Master Thesis

Knowledge Sharing and Knowledge Transfer Barriers. A Case Study

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Abstract

The purpose of this research work was to investigate and to determine existing knowledge sharing and knowledge transfer barriers in the company. The research takes place in one company. This company produces mineral wool, which is used for buildings. The company was established in March 2010. The research units were several departments: a Logistics Department, an Export and Import Department, a Trading House, Accounting Department, a Legal Department, a Quality Department, a Security Department and a Technical support with IT Department.

Our philosophical world view was the pragmatism. We used mixed method research, the sequential exploratory design. For qualitative research we used interview with open-ended questions to collect data. Data was analyzed by the coding system and by finding the common relationships and patterns. For the quantitative research we used the questionnaire with close-ended questions. Data was analyzed by statistics methods. Literature review was made and additional documents were collected to obtain detailed information about knowledge sharing and knowledge transfer processes in the organization. For our research work we used the case study inquire.

Results showed that the most critical factors that impact on knowledge transfer and knowledge sharing were the motivation and the trusting relationships. We suggested several solutions to overcome these barriers in order to improve knowledge transfer and knowledge sharing in the research company.
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1 Introduction

This chapter highlights research problems of this work, provides a background and describes criteria for choosing this topic. Questions, which we are going to research in our work, delimitation and limitation are represented in this chapter.

1.1 Background

Over the past decade, a technology has gained a great development. Thanks to them, companies got an ability to automate processes, to use information technology to increase profit, communication channels, to achieve goals, to create database, etc. Organizations want to improve their effectiveness and competitiveness. Organizations understood that the better they learn how to manage knowledge in an effective way, the more advantages they could have and have higher competitiveness. Managers found out that knowledge management process is an essential part in an organization work. Knowledge management could not be what we have today without technology tools. Helps to tools, employees could create, share, transfer, and store knowledge faster and in an effective way. Knowledge management is how organizations could create, capture, transfer and use knowledge (Yao, Kim and Chan, 2007). According to Paulin and Sunesson (2012, p.81). A main knowledge management aim is to make knowledge “accessible and usable” for an organization. But problems, which are connected with knowledge management process, began to arise. Many authors (Attewell, 1992; Szulanski, 1996; Ramaswami and Yang, 1990; Caldwell, 1967) investigated barriers in knowledge management. In our research work we are interested in three aspects of knowledge management; they are knowledge sharing, knowledge transfer and knowledge barriers.

A term “knowledge transfer” and “knowledge sharing” are similar to each other and some authors (Liyanage, Elhag, Ballal and Li, 2009) discussed these terms together. According to Encyclopedia of Knowledge Management (Schwartz, 2006), knowledge sharing could be identify as a process between units, teams and organizations, where people exchange their knowledge with each other. Another definition of knowledge sharing (Paulin and Sunesson, 2012, p.83) is:

“An exchange of knowledge between two individuals: one who communicates knowledge and one who assimilates it. In knowledge sharing, the focus is on human capital and the interaction of individuals. Strictly speaking, knowledge can never be shared. Because it exists in a context; the receiver interprets it in the light of his or her own background”
Knowledge transfer is a process of interaction between, within or across organizational units, teams and individuals. Paulin and Sunesson (2012, p. 83) claim that knowledge transfer is:

“The focused, unidirectional communication of knowledge between individuals, groups, or organizations such that the recipient of knowledge (a) has a cognitive understanding, (b) has the ability to apply the knowledge, or (c) applies the knowledge”

Liyanage, Elha, Ballal and Li (2009, p. 122) argue that knowledge transfer is:

“the conveyance of knowledge from one place, person or ownership to another”.

Szulanski (2003) suggests a definition of knowledge barriers and describes them as a set of factors which impact on a knowledge transfer. There are a lot of categories of barriers, such as: organizational, technology, individual and culture categories (McLaughli, Paton, and Macbeth, 2008; Hermann, 2011; Hard and Lindkvist, 2000). In our research work we are going to investigate dominant barriers, which more influence on a company’s work.

Our research work takes place in one company. We will not write a name of this company. Instead of this we will call it as the research company. Also we would like write some words about this company. The research company was established in March 2010 and its produces mineral wool. This company is situated in Ukraine. The company specializes on a product of heat – insulating building material. This material is called mineral wool. It has a fibrous structure and based on basalt raw materials. This structure gives heat and sound insulation properties, good physical and mechanical properties and a fire resistance.

There are about eight different types of mineral wool. These types can be used for different purposes. Main goals of this company are next:
1. Achieve suitable price for clients of mineral wool;
2. Good organization of a production and marketing of products to satisfy needs of clients;
3. Close cooperation and an establishment of mutually beneficial partnerships with clients and partners;
4. Provide high quality, reliability and a stability of production of mineral wool;
5. Dynamic growth and paying attention to an innovative and promising technologies in the industry;

The creed of the research company is “Reliability and quality”. The company uses individual approaches for each client, high – quality insulations and competitive prices. All these factors would bring successful relationships with clients.

The research company got Ukrainian, Russian and European certificates. For example, in 2012 the company got a certificate of “Exporter of year 2012” and got a medal for it.
Also the research company uses international quality system ISO 9001. About 55% of mineral wool goes to Ukraine, 40% goes to Russia and 5% goes to Moldova and Czech Republic. The company is going to deliver the production to Poland, Belarus, Latvia and Lithuania, Estonia and Hungary. An annual output of mineral wool is about 30 000 tones. A future development is to build a new storage for the production and a second production line.

1.2 Criteria to Choose the Topic

Colin Fisher suggested the use of several criteria to choose a topic (2010, p 33). A first one is interest. We believe that our topic “Knowledge Sharing and Knowledge Transfer Barriers. A Case Study” is very interesting for readers and for researches. A lot of different companies have not only one
department, but several. To organize a good work between them is a very hard work and takes a lot of time and recourses. We think our research work could help managers to increase profits, to achieve their main goals and to improve competitiveness.

Our research proposal is durability and could help the research company to organize its strategy. The company has several departments, which have different goals and objectives. One of the main aims of the company is to organize a good knowledge flow, to share and to transport knowledge between departments and managers.

We think our topic is adequacy for Informatics course. It touches different information tools, software and databases, communication tools and knowledge management. According to Chrisanthi Avgerou (1999, p.1):

“The academic field of Information Systems (IS) is concerned with a large of multifaceted questions regarding the development, use and implications of information and communication technologies in organizations.”

Our research touches a human organization, which is focused in information systems. So, we can tell that our research work is adequacy for Information system.

Speaking about a next criterion, an access, we consider there would be not much problems with gathering data, its analysis and an interpretation.

From our perspective this research company has several problems which deal with knowledge management process and these obstacles create new problems between departments. Departments have problems with knowledge management. Hereinafter we would discuss this issue in more detail and would determine what kind of problems exists and what should be done to solve problems. Main problems touch knowledge sharing and knowledge transfer between departments and inside them. We consider that one of the main problems is that employees do not have time or wish to make some changes or even think about it. They have too much work and it is takes all their time.

We believe that necessary information should come to a right employee and at a right time in a proper format (Halawi, Aronson and McCarthy, 2005). These would help employees to achieve their goals, to increase competitive advantage and to avoid problems.

1.3 Research Questions

According to Fisher (2010), research questions take a main part in writing a dissertation and these questions should not be mixed with strategic questions. A strategic question answers on a question “what could be done in a future” and predict/discuss things which should/need be happened. A strategic question is a question for an action; tell mangers what to do to improve a
current situation. A research question could be done only on things which are already happened on the past. A main point is not to judge or tell what to do, but to research a problem, which would allow managers better understanding of a situation and a judgment.

Our research questions are:
1. What barriers exist between departments to prevent knowledge transfer and knowledge sharing?
2. How these barriers could be overcome?
The purpose of this research work lies in these research questions. So, the purpose of our research work is to investigate and to determine knowledge sharing and knowledge transfer barriers existing in the company.

1.4 Delimitations and Limitations

Our research work focuses on one company. We cannot say that our outcomes could be adapted to other companies. Our research would not focus on a process of creating mineral wool. We would pay attention to a process of mineral wool shipment. According to this limitation not all departments of the company would be included. Also, some employees could not answer on our questions or could give not full and open answers.

As we write the work together, we need to make it clear who write the certain chapters. Thus, we decided to create a table, where we represent the names of the chapters and the names of authors, who write these chapters. We together discussed the chapters.

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Table 1 The chapters distinguish
1.5 Significance of the Study

We consider that the understanding and the investigation what barriers exist in the company could help organization to avoid the obstacles in a future, to increase their competitiveness and to obtain more profits. We will suggest organization solutions how to overcome these barriers and these solutions could be very useful for the Company. It would help supervisors and employees to better understand what knowledge management is and how to manage it in an effective way, to identify root causes of an emergence of problems associated with knowledge transfer and knowledge sharing. Our finding could be applying for different companies and these organizations could use proposed actions to overcome their barriers.
2 Literature Review

In this sector we will present a description of knowledge and its classifications, explain and provide definitions of knowledge management, knowledge transfer, knowledge sharing and knowledge barriers. We will describe different categories of barrier from different perspectives.

2.1 What is Knowledge

We should clearly understand what knowledge is and what its types are in order to determine and to investigate what barriers exist in knowledge sharing and knowledge transfer processes.

Many people heard about data, information and knowledge, but not everyone knows what a main different between them is. It should be clear that knowledge come from information and information come from data. According to Davenport and Prusak (1998), data are a set of facts and events and are a base for information. Data could not predict events, describe what reasons are to obtain data, who is a receiver and a sender of data. Data do not have a purpose and could not represent a judgment and an interpretation; data could not describe its own importance. But nevertheless, data take a great part in an organization process. First, data are a base to create information; second, helps to data, company are able to create database and to keep data of business and organization processes.

Information could be aural or virtual communication between people. Information could be determined as organized data (Jaspara, 2004). Information required a receiver and a sender, has a meaning and a purpose, information becomes relevance. A meaning of information does not need to be a scientific one, but could be a meaning given by a receiver about some data. Information gives a shape to data according to perspectives of a receiver. Jaspara (2004) argues that a receiver determines whether it is data or information.

Knowledge is based on information and is situated in an individual’s mind. Knowledge represents experiences. As Alavani (2001) claims, learning and thinking are necessary for knowledge. There are different classifications of knowledge. Knowledge could be explicit and tacit; procedural, declarative, semantic and episodic knowledge.

Liyanage, Elhag, Ballal and Li (2009) claim that knowledge appears in individual’s mind and is interpreted information by human. Knowledge could be seen from two main perspectives; it is a tacit and an explicit. According to Nonaka and Takeuchi (1995), tacit knowledge exists in human mind and it is hard to capture and to codify this knowledge. Tacit knowledge brings to an organization more value than explicit one. Explicit knowledge could be
codified, captured and could be represented as information which is stored on documentation and database.

Wittgenstein (Jaspara, 2004) thought that language takes one of an important role in life and in creating humans’ perspectives. From his point of view, language describes a reality of the world, sentences describe states of affairs and also could represent actions and facts. He thought that a structure of the world completely depends on a structure of language. He claims that human uses words as tools to describe the world and to understand a reality.

