead to narrow-mindedness of employees that diminish learning and innovative abilities necessary for problem solving. Nevertheless, it is moderated by the fact of low importance of working according to rigorous standards.
What is the role of infrastructure in supporting quality level that companies pursue?

In the section of infrastructure there is a big difference between “advanced” and other companies: the importance of excellent technical equipment is not questionable in the ISO companies, and the respondents outlined that.

What is the level of quality in companies operating within a transitional economy?

From the above conclusions on each of the questions it can be deduced that not all the concepts are developed equally. Specifically, human resources are not considered to a full extent and are even lower than set under ISO standards.

5.3 Theoretical implications

As was previously found out the human resources factor is not considered to full extent. While another issue is whether the human factor should be regarded to a higher extent?! According to Lemak and Reed (2000) it is not necessary to be advanced in all areas of TQM. Up to now, it can be seen that Belarus is doing quite well internationally when it comes to IT.

The establishment of ISO does not influence personal motivation, like commitment, leadership or empowerment. Rather, it works as a tool for establishing different control tools over processes and information flow. The employee commitment to quality is mostly influenced by such factors as leadership and job satisfaction or motivation.

Thus, it can be said that our disposition of leadership concept in the beginning of the graph was correct because the actions of the top managers influences the whole organization and drives it towards total quality.

Therefore, it can be concluded in support of Geraedts (2001) claim that ISO should be considered as a transitional point towards total quality and not the ultimate source of competitiveness. This is important due to the upcoming threats of smoothing political influence in the country that will lead to a better market conditions for international rivals and open market.
In a whole our thesis once more time shows the significance of leadership when striving for total quality and the importance of human resources when implementing this idea. Our results also contribute to the quite new area of investigation of studying quality management practices in transitional or developing economies. Thus, concluding that the general rules of TQM inferred from developed countries are also applicable to our sample from transitional economy - Belarus.

5.4 Practical implications

Belarus strategic focus on IT that has its roots back in soviet times combined with a highly educated workforce gives companies an international competitive advantage. While other ideas of market economy have been acknowledged, the results show that the main motivator for people is still financial factor, which is insufficient. A low financial motivator, if not learned from neighbouring Baltic countries, might lead to a brain drain.

A high level of recognition of customer satisfaction is rather precautious, as it might lead to low level of learning and innovation. However, this fact is moderated with the low importance of working upon the rigorous standards.

Due to its underestimated value of highly educated human resources, they might experience the brain drain as soon as the market economy changes its political power influence.

Hence, in a long run companies should consider either increasing salaries, or substituting it with other non-financial benefits.

Despite a good level of leadership, companies also have to consider the human resources that have been ignored. On the one hand this might not be the mistake of leaders as the ISO system does not look at the concept of human resources to a full potential. On the other hand, as the result show, leaders are the ones who drive ISO not the other way around.

5.5 The methodology

As our research model was purely based on the TQM literature review, we think it would be also more appropriate for others to consider the industry or country related factors. Also we thought that infrastructure related factors were observed to a lesser extent and could be examined deeper.
Authors also might consider dividing “agree” option into several. This is because a high level of general agreement among all the issues was observed.

5.6 Future research

Even though our topic of quality management underpins a lot of principles to be found in other fields, we tried to stay within the barriers of quality. Although the other authors, like R. M. Kanter were used as a source of inspiration and addition to a richer discussion that led to, as we think, to a better deductions.

When reading our thesis one might find numerous issues for further research as every concept outlined in our research model could be a separate research. Nonetheless, we would like to outline the ones that concern our whole paper and the topics that would complete the current research.

First of all, we think it is necessary to conduct such a research periodically to spot the changes and trends among the tendencies. Therefore, a research might cover a bigger sample that could be more representative and infer with generalisations of the IT industry in Belarus. A further research could be also conducted to reveal tendencies in other developing economies and compare them with those in Belarus.
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APPENDIX 1: QUESTIONNAIRE

The purpose of the research is to find out the level of quality development in the single defined enterprise in IT industry in Belarus. Also, it will look for differences and similarities of applying quality management techniques and those specified in the literature.

We guarantee a total privacy and insure that the results will be used only in a systemised way and not a single questionnaire or name will be revealed.

The results of the questionnaire might be used for suggestions on further improvement of organisational performance and daily operations. We also give you a chance to win the souvenirs from the Baltic Business School in Kalmar (Sweden), where the research is taking place. The winners will be picked up using lottery method.