According to Nanaka and Takeuchi (1995), there are several models of creating knowledge: socialization, combination, externalization and internalization. Socialization describes a process, where tacit knowledge converse to new tacit knowledge. For instance, spending time together, sharing experiences and has meetings. Socialization could also appear outside organizations, for instance, in informal meetings. The process of converting tacit knowledge into explicit form is called externalization process. In this case, knowledge is embodied in documents, manuals and etc. They (1995) claim that when tacit knowledge becomes to be explicit, knowledge is crystallized, which allows knowledge sharing between other participants. For instance, when employees have common ideas how to create a new product and then these ideas are converted into drawings. Combination is the process of converting explicit knowledge into another explicit knowledge; it could be redesigning a database. Explicit knowledge is gathered outside or inside a company and creates new knowledge. Network and large database are examples of combination. When a bookkeeper collects information of an organization and its financial part and then creates a report, then this report is an explicit knowledge, which is created by another explicit knowledge. Internalization describes the process of converting explicit knowledge into tacit knowledge. Participants shared explicit knowledge between each other and an organization, and this knowledge is converted into a tacit form. For instance, training programs could be an example of internalization, where coaches read documents (the explicit knowledge to improve their skills) and clear understand what they need to do to reach aims. By reading documents, people could internalize the explicit knowledge in these documents to create and add tacit knowledge.

To create knowledge it is important to have a special place, called “ba”, which allows creating, sharing and utilizing knowledge. Ba is the content for knowledge, depends on the social and cultural aspects and where information become to be knowledge. Ba should not be understood as the certain place, it could also describe time and space. Ba allows people to interact with each other and thus create new knowledge. Participants with their own ideas and context could come to the ba and share knowledge. It is very important for participants to share time and space. High interaction between participants allows sharing knowledge and creating a common language. Using the common language between participants makes it easy to share and create new
knowledge. It is necessary for organizations to build ba in order to provide an effectiveness of creating and sharing knowledge. Ba could emergence naturally or organizations could create it. Managers could provide specific places, like meeting rooms, virtual places, such as online networks or mental spaces, such as common aims. It is important for leader to determine a right mix of participants to interact with each other. Manager should pay attention to employees and their connections with each other and with outside environment in order to determine the natural existing ba and manage this ba in an effective way. Nonaka (1994) distinguishes four types of ba: originating ba, dialoguing ba, systemising ba and exercising ba. Originating ba describes interactions between participants when they meet each other face-to-face. Originating ba is a place where people could share their experiences, emotions and mental model. Socialization takes place in this type of ba. People could share their tacit knowledge between each other. It is important to create trusting relationship between participants in order to share tacit knowledge. Dialoguing ba offers to the externalization, where participants could share mental models and skills and then convert it to terms and formulate concepts. He (1994) claims that it is very important to choose participants with specific knowledge in order to manage knowledge creating in dialoguing ba. Systemizing ba deals with collective interactions and offers a context for a combination. Explicit knowledge is easy to transmit than the tacit one. Explicit knowledge is formulated and represented in a written form, thus large amount of participants could access this knowledge. Examples of systemizing ba are online networks, documentation, databanks and groupware. Exercising ba offers a context for internalization and deals with individuals’ and virtual’ interactions. Participants operate with explicit knowledge and compare it to real life situations in order to improve their skills.

Polanyi (1966) speaks about tacit knowing as something what person knows, but could not explain or write it by words. According to Polanyi (1962), a human could know more than he /she could tell. This type of knowing depends on person’s thinking, experiences, relationships between employees, ideals and skillful actions. Polanyi (1966) argues that each person has its own tacit knowing and he thinks that there is no objective explicit knowledge. He (1966) said that explicit knowledge is underlain by tacit knowing. For instance, there is a geographical map and it could be viewed as the explicit knowledge (Tsoukas, 2002). When person wants to use this map in order to get from one point to another point, she or he need relate this map to a real world. In order to get from one point to another point a person should identifies her or his current situation, than determines a place where she or he wants to go. The last step is to do action to get there. Thus, the map could not read itself. It requires reader and his or her experiences and skills to read this map. Thus, knowledge could not be objective and explicit knowledge includes tacit element.
Callahan (n.d.) claims that speaking about tacit knowledge people do not have enough recourses, such as database and time, to document everything what they know. Even if an organization obtains enough recourses for employees to do it, still some employees are not willing to articulate tacit knowledge. Callah (n.d) considers that an organization could manage knowledge and he suggests several solutions. For instance, a company could provide narratives in order to share and manage tacit knowledge and employees would consider these narratives as granted knowledge. Organizations could use technical tools to provide a full understanding of what actions employees should do. Supervisors could have special meetings, where they could explain these actions.

Lam (1998) describes four types of knowledge suggested by Collins (1993). Collins (1993) did look on knowledge from psychological and behavior perspectives. These four types are:
1. Embrained knowledge
2. Embodied knowledge
3.Encoded knowledge
4. Embedded knowledge

Embrained knowledge describes knowledge, which is explicit and depends on individual’s skills. This type of knowledge is represented by theoretical knowledge, abstracts or by formals. For instance, scientific knowledge, which allows person to understand the universal, its rules, laws of nature, etc. Embodied knowledge is action-oriented knowledge. It is know-how knowledge (according to Polanyi, 1962) and knowledge of experiences (according to Nonaka and Takeuchi, 1995). This type of knowledge depends on personal skills. Embodied knowledge is represented by tacit knowledge and is focused on “learning-by-doing”.

Encoded knowledge is collective-specific knowledge (according to Polanyi, 1962) and is represented by explicit knowledge. This knowledge could be stored in different databases and be represented by symbols and signs. For instance, a bookkeeper obtained knowledge about profits of an organization and codified it in order to write a report. After this, another bookkeeper could use this report for her/his work. For her/him it is not important to know how this report was created by first bookkeeper in order to share this report. Thus, this type of knowledge becomes to be independent on previous person, who use this knowledge. This type of knowledge could be shared between employees according to specified problems or situations. Embedded knowledge is represented by tacit knowledge. This type of knowledge is based on common believes and understandings between employees. It is important for organizations to provide an effective communication between participants in order to exchange this type of knowledge, as the embedded knowledge could not be articulated or easy transmitted.
Thus, it is important to understand what knowledge is and its role in human life. We could not speak about knowledge sharing and knowledge transfer processes without determination of what knowledge is. Different researchers give us an understanding of tacit and explicit knowledge, and they show how these types of knowledge could impact on knowledge sharing and knowledge transfer. Explicit knowledge is easier to transfer and share than tacit knowledge, as employees could represent explicit knowledge in different types of databases, documents, organizational rules, laws, etc. Speaking about tacit knowledge, for employees it is harder to share and transfer this type of knowledge as it requires personal’s experiences and his/her skills and perspectives. If problems with knowledge sharing and knowledge transfer connect with explicit knowledge, than problems lay on a lack of technology tools, lack of databases, lack of a network, etc. If knowledge sharing and knowledge transfer problems connect with tacit knowledge, than an organization should pay attention to relationships between employees, create a physical or virtual space, where people could gather together and share their knowledge. Thus, we could determine main barriers in our research organization and suggest ways how to solve problems.

2.2 Knowledge Management

Different perspectives of knowledge create different perspectives of knowledge management. If knowledge is seen as an object or an access to information, than knowledge management should pay attention to knowledge store and manage it. If knowledge is seen as a process, than knowledge management should focus on creation, sharing, and using this knowledge. In this case, knowledge management needs meet organization needs by exploiting and determination existing knowledge and thus creating a new knowledge. Knowledge management should pay attention to a human factor if knowledge is seen as an object. According to Davenport and Prusak (1998), knowledge management have several aims, they are:

1. Make knowledge visible, show and determine a role of knowledge in organization;
2. Develop a culture by manage a behavior;
3. Design a connection between employees; create spaces, tools, time for employees.

According to Gan, Ryan, and Gururajan (2006), knowledge management provides a framework, which helps an organization to create and share knowledge. For an organization it is important to capture and to share knowledge in an effective way in order to obtain more profits. They (2006) distinguish knowledge management into two types. First type of knowledge
management focuses on “hard” aspects, while a second type focuses on “soft” elements. “Hard” perspective of knowledge management concentrates on using information technology tools in order to manage knowledge. From this perspective, knowledge is seen as an object that could be organized and handled by information systems. The main goal of “hard” aspect is to provide an access to a link, to a database, to a searcher and to an internal net, so employees could reach and obtain necessary knowledge. The key element in “hard” perspective is to provide group meetings and data warehouse. The idea of “hard” approach is that effectiveness of knowledge management work will depend on a technology and its use.

“Soft” aspect looks on knowledge from a know-how process. The idea of the “soft” perspective is that an organization should provide trusting relationship between employees to enable them to share knowledge. In this perspective, technology is not considered as a main element in knowledge management; managers should pay attention to culture and environment. Thus, the culture and its factors play a great role in knowledge management and its work. From this point of view, culture is considered as a success factor for organization to reach goals and become more competitiveness.

Gan, Ryan and Gururajan (2006) argue that there are several culture factors, which most impact on knowledge sharing and knowledge transfer:
1. Collaboration;
2. Trust;
3. Learning;
4. Leadership;
5. Reward system.

Knowledge management could be viewed from different perspectives, depending on different perspectives of knowledge, on scopes and on an area, where knowledge is implemented. Culture and technology could bring more effectiveness to share and transfer knowledge and thus make an organization more competitive.

We decided to choose the perspective of knowledge management as from our point of view, the “hard” knowledge management more focuses on explicit knowledge, while the “soft” perspective concerned about tacit knowledge. If knowledge in an organization is seen from “hard” perspective, than the company focuses on a technology and its tools to transfer and share knowledge and thus barriers, emerging in this company, should be viewed from technology aspect. According to this statement, we could identify obstacles as technology barriers (we will write later more about this type of barriers in subchapter 2.7 Knowledge Barriers). Based on the another perspective, knowledge management is viewed from “soft” aspect. It means that person plays a main role to transfer and share knowledge. Thus, problems to transfer and share knowledge should be viewed from “soft” aspect. To avoid this type of problems, an organization should pay more attention to trusting relationship between employees, to leadership,
motivation factors, etc. For our research work, it is important to identify what personal and technology factors impact on knowledge sharing and knowledge transfer processes and thus on knowledge management. Determining barriers and overcoming them could help the organization to reach goals and to manage knowledge in more effective way.

2.3 Knowledge Transfer

Knowledge transfer includes transfer knowledge at higher level in organization, for instance, group, units, departments (Argote and Ingram, 2000). Christensen (2003, p.8) argues that knowledge transfer is:

“about identifying (accessible) knowledge that already exists, acquiring it and subsequently applying this knowledge to develop new ideas or enhance the existing ideas to make a process/action faster, better or safer than they would have otherwise been. So, basically knowledge transfer is not only about exploiting accessible resources, i.e. knowledge, but also about how to acquire and absorb it well to make things more efficient and effective.”

According to Szulanski (1996), there are four stages in knowledge transfer: initiation, implementation, ramp-up and integration. Initiation stage means that needs and wishes to have knowledge exist in organizations. This stage could take a lot of time to collect information. Next stage, the implementation, includes a receiver and a source. A main aim of this stage is to transfer knowledge according to receiver’s requirements and needs, to overcome problems, which are appeared in previous transfer, and to help to introduce new knowledge with fewer obstacles. The ramp-up stage means that a receiver begins to utilize knowledge, which is transferred. This stage requires from a receiver to determine and to solve problems, which might to appear. The last stage, the integration, starts when a receiver met her/his needs with knowledge, which she or he transferred. Szulanski (1996) claims that there are four factors, which could affect the transfer of knowledge. These factors are:

- Attributes of knowledge transfer;
- Attributes of a source;
- Attributes of a receiver;
- Attributes of a context.

Attribute of knowledge transfer includes a “causal ambiguity” and an “unprovness” (Szulanski, 1996). A reason of causal ambiguity could be factors of productions and how these factors cooperate with each other. Speaking about the unprovness, an organization needs to have recording of knowledge in order to make knowledge transferring process less difficult. Recording would allow a company to select knowledge, which is needed to be transferred, and find a receiver in an effective way.
Attributes of the source of knowledge is a lack of motivation and an unreliable source. The unreliable source has a negative impact on knowledge transfer as participants could not trust a source and to its given information, so transfer knowledge from this source will be more difficult and amount of receiver could decrease. Employees might have a weak motivation to transfer and share knowledge, have a fear that they could lost their competitive advantages. Motivation factors are more discussed in subchapter 2.6 Motivation.

Attributes of a receiver of knowledge are the lack of motivation, a lack of absorptive and a retentive capacity. The lack of motivation could bring to a company a passive work, a rejection of a using new knowledge and a receiving knowledge from outside. The absorptive capacity allows a receiver to utilize and to obtain knowledge from outside sender. The retentive capacity allows a receiver to store knowledge. In this way knowledge transfer will be effective and a receiver could “institutionalize” (Szulanski, 1996, p.31) obtained knowledge.

Attributes of a context includes a poor organizational context and a weak relationship. Knowledge transfer could be affected by organizational contexts, such as, systems, structures, behavior-framing attributes. Communication between a sender and a receiver could influence on an effectiveness of knowledge transfer, especially when transfer knowledge includes tacit elements. Otherwise, weak relationships could bring new problems in knowledge transfer.

Szulanski (1996) claims that there are three factors, which impact on knowledge transfer. They are:
1. A lack of the absorptive capacity of a receiver;
2. The causal ambiguity;
3. A weak relationship between a sender and a receiver
The absorptive capacity is a characteristic of a receiver; the causal ambiguity represents a level of understanding of a receiver. A weak relationship impacts on a receiver to obtain knowledge when it is necessary. Szulanski (1996) argues that these factors are more impact on knowledge transfer than barriers connected with a motivation aspect.

To summarize, there are many different perspectives of definition of knowledge transfer. Authors distinguish knowledge transfer into several categories depends on research scopes. For our research work it is very important to understand what knowledge transfer is and what factors could impact on this process. To determine knowledge transfer barriers, we need to identify if these problems lie in characteristics of a sender, of a receiver or of organizational attributes. For instance, if a sender does not have a wish to send knowledge or have a weak relationship with a receiver, or have a fair to transfer knowledge as it could make him or her less competitiveness, than it means that knowledge transfer problems connect to characteristics of a sender. Thus, to avoid this obstacle, an organization should focus on a sender,
should provide a better reward system and should improve a trusting relationship with a receiver. Same statements we could say about a receiver. If employee does not have a wish to obtain information or consider that it is not useful for her or his work, if she or he does not have enough place to storage transferred knowledge, if she or he is not willing to use new technology to receiver knowledge, than barriers connect with characteristics of a receiver and an organization should focus on improving it ( for instance, provide a training course to teach employees how to use new technology, improve trusting relationship, provide rewards system, etc.). Also knowledge transfer could be affected by organizational characteristics. In this case, obstacles in knowledge transfer connect to organization barriers (we write more about organization barriers in Chapter 3 Theory of Use). For our research, it is important to determine what problems are with knowledge transfer and if these obstacles lie in attributes of a sender, or of a receiver, or of organizational attributes. Thus, it gives us a deeper understanding of the research problem and we can determine and analyze barriers, which are connected with knowledge transferring.

2.4 Knowledge Sharing

According to Ryu, Ho and Han (2003) knowledge sharing is a people-to people process to exchange knowledge. For an organization, it is very important to have employees, who are willing to share knowledge and are motivated to do this.

Cabera and Cabera (2002) argue that knowledge sharing is a main element in an organization, without it a company could not reach their goals and competitiveness. Cabera and Cabera (2002) claim that knowledge of an organization could be viewed from a public good perspective. For instance, an employee could improve her/his ability by using ideals and experiences from co-workers and her/his use of these ideas would not affect values of these ideas and experiences of these co-workers. Sharing knowledge has a cost. Cabara and Cabara (2002) argue that when an employee shares knowledge, he or she does not lose this knowledge as “knowledge is not commodity” (Cabara and Cabara, 2002, p.9). The cost of sharing knowledge is based on a cost of realizing the sharing process (for instance, providing tools, documentation, group meetings etc.). Some employees might think that their contribution would bring them a good reputation and it will up their social status. Other employees might think that they do correct things to share knowledge and it gives a feeling of being sociable.

Cabara and Cabera (2002) claim that people, who are comfortable with information technology, are more willing to share knowledge. They (2002) suggest an organization to provide necessary recourses and time for employees to share knowledge. Another way to increase an individual
motivation is to provide a reward system; it could be a monetary and a nonmonetary rewards. Cambrera and Cambrera (2002) claim that it would bring more effectiveness if an organization combines knowledge sharing with a collective gain plan. Thus, people would obtain a score of a reward system. A main idea of this fact is that employee would get a bonus if knowledge sharing is effective and productive.

Christensen (2007) determines knowledge sharing as a process of identifying existing knowledge in order to transfer and apply this knowledge to solve common problems in an organization; or a process of creating new knowledge by combining existing knowledge. From his perspective there are five factors in an organization, which impact on knowledge sharing:

1. Stickiness on knowledge. Tacit knowledge may be considered stickier than explicit knowledge, hence, requires more effort for an activity;
2. A lack of an identity. A common identity provides knowledge sharing in an easy way, as people from a same group use a same technical language, use common data and are interesting to reach same aims;
3. The weak relationship between a receiver and a sender of knowledge. A sender and a receiver should have a strong relationship between each other to be able to share knowledge. A receiver and a sender should trust to each other in order to trust knowledge, which he or she obtains;
4. A lack of a willingness to share knowledge. Both a sender and a receiver should have a wish to share knowledge;
5. No knowledge about knowledge. If employees have no knowledge of what knowledge they are going to share, then it would make knowledge sharing impossible.

Christensen (2007) looks on knowledge sharing as an ongoing process in an organization within other activities and he claims that a sharing process should not be considered as a separate process in a company.

People make a decision whether to share or not share knowledge based on their feeling, if they know a receiver or not (Dignum and van Eijk, 2005). A level of knowledge sharing is higher if participants have a trusting relationship with a receiver. If a person knows a partner, with whom she or he is going to share knowledge, than this person will make a knowledge sharing decision based on previous experiences. In a case when participants do not know a receiver, then a decision to share knowledge or not share belongs to a knowledge context. So, a decision to share knowledge depends on trust between participants and on if a sender knows partners or not.

To summarize, knowledge sharing could be viewed from different perspective, which gives us wide understanding of this process. To do an effective knowledge sharing, several factors should be viewed. From our perspective, if a barrier to share knowledge connects with a lack of technology, than a company should provide enough technology tools and documents to support knowledge sharing. Also a motivation plays a great role in knowledge sharing. Some employees can share knowledge in order to
get a reward or increase their social status; some people can share knowledge as it is a right thing to do. Employees should have a clear understanding what they are going to share and what a value of this knowledge is; without this understanding it would be impossible to share knowledge.

From our perspective, when employee clear realized a value of knowledge and what benefits he or she could bring to a company by sharing and transfer knowledge, then this employee is more motivated to share knowledge. If employees do not have a wish to share knowledge or do not have a strong communication between each other, or do not trust each other, then organization should focus on these problems and provide a group meeting, a reward system, a virtual space in order to increase a motivation, build a strong trusting relationship between colleagues. Thus, it would make knowledge sharing more effective and brings more profits to an organization.

For our research work, it is important to investigate and determine factors, which impact on knowledge sharing and if these factors connects with personal aspects or with technology problems. In this case we could identify barriers, which connect with knowledge sharing and suggest solutions to overcome these obstacles.

2.5 Trust

Based on literature review, a trust and a motivation play one of important roles in knowledge transfer and knowledge sharing. Thus, we want to pay more attention to these two factors and believe that below information would help us understand why some barriers are emerged in an organization and what solution ways are to overcome these obstacles.

A trust plays a great role in knowledge management. Without trusting relationships between employees, participants would not share and transfer knowledge. A trust is not a static elements and it does not appear from nowhere. An organization and a team group should create a trusting relationship in order to achieve company’s goals in an effective way. A trust has different meanings. For our research, we took a definition of a trust (McKnight and Chervany, 1996, p. 23):

“…willingness to be vulnerable based on positive expectations about the actions of others”

There are three types of the trust according to Dignum and van Eijk (2005). A first type is a personality-based trust, which is described as a general trusting relationship of a thruster and it is independent from any context. A next type is an interpersonal trust, which is described as the trust that one person has for another person and it is dependent on context elements. People will trust person if this person has enough capability and skills to make a true opinion and he or she does not tell lies. A last type of a trust is an impersonal trust, which is described as the trust to an organization
or to some institutions. Employees will trust to their organization if they are sure that this organization protects their rights and has enough regulations and policy. Dignum and van Eijk (2005) divided a trust interaction into 3 groups:

1. A trust in oneself means that a person trusts to own self and that he or she has enough skills to identify trustworthiness. A sender should ask questions if he or she understands information in a correct way to share it with other participants and if this information is correct. Person should have an ability to determine whether this information is correct or not, and he or she could trust it or not.

2. A trust to partners. This means that a person should trust to participants, to whom she or he exchanges this knowledge. A sender should be sure that, when she or he shares knowledge, he or she will not be in a trouble and knowledge sharing will not brings some difficulties to her or his work. In order to achieve it, a sender should know partners and to trust their ability, their competence and their ethical consideration. Otherwise, a sender should evaluate a context of knowledge sharing.

3. A trust to a context. For a person it is necessary to determine a trustworthiness of a context.

According to Levin and et al. (2002), when a person wants to share tacit knowledge, it is important for him or her to be sure and to believe that a knowledge source also has a wish and is willing to share knowledge and he or she is knowledgeable about certain subjects. Levin and et al. (2002) said that some people do not want to let other to know that they are knowledgeable and are ready to share their experiences. A reason why people behave this way could be that people do not believe that their knowledge could be useful for other participants or do not want attract attention to their personality. To avoid these problems, managers could provide meetings, where people would tell about their experiences and where managers could answer questions, which are posted in boards, provide trainings, etc.

There are three main elements, which are important to create a strong trusting relationship between employees. These factors are:

1. A common language. When participants use same jargons and terminology they better understand each other;
2. A common vision means that participants share same goals, ideas and perspectives;
3. A discretion means that a knowledge source is considered as a sensitive source of information;
4. Strong ties mean that a sender and a receiver have a strong communication with each other.

Managers could impact on trusting relationships between employees and make a communication stronger. There are several solutions how to reach it:

1. Make clear that employees have a common understanding of a business work. Managers should develop a common context and common goals.
Thus, it would help employees to focus their attention on reaching these goals;
2. Demonstrate a trust-building behavior. Managers should show that they trust employees and managers are open to share knowledge;
3. Bring people together. Mangers should create a place (a physical or a virtual), where people could interact with each other in order to establish trusting relationships.

We as the researchers wanted to find out how the level of the trust impact on knowledge sharing and knowledge transfer problems. It is important for our research work to understand what reasons could be to trust and not trust for employees, if participants show trusting relationships to colleagues and to an organization. If employee does not trust to her or his colleagues, then an organization should provide a group meeting, where employees could tell more about their experiences and perspectives could obtain common goals and, thus, could build stronger relationships between each other. Thus, it would allow us to determine barriers in knowledge sharing and knowledge transfer and suggest solutions how to overcome them.