Hence, we kindly ask for sincere answers and are thankful for devoting your precious time for carefully completing this questionnaire as it will help us to write a master’s thesis!

*About your work*

<table>
<thead>
<tr>
<th>1. The company</th>
<th>4. Number of employees in the company</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. My job is:</th>
<th>4. Less than 50 people</th>
<th>4. From 51 to 250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior/Middle management</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Junior management/ supervisory</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. I have been with this company</th>
<th>4. From 251 to 500</th>
<th>4. More than 501</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 6 months</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6 months up to 1 year</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>1 year up to 3 years</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3 years or more</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Are there any quality management systems (like ISO) installed in your company?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

*Leadership*

Managers’ commitment to Quality

1. My direct manager is fully committed to achieving high level of quality

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Organization change

2. I feel a huge commitment towards the changes in the company

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aim formation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I know and clearly understand the goals of my organization how my work contributes to its achievement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
4. I know and clearly understand how my work contributes to the achievement of goals of my organisation.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

**Empowerment**
5. I have a full capacity to try out my ideas.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

**Communication**
6. I find out about the processes, decisions and changes in the organization mostly from

<table>
<thead>
<tr>
<th>Data base</th>
<th>Rumors</th>
<th>Direct manager</th>
<th>Org letters</th>
<th>Others</th>
</tr>
</thead>
</table>

7. I always feel informed about events, processes or changes happening within the organization.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

**Human resources**

**Training**
1. During the last year I participated in training

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

   *If yes, go on with question 2, no - skip it and go to 3rd question.*

2. Thinking about training that you have had in the last year, please indicate whether or not any of the following statements apply to you as a result.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   a) I was able to do job better
   b) I felt more frustrated by our work procedures
   c) I understood more clearly what we are trying to achieve as a business
   d) I felt more able to meet the needs of our customer
   e) Other ______________

**Motivation**
3. The social benefits, which company provides me, fully satisfy me.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

4. I feel highly motivated to do my job properly.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>
5. **Involvement**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Any personal problems at work are always taken into consideration</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) There is always someone to discuss any problems I have with my work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Strategy**

1. What do you think are the actual priorities of the company?

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Making high profit</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Keeping costs down</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Keeping customers satisfied</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Getting repeat business from old customers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) Getting a high volume of work</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f) Having a keen workforce</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g) Providing good job prospects for employees</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h) Other____________</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

2. What do you think the company sees as the most important factors?

<table>
<thead>
<tr>
<th>Very important</th>
<th>Important</th>
<th>Uncertain</th>
<th>Not important</th>
<th>Not important at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Our prices are low</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) We achieve our sales targets</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) We are technically excellent</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) We provide a high quality service</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) We have a strong leadership</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f) Our staff is highly motivated</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g) Our workforce is stable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h) We work to rigorous standards</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>i) We are friendly and approachable</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>j) Our staff is very well trained</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>k) We value our customers as individuals</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>l) We guarantee a good service</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>m) Other____________</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Culture

Quality policy
1. Please indicate, how important you think each statement is in describing what quality means in your job. Quality in our organization means:

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Always maintain high standards</td>
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<td>b) Do what is necessary to keep customers happy</td>
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<tr>
<td>c) Encourage more customers to use our services</td>
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<tr>
<td>d) Give our customers confidence in what we do</td>
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<td>e) Meet the standards of our industry</td>
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<td>f) Avoid making mistakes</td>
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<td>g) Monitor all our procedures (quality control)</td>
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<tr>
<td>h) Make sure that I feel committed to my work</td>
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<tr>
<td>i) Other</td>
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</table>

Infrastructure

Network of partners and suppliers
1. I feel that our network of partners and suppliers fully contribute to the achievement of our organisation and accomplishment of my work.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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Technical environment
2. I think that I am fully equipped to accomplish my daily work.

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<tr>
<th>Strongly Agree</th>
<th>Agree</th>
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<th>Disagree</th>
<th>Strongly disagree</th>
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Info systems
3. I think that I am supported with all necessary information needed to accomplish my daily task or make an important decision.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
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<th>Disagree</th>
<th>Strongly disagree</th>
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Thank you very much for the time devoted to the questionnaire!
Please send the questionnaire to:
researchBBS@gmail.com