2.6 Motivation

We believe that a motivation plays an important role in knowledge sharing and knowledge transfer. Sansone and Harackiewicz (2000) write that a motivation helps people to reach their goals. People cannot be motivated always by one factor. Usually, a motivation means a combination of different factors. Many authors write about intrinsic and extrinsic motivations (Frey and Osterloh, 2002; Galia, 2007). An intrinsic motivation could be characterized as a self-interesting factor. People want to do something because it is interesting for them to do it and this action brings a lot of pleasure and satisfaction. An extrinsic motivation comes from an environment and influences on people’s behaviors. Mostly, an extrinsic motivation impacts on intrinsic factors. An extrinsic motivation could increase and decrease an intrinsic motivation. Also an organization would achieve better results if managers use both extrinsic and intrinsic motivations.

Thomas (2002) talks about extrinsic and intrinsic rewards. Extrinsic rewards could be presented as a salary, some benefits, bonuses and so on. Intrinsic rewards come from inside an individual and these rewards might be very different. Thomas (2002) claims that important rewards are more than money to motivate people to share knowledge. If there is a good reward system in a company, it might bring more benefits to an organization and might enable employees to do their job better. According to Thomas (2002) a rewarding work enable employees to do something what they really like and enjoy to do. Thus, a company would get more profits and benefits.
Another aspect of an intrinsic motivation is to get rewards now, in present time. Some organization models focus in reaching rewards in future. Emotions play a great role in an intrinsic motivation and managers should amplify emotions, which make employees feel good when they do their job. Lam and Lambermont-Ford (2010) claim that an extrinsic motivation usually support knowledge transfer of explicit knowledge and fails with tacit knowledge, as tacit knowledge have an emergent nature and are intangible. For an organization it is difficult to manage people, who do not work with tacit knowledge.

Frey and Osterloh (2002) claim that an intrinsic motivation has disadvantages as motivated employees do not always work to reach a benefit of their employer. It is difficult to change an intrinsic motivation and outcomes could be not certain and clear, comparing to an extrinsic motivation. Employees want to be more competitive and dominate than rather focuses on reaching organization goals. They (2002) said that an intrinsic motivation has several advantages. An intrinsic motivation is required when creativity is needed for employees’ works. Also this type of motivation helps employees to overcome multiple issues problems in a case when a work contract could not include all aspects, which could appear in future. A last and a most important advantage of an intrinsic motivation is that it enable people to share and transfer tacit knowledge.

A relationship between an extrinsic and an intrinsic motivation could be described as a “crowd-out” effect. A “crowd-out” effect describes a situation when employees lost their self-interested and an intrinsic motivation is decreased by doing some work, because of an extrinsic motivation. When employees know that they will get rewards after they done their job, they do not want to do this job for free. For managers it is important to find correct intrinsic and extrinsic motivations in order to obtain a positive result from these types of motivations.

From the literature review, we identify that the motivation with the trust are one of main factors, which influence on knowledge sharing and knowledge transfer and these factors might create barriers. We wanted to know what a motivation is and how to manage it in order to overcome these obstacles in a company’s work. For our research, we want to determine what types of the motivation participants have, do they have a wish to share and transfer knowledge and if not, than what reasons are, how the motivation impacts on their work and on knowledge sharing and knowledge transfer. Thus, we can determine barriers, which are connected with the motivation and suggest solutions how to overcome them.
2.7 Knowledge Barriers

Cantoni, Bello and Frigerio (2001) claim that there are two barriers in knowledge transfer: a culture and a localization. Cantoni, Bello and Frigerio (2001) think that people share knowledge and ideas in an organization as it is a natural activity for people, than rather they are forced to do it. It is very important to create trusting relationships between employees, so they feel comfortable and free to share and transfer knowledge. A localization of an organization brings a second barrier in knowledge transfer, as employees should know how to use specific programs, to carry on a transaction and to use technology tools to keep connections with suppliers, delivers and customers. They (2001) suggest several ways how to overcome these barriers. A company should use:
- Training;
- Technology;
- Structure;

According to authors, an employee should be educated and “literacy” (Cantoni, Bello and Frigerio, 2001, p.4). Supervisors and employees should be open for new ideas and know where find these new ideas, should know how it could be useful for a company to achieve a purpose. Also managers and employees should know how to use a technology to search and to implement new ideas. Technologies help a company to keep in contact with suppliers, customers, to operate with another organization and to communicate in a private or a public way. Many organizations use a “war room or talk room”, which helps employees to generate and to share knowledge (Cantoni, Bello and Frigerio, 2001, p.6). In order to avoid distance problems between departments in an organization and its units, some “war and talk room” are created virtually. It allows employees from different units share and exchange their experiences, create virtual libraries and coordinate an activity.

There are several barriers in an organization, which prevent knowledge management. According to Herrmann (2011), they are:
1. Barriers in a technology;
2. Barriers in a content;
3. Barriers in routines and procedures;
4. Barriers in an organization;
5. Barriers in personnel.

Herrmann (2011) claims that the first barrier means that a company sometimes does not have a hardware technology to use a software or it is cost too much then company expected to spend. He (2011) suggests using simple technology tools and trying to make a configuration of a software in a useful way. In this case, a company does not need to spend a cost to buy a new technology. Herrmann (2011) suggests another way avoiding technology
barriers. It is a teaching lesson, which would allow employees to keep their skills in a high level.

For some people it might be very difficult to deliver a content in an original meaning and make it understandable for other employees. It could depend on individual skills or employees should have experiences to work with different software. For instance, it could be difficult for a company to content knowledge, as some procedure could be illegal or don’t meet policy requirements of a company.

Speaking about the third barrier in an organization, some procedures could not be recognized by employees as it happened every day. Herrmann (2011) thinks that some procedures are only written on a paper and “have no link to reality” (Herrmann, 2011, p.5). To avoid this problem, organizations should have a list of steps, which should be done, have a meeting schedule or a working plan. In this case for employees it would be easier to work and follow a strategy of an organization.

Herrmann (2011) considers that some managers could think that, as they take a higher position at a company, then these managers are very important and do not pay attention what middle or low ranking employees think. Herrmann (2011) found that in a case when higher ranking staff do not share information and do not care about a current situation in an organization, then middle or low ranking staff will not care too. It creates a fourth barrier in an organization. Knowledge management could help a company to escape this barrier. Using a knowledge management tool could help a company to achieve a high result and be more competitive. For instance, a company could provide informal chats, where employees could be informing about organization.

Human’s factors play a great role in knowledge managements in an organization. Sometimes it happened that employees do not understand managers and what knowledge management is. Herrmann (2011) claims, that some employees could hold information in a secret and do not transfer or share it with their colleagues. From a staff perspective, holding information could help them to be more competitive and have an advantage over others. Employees do not focus on problems and they do not have time to pay attention to knowledge management. Barriers in personnel connect to the trust definition. Employees might not trust each other and refuse to share information. Herrmann (2011) claims that for some employees definitions “share knowledge” or “keeping secret information” deal with a definition “lose their job”. In order to avoid this problem, a company should create training lessons, presentations and discussion time, where employees could better learn what knowledge management is and what role it takes on their organization.

McLaughli, Paton and Macbeth (2008) identify several barriers connected with sharing and transfer process in an organization. They claim that problems could be related to employees’ motivations. Some employees could
look on knowledge from competitive advantage perspective and consider that they might lose their importance for an organization. Authors (2008) identified that push/pull knowledge transfer could be a next reason for existing barriers. According to McLaughli, Paton and Macbeth (2008) a push system more depends on technology tools, while a pull system depends on individual’s characteristics. Also they (2008) identify that there are tree difficulties during knowledge sharing in an organization. Knowledge is created in a local level, so it is important for an employee to understand a context. Some employees think that they will share knowledge in a case when they get something back. A last one is that knowledge sharing is a free process and employees should be willing to do it or have a self-interest to share and transfer knowledge. An organization is not a single unit, but it is a combination of different departments and their coordination between each other. Departments operate via different tools; in this case knowledge management system should be modified according to each department and its requirements.

McLaughli, Paton and Macbeth (2008) highlighted four types of barriers, such as a cross-category barrier, which include such aspects as an existing resource, need of rewards and a culture. They (2008, p.8) state: “... it is essential that employees can see that sharing means immediate gains such as less hassle, or easier tasks, reducing working hours or earlier closing”

A company should have an available recourse for creating and sharing knowledge and have a reward system, which would motivate employees to share knowledge. A next type of barrier is a technology barrier. Different technology approaches make it difficult for departments to transfer and share knowledge. Next type of a barrier is an organizational barrier. Managers should clear determine what type of information they should obtain and pay attention to a risk factor. A personal barrier is a last type of barriers, which McLaughli, Paton and Macbeth (2008) described in their research work. One of an important aspect is a trusting aspect between employees. A staff should trust a recipient of information; otherwise it could affect knowledge transfer and knowledge sharing.

Yao, Kam and Chan (2007) claim that in some organizations employees share knowledge only around family members and close colleagues. It is affects staffs, who do not have close and strong relationships with colleagues. According to Yiu and Lin (2002) this problem related to Asian cultures and organizations, where knowledge sharing depends on a family ties. Yao, Kam and Chan (2007, p.15) found out that strongest barriers are a “lack of rewards”, a “lack of time” and a “weak culture of sharing”. They (2007) claim that private offices bring an obstacle to share and transfer knowledge among colleagues. They (2007) suggest using open offices in an organization in order to avoid this problem and make it easy for employees to share and transfer knowledge.
We summarize the barriers, which were described above in Table 2.1 Different type of the barriers. As we can see from Table 2.1 Different type of the barriers, the obstacles could be organized in several categories depend on the factors, which impact on knowledge sharing and knowledge transfer.

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Author</th>
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<tbody>
<tr>
<td>Technology barriers (an existing resources, a lack of hardware, its cost), a localization (use programs, technology tools in order stay in contact)</td>
<td>Cantoni, Bello and Frigerio (2001), Herrmann (2011), McLaughli, Paton and Macbeth (2008)</td>
</tr>
<tr>
<td>Content barriers (clear understand a meaning of delivered knowledge, understand a context of knowledge)</td>
<td>Herrmann (2011), McLaughli, Paton and Macbeth (2008)</td>
</tr>
<tr>
<td>Barriers in routines and procedures (employees do not recognized and understand some procedures)</td>
<td>Herrmann (2011)</td>
</tr>
<tr>
<td>Barriers in organization (managers should show the trust and share knowledge among with employees, a weak culture of sharing)</td>
<td>Herrmann (2011), Yiu and Lin (2002)</td>
</tr>
<tr>
<td>Personal barrier (the trust, the motivation, a lack of rewards, feel comfortable and free to share and transfer knowledge, a lack of time, a self-interested)</td>
<td>Cantoni, Bello and Frigerio (2001), Herrnman (2011), McLaughli, Paton and Macbeth (2008), Yiu and Lin (2002)</td>
</tr>
</tbody>
</table>

Table 2 Different types of the barriers

To summarize, we could highlight main deficiencies of the previous studies. Herrmann (2011) looks on the knowledge barriers from a Southern Africa perspective, specific situations and problems in companies. He (2011) claims that the knowledge problems there were determined according to employees’ perspectives, their cultural and experiences. The same we can say about McLaughli, Paton and Macbeth (2008), who described the several barriers from a creating knowledge perspective. In their work (2008) they view the obstacles from a supply chain perspective. Our research takes place in a Ukrainian company. It is the developing organization and could have own barriers connected with IT tools, with an organization structure and with individuals’ factors. So, research results and solutions how to overcome these barriers will be different from the results of these authors.

Cantoni, Bello and Frigerio (2001) focus only on a technology solution way and how it could help a company to overcame the knowledge transfer barriers. Hong, Suh and Koo (2011) made the research for one financial
company, so it is difficult to generalize results to another organization. Also they (2011) pay attention to knowledge sharing and do not take into account barriers connected with knowledge transfer.

Yao, Kam and Chan (2007) focus their attention on Asian organizations. Comparing to western companies, Asian companies have a different model of knowledge sharing.

There are many different categories of the barriers suggested by authors, which give wide and a full understanding of the barriers. For instance, if the barriers connect with person’s aspect, than an organization should pay more attention to a human factor and should provide a better reward system; a meeting with employees where they can discuss problems, share their experiences and ideas, thus it would increase trusting relationships between colleagues. If for an employee it is hard to share and transfer knowledge because of a lack of technology tools, a weak intranet or a weak database, than an organization should focus on these problems and should change technology tools, should provide trainings to train employees how to use a system in a more useful and a comfortable way and thus increase skills of employees. As our research topic connects with barriers, we need to know what knowledge sharing and knowledge transfer barriers are and what their natures are. For us, it is important first to understand how these barriers arise and their causes and then we could suggest how to solve current problems connected with these barriers.
3 Theory of Use

In this chapter we provided a model of knowledge barriers, which we are going to use for our research work. This model would help us to make the research and determine barriers, which exist in the research company.

For our research work we use a model, which would allows us to look on the problem scope more broadly and deeply understand the problems. We would like to use a model for barriers suggested by Riege (2005). He (2005) determines barriers, which influence on knowledge sharing and knowledge transfer processes. He (2005) distinguishes all barriers into three categories:
1. Personal barriers;
2. Organization barriers;
3. Technology barriers.

Speaking about first category, Riege (2005) claims that communication skills play a great role in knowledge transfer and knowledge sharing. An effective communication enables employees to share and transfer knowledge. He (2005) argues that language could impact on these processes and brings some obstacles. Another personal barrier is that employees do not have a wish to share knowledge as they are afraid that it could impact on their job and competitiveness. Some employees do not have enough time to share knowledge as employees focus on tasks, which are significant for them. It is important for managers to provide enough time and space to share and transfer knowledge.

As it mention above, the trust plays a great role in knowledge transfer and knowledge sharing, thus most employees are not willing to share knowledge without feelings the trust. Another barrier is that for employees it is easier to share explicit knowledge than their experiences, ideas and perspectives. Also a reward system plays a great role in knowledge sharing and knowledge transfer. If employees do not have enough rewards, when they do their work well, then they could lose an interest to do this work.

Speaking about organizational barriers, Riege (2005) describes several factors, which could impact on effectiveness of knowledge sharing and knowledge transfer. First factor is a lack of leadership. A leadership (Gan, Ryan and Gururajian, 2006) is an ability to create a group in order to obtain goals, to organize employees’ work, to achieve organization aims and to motivate teams. For Riege (2005), another factor is a corporate culture, which does not provide enough knowledge sharing and knowledge transfer or managers do not show trusting relationships to employees.

Another problem is that a manager does not share and transfer knowledge, so employees do not have a wish to do it too. Another barrier could connect with a factor. Employees prefer to share and transfer knowledge between their group than rather with different groups, as employees trust their colleagues and have a stronger communication with them.
Technology could make knowledge sharing and knowledge transfer easier and more effective, could create connections between employees and an organization. There are several examples of technology factors, which could impact on knowledge transfer and knowledge sharing. For instance, a lack of technology recourses, a lack of a technical support and an unrealistic expectation of employees. Another factor could connect with a using of an old system, which does not support employees and nowadays requirements. Providing a new technology tool could brings some obstacle, because employees for some reasons might refuse to use this new tool or they do not clear understand how to use it.

Based on the literature review we highlighted the main barriers, which are discussed previously (Riege, 2005; McLaughli, Paton and Macbeth, 2008; Herman, 2011; Yiu and Lin, 2002). According to the proposed model of knowledge sharing and knowledge transfer barriers, we organized these barriers into three categories to a Table 3.1 Research Barriers. For our research work we will use all these factors to determine most impact obstacles on knowledge sharing and knowledge transfer in our research company.

<table>
<thead>
<tr>
<th>Personal barriers</th>
<th>Organizational barriers</th>
<th>Technology barriers</th>
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</thead>
<tbody>
<tr>
<td>Lack of motivation (McLaughli, Paton and Macbeth, 2008; Riege, 2005)</td>
<td>Weak reward system (McLaughli, Paton and Macbeth; 2008)</td>
<td>Use of modern systems (Riege, 2005)</td>
</tr>
<tr>
<td>Lack of communication</td>
<td>Distance (Riege, 2005)</td>
<td></td>
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<td>Language (Riege, 2005)</td>
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<td>Risk factor (Riege, 2005)</td>
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<tr>
<td><strong>Personal barriers</strong></td>
<td><strong>Organizational barriers</strong></td>
<td><strong>Technology barriers</strong></td>
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<tr>
<td>Lack of rewards</td>
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<td>(McLaughli, Paton and Macbeth; 2008, Riege, 2005; Yiu and Lin, 2002)</td>
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<td>Self-interest</td>
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<tr>
<td>(McLaughli, Paton and Macbeth, 2008)</td>
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Table 3 Research barriers
4 Method of Use

In this chapter we are talking about a philosophical worldview, discuss its role and how it could be relevant to our research and describe our research inquiry and site. Data collection and data analyzing of qualitative and quantitative part are discusses in this chapter. A list of participants is provided. An ethical consideration as well as validity and reliability are discussed.

4.1 Philosophical Worldview

Our research adopts a pragmatic worldview. A word pragmatism comes from Greek and means an “act”. We choose this worldview because we want to understand the research problems better. We would like to know participant’s acts, what they do in their work. Analyzing all these actions will allow us a better understanding of problems with knowledge sharing and knowledge transfer. We would like to know what actions participants do/not do to transfer and share knowledge. So we need to collect empirical data and then analyze them. We are interested to collect both qualitative and quantitative data, as a mixed method research could give us a deeper understanding of participant’s actions and allows us to answer on our research questions.

Important philosophers of pragmatism are C. S. Peirce, W. James, J. Dewey, G. Mead. A fundamental idea of pragmatism lies in a practical justification of ideas. For instance, Galileo claimed that Earth was moving around Sun. At his time people thought in an opposite way and they believed that Sun is moving around Earth. People thought it was a true. So, a truth was different and was changed in time. People’s thoughts about Sun and its moving around Earth was a practical justification at Galileo’s time. C.S. Peirce was a first researcher, who uses a term plagiarism and helps to W. James plagiarism has become a popular.

Pragmatism is interested in consequences, which determine people concepts. This idea was developed by C.S. Peirce. Peirce considered that theoretical believe should have empirical justifications. C.S. Peirce believed that people determine all their concepts by themselves through their consequences. People should choose what they want to understand and what actions they should choose for their purpose.

Also pragmatism can be used for embodiment of a truth by finding results. It can be shown in W. James’s work. According to W. James a truth is created with a reality. He believed that a truth can be changed and a certain situation influences to a truth. W. James considered pragmatism as a way to find a truth. Different believes cannot be a truth until they have an empirical justification. A truth is needed to be confirmed by a practice. If believes are
useful then these believes could be considered as a truth. C.S. Pierce and J. Dewey did not think so. W. James considered that people want to change their world. People need to know what their want to change and what actions they should do. For this purpose a theoretical work could come first and a practical work could follows after that. People present their thoughts in a theoretical work and this thought could be implemented in a practical work. Only practical actions can show a truth.

Pragmatism can be shown in logic, especially in logic an inquiry. J. Dewey saw pragmatism as a theory of an inquiry. An inquiry could be considered as a process of transformation of an undetermined situation to a determined situation. According to him there are five patterns of an inquiry and all inquiry need actions. Only actions can produce unified situations. Also J. Dewey thought that a truth has some value. If some believes can be considered as a truth, so they are stable and people can trust them, thus a truth is not changed in different situations.

Pragmatism can have a social context. G. Mead added to pragmatism a social aspect. He thought that all people actions are social reflected. People connect with each other and influence to each other. Thus, all their acts are reflected to each other. All acts are connected with each other. A social world can be considered as a reflected act of people (Baskerville and Myers, 2004).

We provided thoughts of different researchers and we believe that pragmatism is relevant to our research work. As we are interesting to know what employees do in their work to transfer and to share knowledge. We believed that there is no one single truth in our case. We look on our research scope in a present time and investigate the problem, which connect with knowledge sharing and knowledge transfer here and now. In our case, we look on the truth as a set of actions, which provide knowledge transfer and knowledge sharing in an effective way. If our research company change its strategy or provide new technology tools, or reconstruct departments, then we could assume that data results could be different and participants’ believes would be different too. Thus, the truth would be changed and would be different too.

We would like to look on pragmatism in Information Systems. Goldkhl (2004) has interest in information system and describes pragmatism as:

1. An interest for an action. A researcher can consider an action as a sign for a study. A researcher allows actions to appear and then he or she begins to study it. A researcher should understand what people do and for what reason they do these actions. For example, Alina works as a dispatcher in a Logistics Department. She needs to switch on a computer to begin a work. The action is switch on the computer and the purpose is to begin working.

2. An interest of an action for a practice. Human actions and its understanding are included in a practice. A practice consists of human actions, understanding of these actions and artifacts. For example, Alina
uses a pen to make a codification of received knowledge. She creates her own codification of this knowledge and this helps her to work well.

3. An action shapes knowledge. Human know what to do in the world, why they do it and how they can do it. This could be considering as socio-instrumental pragmatism. We will write below about it (subchapter 4.2 Socio-Instrumental Pragmatism).

4. An interest for a practical justification of knowledge. A researcher tries to convert knowledge into actions. A researcher has an interest that this knowledge will be important for a practice. For example, Alina has knowledge about a program 1C. This knowledge helps her to do her work well. She does not need knowledge about how to drive a car, because this knowledge does not help her to work in the program 1C. In another situation and another time she will use knowledge of driving a car, but in her work she needs knowledge about the special technology tool.

5. An interest of what works and what does no works. This can be applied for data collection and data analysis. An action should be successful for making changes.

The pragmatist uses knowledge not as a mirror of a reality, but as a tool for some actions. Actions have aims to change a present. A present can be changed not only through actions, but also through knowledge (Goldkuhl, 2004). It is like a cycle between knowledge and an action. Knowledge is a base for actions and then these actions become a base for knowledge (Cornish and Gillespie, 2009). Goldkuhl and Agerfalk (2002, p.3) wrote that:

“The pragmatic aspect of information system is concerned with the action performed by humans after receiving messages from information system”

A message from Information System (IS) can be considered as a result of an action, which is made by a human. Massages from IS influenced to a human action. Questions about how a massage influenced on an action and what human do with this message are raised. A human can adopt or reject messages from IS.

Goldkuhl (2008, p.2) wrote about three types of pragmatism in Information System. A first type is called a functional pragmatism, a second type is a referential pragmatism and a last one is a methodological pragmatism. Some words should be written about knowledge and an action for better understanding of these three pragmatism types. It must be clear that knowledge is used for actions. A human uses knowledge for improving actions and for making differences in the world. Goldkuhl (2008) called it as knowledge for actions. The functional pragmatism is knowledge for actions. Talking about the functional pragmatism, knowledge should be useful in actions. Another aspect is that knowledge should be related to actions and this kind of relation is called knowledge about actions. The referential pragmatism is knowledge about actions. The last type of relation is called knowledge through actions. The methodological pragmatism is
knowledge through actions. It means that actions need to be conducted and studied for a knowledge appearance. In this way actions become a source for knowledge. Also actions should be interested to make changes and making changes can be important for practical justifications.

Goldkhl (2004) writes about knowledge interests and indentified several types:
1. A revealing knowledge interest;
2. A critical knowledge interest;
3. A reflective knowledge interest;
4. A prescriptive knowledge interest;
5. An innovative knowledge interest;
6. A dialogical knowledge interest.

To summarize, we can tell that a human do actions according to received messages. There is a link between an action and a message. We can look on this link from knowledge transfer and knowledge sharing prospects. For knowledge transfer and knowledge sharing employees do different actions. Also these actions dependent on what kind of knowledge they would like to transfer. We are talking about explicit and tacit knowledge. If employees transfer and share explicit knowledge they will use different ways to do it. For example, employees can use different technology tools for explicit knowledge transfer and knowledge sharing. When we find out what type of knowledge transfer and share employees between each other and departments and what problems exist in knowledge transfer and knowledge sharing then we will be able to determine dominant barriers.

4.2 Socio-Instrumental Pragmatism

Talking about pragmatism in Information System, Goldkhl (2005) writes about a socio-instrumental theory or social-instrumental pragmatism (SIP). A purpose of SIP is to use different theories in Information Systems. As Goldkhl (2005) writes, the SIP is an action theory synthesis. SIP could be used for practical justifications. A main element of SIP is an action. An action can influences on a social world and on a material world. People communicate with each other in a social word (a social action) and for communications they use different materials and immaterial instruments (an instrumental action). Thus, these actions could be social and instrumental actions. Social actions are accountable, interactive relational and institutionalized (Goldkhl, 2005, p. 160). People do actions in order to achieve different goals. From this point of view actions become instrumental towards goals. Examples of instrumental actions could be language, a telephone, a pen and etc. Social grounds and social purposes are main components of the socio-instrumental pragmatism. Social grounds mean a demand or an inquiry for actions. Social purposes mean that results can be
used in a social context. From SIP, Information Systems plays different roles. One of them is that Information Systems can be considered as an instrument to formulate massages. Another role of Information Systems is that it is represented as a mediator between different actors. Messages in Information Systems can be readied, stored, transported and interpreted. This instrument helps to communicate between different actors.

Goldkhul (2002) writes about ontology of socio-instrumental pragmatism. SIP has several ontological categories. Also he tells (2002, p.3) this ontology should not be considered as a total description, we can use it like a conceptual instrument. Categories are next:

1. Human beings. It is the most important element in SIP. Human beings communicate with environment through her or his views;
2. A human inner world. It can be represented through knowledge of a human itself and knowledge about his or her world;
3. Human actions. Helps to action human tries to change the world and make some difference in it. Actions can be overt and covert. Covert actions are a part of human inner world;

Also human actions can be characterized by two types - by a communicative action and by a material action. Communicative actions can be oral or written. An oral action can disappear in a case when an oral action will not be recorded. Written actions will be visible until someone destroys it. Material actions can be represented by material objects or some changes over these objects. That is why Coldkhul (2002) made distinction between symbolic objects and artifacts.

4. Symbolic objects. It is results of communicative actions. For example, e-mails, letters, messages, notes, strategies and etc.
5. Artifacts. They are nor symbolic not natural, and touch material actions. For example, clothes, knife, lamp and etc.
6. Natural objects. These objects are not created by a human, they have natural characters. For example, tree, flowers, waterfalls and etc.

For example, a computer will belong both to symbolic objects and to artifacts. Symbolic objects and artifacts have a purpose to inform people, who need it. To summarize, it could be said that a researcher can use SIP as a ground for a conceptual classification.

We can look to socio-instrumental pragmatism in the scope of our research work. For example:

1. Employee from Logistics Department will be a human being.
2. Her mane in Alina. She is 30 years old and works as a dispatcher. This represents human inner world.
3. Alina speaks with managers, colleagues, and drivers, contact with another department during her working day. She fulfills waybills and gives them to drivers. Alina get some information from her colleagues, interpret it and make some changes. She does all these actions for a one purpose. This purpose is to ship an autotrack.
4. Symbolic objects could be a note, which Alina have done during her work. Also it can be documents, which she fulfills for a shipment process (waybills).

5. A pen can be artifacts. Alina use a pen to write some notes. Also it can be a stamp. She uses this stamp during her working day.

6. Natural objects can be room flowers.

In our research work we look on employees as humans with their actions, symbolic objects and artifacts. If we know what types of actions they used more and what symbolic objects and artifacts exist in their work, then we can analyze their work, can find some problems and can make some suggestions how to overcome these problems.

4.3 Method of Research

Our research proposal is based on a mixed research, which would allow us an investigation of research problems in a more wide scope. We will use a sequentially process (Creswell, 2008). First we will use a qualitative approach to better understand a point of view of participants and find out what their thinking are. Next, a quantitative approach would support our research in order to expand our understandings of the research area. A weight of a qualitative and a quantitative approach is not equal; we would pay more attention to a qualitative perspective of our research. For us, it is interesting to find out what employees’ and managers’ perspective are, how they look on problem areas. According to Creswell (2008), we use a sequential exploratory design. A first phase is to collect data in a qualitative perspective and then analyze them. In a second phase, researchers work with data, which are collected with a quantitative approach. This quantitative data collection is based on results from the first phase.

4.4 Research Type

We use an institution case study strategy of an inquiry (Gillham, 2000). In our case we research one company. From Thomas (2011, p.3) perspective a case study is:

"...a kind of research that concentrates on one thing, looking at it in detail..."

Researcher uses a case study to describe a real-life example. A case study describes one single example and it is very hard to generalize from it.

Zucker (2009, p.2) references to Bromley (1990) and tell that a case study is:

"...systematic inquiry into an event or a set of related events"
which aims to describe and explain the phenomenon of interest”
A case study is used when a researcher wants to understand a situation. A researcher begins to use different theories and methods to understand and explain this situation.

A case study could be used in order to descript, to explore and to explain situations from participants’ perspectives (Yin, 1993). Researches collect information during a specified period of time (Creswell, 2003). According to Baxter and Jack (2008, p.2; Yin, 1994) a case study can be used when a research focuses on why? and how? questions. Also a researcher cannot influence on answers and opinions. And the last characteristic of a case study is that a researcher describes a real-life situation. In our research work these questions are arise and we cannot manipulate participants mind.

According to Anon (2010) a case study can be conducted in eight steps:
1. Establish a broad case to investigate. A researcher should answer questions about an access to a company and an access to literature and time as well as a researcher should have enough time to make a research;
2. Establish a research question(s). Most questions should start from what? how? why?;
3. Select a precise case(s) to be used. A researcher should choose a case for a study. There can be a single or a multiple cases;
4. Determine data gathering and analysis techniques. A researcher can use a qualitative or a quantitative approach or both of them. Also a researcher can use different instruments and tools to collect data;
5. Prepare a data collection. A researcher should be sure that during a data collection any important data will miss.
6. Collect data. Yin (1994) talks about an evidence for a data collection. They are: documentations, archival records, interviews, direct observations, participant observations and physical artifacts.
7. Analyze data. A researcher should answers research questions.
8. Prepare a report.

Tellis (1997) also talks about stages in a case study description. A first step is to design a case study protocol, a second step is to conduct a case study, a third step is to analyze an evidence of a case study and a last step is to develop conclusions.

Also Baxter and Jack (2008) wrote about different types of a case study. Our research work can be described as an exploratory case study. According to Zainal (2007, p.3) an exploratory case study explores “...phenomenon in the data which serves as a point of interest to the researcher”

A researcher in an exploratory case study stands questions, which could help to observe phenomenon. Also a pilot study can be considered as an exploratory case study.

A case study has some advantages (Zainal, 2007 based on Yin, 1984). Collected data from a case study are corresponding to a context of a situation.
A case study obtains and conducts data from real-time situations and allows researcher see a relationship between elements in a detailed view. A researcher can use both qualitative and quantitative approaches in a case study. Using a qualitative approach gives a researcher a capability to understand and to explain phenomenon.

There are some disadvantages of a case study. One of a disadvantage is that it very hard to generalize results to other studies. A case study looks at phenomenon in a certain situation and if a researcher can tell that given results could be adapted to other situations. Second, a case study can take a long period of time and produce a lot of different documentations.

This research type would help us to conduct details about an investigated group in a relation to content and to better understand their perspective.

4.5 Research Site

We would like to focus our research on one company. We do not write a name of the research company. The employees asked us not to tell this information. They have their own thought about this decision. We wrote more information about the company (sub chapter 1.1 Background). There are several departments in this research company. Such as: a Logistics Department, an Export and Import Department, a Trading House, an Accounting Department, a Quality Department, a Security Department and a Technical Support with IT Department. All these departments take roles in the shipment process.

We would like to write some words about a work of different departments. We do not touch all departments, only those which take part in the shipment process. All departments, except a security department, use one program called 1C: Enterprise 8 (1C program). This program is a main software program. 1C helps to manage an accounting process, sales and a warehouse, a manufacturing and a financial planning, a HR management and etc. (1C: Enterprise 8, 1996).

A process of a semi-trailer truck shipment begins from one department named the Trading House. Clients can contact with employees of Trading House via a telephone, a fax and an e-mail. Clients contact with employees and make an order. This order includes some important information about clients and productions. For example, what kind of mineral wool client wants to get, how much, where and when productions should be delivered.

The Logistics Department. Logistics department includes logisticians and dispatchers. A main role of logisticians is to find semi-trailer trucks for a shipment. Logisticians make a request for transportation. One feature of the research company is that it has any own semi-trailer trucks. All semi-trailer trucks are found by logisticians. They contact with a trucking carrier and ask about semi-trailer trucks. Logisticians begin to find semi-trailer trucks after
they get a list of a shipment. Approximately, logisticians get this list of shipment at 2 – 3 pm. If they do not find some semi-trailer trucks they can do it next day. All semi-trailer trucks must come for a shipment until 3 pm. If semi-trailer trucks do not come they stay by next day. Also dispatchers get the list of shipment. Both logisticians and dispatchers have new list of a shipment every day. This list includes information about duration, a type of mineral wool and an amount of this wool. Dispatchers give to a driver four waybills. Tree waybills are stayed with a driver and a last one a dispatcher give to a security post.

The Security Department. Employees from a security post contact with dispatchers. The Security Department calls to a dispatcher via a telephone. Next morning an employee from the security post gives all waybills for yesterday to the Accounting Department

The Accounting Department. The Accounting Department get waybills for payment and check these waybills.

The Export and Import Department. If the shipment process touches Russia or another country, then the Export and Import Department takes part too. Employees from this department get some additional documents from dispatchers, make some changes and return back these documents to drivers.

The Quality Department. Also the Quality Department takes part in the shipment process. Employees from the Quality Department give some documents to the Logistics Department (the quality passport). Mainly, a staff from the Quality Department have a connection with dispatchers and they contact with each other via telephones.

The Technical support and IT Department. As we mentioned above the departments use the software called 1C. Also employees from this department monitor an organization work by fax-machines, telephones, computers and so on.

To summarize we can tell next:
1. The main role of the Trading House is to make an order from clients;
2. The main role of logisticians is to find semi-trailer trucks; the main role of dispatchers is to fill waybills;
3. The main role of the Security Department is to let semi-trailer trucks come in and out;
4. The main role of the Accounting Department is to pay for bills;
5. The main role of the Export and Import Department is to draw up documents;
6. The main role of the Quality Department is to give additional documents for a shipment process;
7. The main role of the Technical support and IT Department is to support work of office equipments and the 1C program.

The process of semi-trailer trucks shipment is planned for one day ahead. Main steps are:
1. Employees from the Trading House get an order from clients.
2. After that they tell to a production planner about this order. A production planner begins to plan a list of shipment (Appendix C).

3. A production planner gives this list of shipping to logisticians and dispatchers.

4. Logisticians begin to find semi-trailer trucks.

5. Logisticians told about findings to a production planner and to employees from the Trading House.

Next day:

6. Dispatchers contact with the security post at morning via telephones.

7. The security post tells about registered semi-trailer trucks.

8. When dispatchers check information about semi-trailer trucks they use the 1C program and a release note for a shipment (Appendix D)

9. Dispatchers contact with the security post again and tell what semi-trailer trucks can come in

10. A drive came to dispatchers. Employees check information about semi-trailer trucks and give a release note for a shipment.

11. When a release note for a shipment is filled, dispatchers give waybills (Appendix E) to a driver.

During the day:

12. The security post and dispatchers have a conversation via telephone about semi-trailer trucks.

13. Dispatchers can contact with logisticians and tell them about some problems with semi-trailer trucks.

14. A production planner comes to dispatchers and looks to a release note for a shipment.

15. Logisticians contact with employees from the Trading House and told about semi-trailer trucks.

As we wrote above, three documents are involved to the shipment process. They are the list of shipment, the release note for a shipment and the waybill. The list of shipment includes information about a number of orders, about a client’s name, out a production and about an account of a production. The release note for a shipment includes information about a number of orders, about data, about a client’s name, about a trucking carrier’s name, about a driver’s name, about a contact telephone, about a semi-trailer truck’s number, about a production and its account. The same information is included in waybill. This release note for a shipment is signed by different employees from different departments. These three documents we present in the appendixes. Some places in the documents we cleaned. We presented the documents with agreement of managers of the research company. We choose to present these documents as they show the shipment process in a full form, give an opportunity to analyze this process and find out some problems.
4.6 Empirical Procedure

As we wrote we would use mix method research. Mix method includes both qualitative and quantitative data collections and analysis. First participants would be asked to answer on open-ended questions (qualitative approach). Their answers will be a base for the second quantitative phase with close-ended questions. Our aim is not to brings changes to the research company, but better understand causes of problems from participants’ point of view.

Creswell (2008) talks about several directions of data collections. They are: a place of research, who will be participants, what questions will be discussed and how it will be. We will question several people from different departments in our research work. Each answer will be analyzed separately.

4.6.1 Qualitative Data Collection

In our research we used an interview with open-ended questions to better learn employees' views and to explore our understanding.

First we used a pilot test, which allowed us a finding out if our questions are relevant to our research work. A purpose to use the pilot test was to identify if all participants understood our questions in a same way and there were no misunderstandings (Anon, 2011). Next, the pilot test allowed us a determination of how long it takes to answer our questions vie e-mails, as geographically we are not able to make face-to-face interviews or a questionnaire. If some participants hesitate to answer on some questions, we would like to know reasons and in this case we needed to reconstruct questions in a more understandable way or need to use different wordings. We wanted to get a feedback from our participants. This allowed us to find alternative questions. We asked participants note what questions are of dual interpretation and have different meanings for participants.

According to Anon (2011), main steps of a qualitative data collection are:
1. Write an interview with open-ended questions;
2. Write and sent a letter to participants via e-mails. In this letter we will briefly write about our research and ask about a participant’s permission to answer our questions;
3. If participants want and agree to take part in our research work, we will send them questions;
4. Choose time, which is suitable for participants and for us;
5. Make a conversation with participants;
6. Get answers from participants.

Questions should be written in an understandable and a clear way for participants. It is important that questions are related to research questions. First, we will connect with participants via e-mails as it is a single way to make a contact with them in our case. After participants agree to help us we
are going to suggest the use of some communication programs to contact with them. For example, it can be Skype or we can use a social web site (vk.com). An idea is to establish an online dialog between participants. If they do not understand some questions or have other problems we will help them immediately. A main disadvantage in using e-mails for a contact with participants is that it takes long time for a feedback. Also we would record their answers to be able to understand their point in a deeper way and do not miss important ideas in future. After it, we are going to represent data in a readable way, which would allow us analyzing participants’ answers. We will write more about the qualitative data collection in Chapter 5.2 First Cycle-Qualitative Data Collection.

4.6.2 Quantitative Data Collection

As we wrote before we use sequentially mix method research. Qualitative data collection is based on results of quantitative data collection. We are going to use a close-ended questionnaire. Main steps of quantitative data collection will be next:
1. Write a questionnaire with close-ended questions.
2. Write and sent a letter to participants via e-mails or use some programs and social web sites. In this letter we will briefly write about our research and ask about a participant’s permission to answer our questions.
3. If participants want and agree to take part in our research work, we will send them the questionnaire.
4. Get answers from participants.
The step number 2 is different in qualitative and quantitative data collections. As we contacted with participants during qualitative data collection, we would know not only their e-mails, but also their logins in a social web site. So we can contact with them directly, not through e-mails and this will save some time for us.

4.6.3 Participants

As we wrote above, not all departments would take part in our research work. We will take into account a process of mineral wool shipment. Only seven departments take part in this process. Our participants are employees from these departments. We present a short list of our participants. This list includes information about their names, ages, how long they work in the research company, their departments and positions. We use unreal names, all these names we imagined according to ethnical consideration.

Employees from the Logistics Department
1. Alina. Woman of 30 years old. Works in the research company about 10 months as a dispatcher.
2. Stas. Man of 35 years old. Works in the research company about 2.5 years as a logistician.

Employees from the Trading House
3. Lena. Woman of 30 years old. Works in the research company about 1 year as a specialist of a customer service.

Employees from the Security Department
4. Konstantin. Man of 45 years old. Works in the research company about 2.5 years as a security.

Employees from the Technical Support and the IT Department
5. Valera. Man of 45 years old. Works in the research company about 1 year as a programmer.

Employees from the Quality Department
6. Marina. Woman of 25 years old. Works in the research company about 6 months as a quality controller.

Employees from Account Department
7. Oksana. Woman of 35 years old. Works in the research company about 1.5 years as an accountant.

Employees from the Export and the Import Department
8. Olga. Woman of 30 years old. Works in the research company about 10 months as a broker.

These participants are voluntaries, who agreed to take part in our research.

4.6.4 Qualitative Data Analysis

Data from interviews with open-ended questions are gathered and we can analyze it. We are going to summarize answers and to determine main aspects. We will present answers in a text form. The literature is reviewed to better understand results. For qualitative data analyzing we are going to use a coding, which would allow us to analyze data faster and easy and find patterns. Coding is a process of sorting obtained data into categories, so gathered materials could be separated from each other. Coding would allow us to determine relationships between categories and manage data.

According to Creswell (2008) there are several steps to analyze qualitative data. First, a researcher should read a whole text in order to obtain a general meaning of participants’ answers. A main point is to understand a whole picture of participants’ perspectives. In this case it would be more useful to have a recording in order to listen and relisted participants’ answers and do not miss important information. Also it is important to focus on research questions and topics. Thus, it could help a researcher to start data analysis and focus on a research scope.
A next step is to go back as a researcher needs try to distinguish answers of participants into different categories in order to determine differences and consistencies. A researcher needs to look on each category separately and to identify patterns, to find unique and common comments in each category. At this step a researcher needs to codify participants’ answers. Coding means that a researcher labels each answer of respondent by a short word. In this case, it would be more useful and comfortable to manage participants’ answers. For instance, if several participants gave their perspectives about their relationships between colleagues and managers and their trust to each other, then a researcher could code their answers by a word “trust” or “relationship”. In this case, when a researcher further analyzes answers of participants, she or he might find that other participants’ answers connect with a trust or a relationship too between colleagues and managers. In this case, for a researcher it would be more easily to manage data and to find patterns in their answers. Also, a researcher could create subgroups. For instance, a researcher found out that some people talk about a lack of a motivation, but some of them talks about a monetary motivation, other participants claim about a lack of a nonmonetary motivation. In this case, for a researcher it would be useful to create a category “Motivation” and two subcategory: a “Monetary motivation” and a “Nonmonetary motivation”. Thus, a researcher could analyze their answers in each category and subcategory separately. A researcher could obtain wide understanding of a research scope, of participants’ answers, of patterns and common visions. A last step is to summarize results and write conclusions. In order to do it, a researcher should provide a list of key points and important ideas, which she or he found out during the previous steps. A researcher should identify what new things she or he learns and how these things connect with each other. It is useful to bring quotes in order to highlight researcher’s results.

4.6.5 Quantitative Data Analysis

Talking about quantitative data analysis we are going to present results in visual forms. We will build graphics and schemas, so results will have numeric forms. In our research work we are going to use Microsoft Excel to build graphics and to analysis results, to count percentages as it is easy to interpret results and to show comparisons. For our research work we will use a descriptive statistic analysis. By a descriptive static we will describe what we have and what these data show to us. A descriptive statistics allows us to summarize collected data in a clear and an understandable way.
4.7 Validity and Reliability

Constructing validity (external validity and internal validity) and reliability take part in a study (Anon, 2010). Constructing validity includes using tools, which are corresponded to a study. This validity allows a researcher to indentify if these tools really measure a research phenomenon and to help to answer on research questions. We use a questionnaire and an interview to collect data. Also we use some technology tools, such as Skype, MP3 Skype Recorder and Russia site to design questions. All these tools help us to do our research and to answer on our research questions.

An internal validity is used by a researcher to measure what they want to explore and measure. So, results should answer on research questions. Our results should be relevance to our research and to our research questions. We are interesting to find out what barriers in knowledge sharing and knowledge transfer exist in the research company. Also, we use both qualitative and quantitative researches, which should help us to answer on our research questions.

An external validity answers if data results can be adapted to another case. We focus our research work on knowledge transfer and knowledge sharing in the shipment process of the research company. We believe that our results could help not only to this company, but also to other companies, which have same problems and the same shipment process.

Reliability is an important element in a case study. A researcher should write about given results, accuracy and if results are stable or not. We use Riege’s theory (2005), who talks about organizational, technology and personal barriers in knowledge transfer and knowledge sharing (see Chapter 3 Theory of Use).

4.8 Ethnical Consideration

An ethical issue is very important for our research. Talking about ethical issue participants could answer on our questions anonymous, if they would like to do it. We would like to establish trusting relationships between our participants. We are not interested in private and in personal information, for us it is important to get real information about the current situation and problems in the research company. We will not ask questions, which might connect with other topics outside of our research area. Our questions will not be based against people because of his or her gender, age, religion considerations and sexual orientation. Our questionnaire includes a note section, where participants could free express their perspectives and add necessary information.

Also we won’t forget about ethnical issues during data collection. We would like to have some permission from participants if they want to take
part in our interview and questionnaire or not. If participants change their mind and do not want to answer our questions, they will feel free to do it. Ethnical issues should be considered in data analysis and in data interpretations (Creswell, 2008). Results, gathering during the research and data analyze, will belong to both of us.

4.9 Researcher’s Role

One of the authors of this research was working in the research company. Gelena Andreasian was working in the company. We are going to offer our investigation and to suggest solutions to overcome existing problems to managers of this company. The working experiences, which Gelena Andreasian has in the research company, could influences in the research process, data collection and data analysis. From Gelena's perspective, it would be not so hard to collect data and to make interviews as she already has friends there and they are ready and do not mind to help her in this research work. Connections between her and participants could also influence on their answers and on data collection process. Gelena should be objective and analyze data despite of her working experience in this company. Her co-researcher would help her to stay objective and to provide data analyze in a correct way, as Mylana Andreasian (co-author) has never worked in the research company. Working together we will widen our perspectives and provide a deep understanding of the research problem.
5 Empirical Finding

In this chapter we explain how data was collected and analyzed. The process of semi-trailer trucks shipment is presented in more detail way in this chapter based documents of the research company. We decided to focus our research work on this process and to define the knowledge sharing and knowledge transfer barriers.

5.1 First Cycle – Qualitative Data Collection

Our aim to collect qualitative data is to determine the participants’ perspectives and their thoughts about our research scope. We want to find out what types of knowledge sharing and knowledge transfer barriers exist in the organization from employee’s point of view. We want to investigate these barriers, to understand what causes of these obstacles were and to give advices to the research company how to overcome these problems. Participants’ perspectives could give us necessary information about existing knowledge sharing and knowledge transfer problems in their organization.

First we contacted with our participants via their work e-mails or used one web site vk.com. We asked participants for permissions to ask them our research questions. We sent a question list to the participants to allow them to read these questions, so they would be prepared to answer our questions. Also participants read a briefly introduction about the theoretical framework. In this introduction we wrote about types of knowledge and knowledge sharing and knowledge transfer barriers. It allowed us to save time as the participants already know what type of questions we are going to ask.

We can tell that our interview is divided into fifth parts. A first part includes participant’s name and questions about type of knowledge, which participant share and transfer, a second part - questions about technology barriers, a third part – organizational barriers, a fourth part – personal barriers and a last part, a fifth one - questions about motivation and trust and question about what participants would like to add. So, totally we have five parts. Our interview includes 14 questions. In a question number 1 we ask a participant’s name. We asked a real participant’s name as it was suitable for us to make the interview. Questions from 2 to 3 touch types of knowledge, from 4 to 6 touch technology tools, from 7 to 8 - organizational problems, from 9 to 10 – personal problems, question number 11 is about trust, and number 12 is about motivation, number 13 is about language and in a last question number 14 we ask what participants want to add. In this last question they can add whatever they want. Questions for qualitative data collection are represented in Appendix A First cycle- Qualitative interview. Some language reforms are made in Ukraine, so we think that a question
about language was necessary to add to our interview. These reforms touch Russia and Ukrainian language. For example, some documents could come to the organization in Russia and then these documents are needed to be translated into Ukrainian. It can brings some problems to a work. We want to know if participants have language problem during knowledge sharing and knowledge transfer.

As we could not make face-to-face interviews, because of a distance, we suggested participants to use Skype for further contact with them. Participants gave us their Skype logins and we added them to our friend’s list. For a recording process we used a program MP3 Skype Reordered, which is very useful and comfortable for an audio recording. One of a main advantage of this program is that it is required to be installed only from one side, so our participants were not obligated to install this program to their PC for the recording. We gave several days to our participants to read the questions and to find comfortable time for Skype conversations. We informed our participants about the main aim of our research work, gave them the theoretical part and informed about the ethical consideration. The interviewing took average 40 minutes depends on participants answers. We recorded their answers and save to our PC to be able to listen their answers again in order to be sure that all elements are included and we clear and unambiguously understand participants’ perspectives.

5.2 First Cycle – Qualitative Data Analysis and Results

Before to start analyze data, we prepared data and represented them in a readable way and transcribed them (Creswell, 2008).

We decided to organize data into a table, which was very useful to read and to find a general perspective of the participants. Our table consists of several columns. First, we wrote Participants’ IDs, which were equal to numbers of participants, who took part in our research interview. A second column represents names of participants. Data of recording represents information, when recordings were done. Number of questions shows a list of questions, which were equal to numbers of questions the participants were asked. Answer column represents their answers. Category column describes categories of participants’ answers. A last column Code shows codes, which we assigned during analysis.

To start to analyze participants’ answers, first we reread their answers, carefully pay attention to their perspective and ideas and tried to identify a general meaning of their answers. Next, we back to each answer and tried to distinguish them into several categories. Each participant’s answer we put to a separate category according to their answers. Participants’ answers connect with the questions they were asked about. In previous chapter we described
that our interview consists of five parts, so we decided to create categories according to the five parts in interview. Categories are:

1. Knowledge type (means what type of knowledge participants more use in their work to transfer and share knowledge);
2. Technology problems (means what type technology problems participants have during knowledge sharing and knowledge transfer);
3. Organizational problems (what organizational obstacles employees have when they share and transfer knowledge);
4. Personal problems (problems connected with individuals’ aspect during knowledge sharing and knowledge transfer);
5. Trust, motivation and language problem.

We added each answer of participants to the certain category according to their answers. Next our step was to look on each category separately and identify common perspectives and ideas. Thus it allowed us to create coding. We look on each answer of participants separately in each category and tried to determine what a main idea of participant’s answer is and what key words are there. Thus, we created several codes, which allowed us to focus on a certain scope of participants’ answers and to obtain a clear understanding of the research problem. We identified several codes in each category.

In a Knowledge type category we created two codes: explicit and tacit. Thus, it allowed us to manage data and to distinguish participants’ answers (what type of knowledge they more often use to transfer and share knowledge) into two parts: a one part includes participants, who use tacit knowledge; another part includes employees, who use explicit knowledge. Thus, it would allow us to find out barriers, which participants have during knowledge sharing and knowledge transfer and which connect with the types of knowledge, which participants use.

In a Technology problems category, we created two codes, program 1C and office equipment. It means that participants gave their perspectives about technology problems and claimed that they have problems with a system, which they use and with office equipments.

In an Organizational problems category we determined several codes, which connect with participants’ perspectives about organizational problems. Employees have these problems during knowledge sharing and knowledge transfer. These codes are: number of tasks, work routine and work distribution

In a Personal problems category and a Trust, motivation and language problem category we identified such codes, as: time and quarrels; trust, motivation and language. We identified from participants’ answers that their answers include trust, motivation, time and language factors as obstacles to transfer and share knowledge.

All these codes allowed us managing participants’ answers in an effective way and did not miss important information. We created a Table 5.1 Qualitative data analysis in Excel, which allows us working with data in an
effective way. Also Excel allows us creating a filter in a case when we wanted to see participants’ answers about a certain question and thus create the codes.

<table>
<thead>
<tr>
<th>Participant’s ID</th>
<th>Name</th>
<th>Data of recording</th>
<th>Number of questions</th>
<th>Answer</th>
<th>Category</th>
<th>Code</th>
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</tbody>
</table>

Table 5.1 Qualitative data analysis table

5.2.1 First Part of Interview – Knowledge type category

We asked eight employees in our interview. We identified in our first part of interview the category named Knowledge type and two codes named explicit and tacit codes. We began to ask them what types of knowledge they use (explicit or tacit knowledge). Only Marina from the Quality Department and Konstantin from the Security Department said that they use, transfer and share tacit knowledge. As Konstantin said:

“*We contact with dispatchers via telephones. And I think it is tacit knowledge.*”

The same answer Marina has. She contacts with dispatchers via a land line telephone. We can say that there is a two-way communication between the Logistics Department and the Security Department. Both dispatchers and employees from the security post call to each other and have a little dialog. In a case of the Quality Department a communication is one-way. It is dispatchers who first call to a quality controller and ask additional documents. Employees from the Quality Department do not call first to dispatchers. It is a significance feature, which influences on the shipment process. A lot of problems arise because of this one-way communication. As Alina (she works as a dispatcher in the Logistics Department) told that she has some problems with the Quality Department:
“Sometimes they do not hear me. I need to repeat several times. Also they can hear a wrong number and bring a wrong passport”

She said that it took some time to change a number of a passport and to see this mistake. If a dispatcher gives a wrong passport to a driver it will be a dispatcher’s mistake. Nobody wants to do mistakes.

To summarize, we can tell next: mostly participants use both tacit and explicit knowledge. They transfer and share both types of knowledge.

5.2.2 Second Part of Interview – Technology problems category

After first part of interview participants began to answer on our second part of interview. We identified the category named Technology problem with two codes: program 1C and office equipment. This second part includes questions about technology barriers. Participants have problems with office equipments. Participants from the Logistics Department and the Trading House told that they have a bad printer and a scanner. Alina (works as a dispatcher in the Logistics Department) said next:

“I always have problem with printer and scanner”

Lena who works as a specialist for a customer service in the Trading House said about the program 1C next:

“This “super” program does not work during one hour every week. I do not like this”

Most of participants agree with Lena except Konstantin and Marina. The problem with this program does not touch them as they do not use it.

Also Lena had another comment:

“I remember that one time we have not an intranet for a long time and this stops our work”

Alina from the Logistics Department said next:

“One per week this program stop to work. And it always stops when I have a lot of work. It is terrible”

Alina claims about an access rights of this program. She told she called to the Technical support and IT Department very often and asked them to change something in a document process. She has not enough an access right so she cannot do changes by herself. Thus, she needs to stop her work. Only Valera from the Technical support and IT Department said it was necessary to stop the 1C program and he knew someone who did not like it, but it is his job to check and re-upgrade the system.

We can make next conclusions. The employees use not only landline telephones, but also an intranet and cell phones as technology tools for connections. The program 1C is used by all participants except one participant from the Security Department and one participant from the Quality Department. We can tell that only a connection line with the security
post is a landline telephone. Six participants told that they have problems with office equipments. They were talking about printers and scanners. Another two participants told they did not have any problem with the program 1C. We can tell that five participants complain about the program 1C. This program stops to work for some time and it is not very comfortable for the employees. Two partitions do not use this program, so it does not bring some troubles to them. For one participant the program 1C does not influence to his work. Also one participant mentions about access rights to this program as the obstacle to share and transfer knowledge.

5.2.3 Third Part of Interview – Organizational problems category

Our third part of the interview includes questions about organizational problems. We identified the category named Organizational problems with three codes: number of tasks, work routine and work distribution. Olga from the Export and Import Department said about influence of organizational problems next:

“There is no possibility to solve conceived problems”
She explained it that a manager did his work not very good. Her manager is too yang and does not know all aspects of her work. Sometimes Olga needs do work of other employees. She does not want to do it, but she has to.

Oksana from the Account Department said about organizational problems next:

“Information comes too late or not fully. I need to be one of first person who will find out some information. Instead of this I found out it latest”
She explained that this problem does not connect with technology tools. It depends on meetings between managers and employees. She would like to have meetings more often and wants employees to not keep silence. Also Konstantin from the Security Department said same words about his manager. He said his manager is an oldest man in the Security Department and this manager has worked for a long time in this scope of work. Konstantin wants managers and colleagues sometimes take his advices. Alina works in the Logistics Department as a dispatcher not for a long time and she said next:

“A lack of knowledge, in order to present correctly information”
Also she mentioned that she would like to have some additional time for learning. Alina remembered her first couple of weeks of work in the research the company and they were very hard. She told she had a lot of mistakes and it upset her a lot. She thought if managers had provided full information about her duties, then she would have less mistakes.

Stas from the Logistics Department told that he would like to have a list of a shipment early. As he said:
“I get information about next shipment only by the end of my working day. I do not want to work at home. Nobody will pay me for my work at home”

We can tell that three participants complain about managers’ work. One participant would like to have time for learning and clear understand her work and duties. Six participants told they have too much tasks and a lack of time. Also two participants would like to have a work procedures list and a work distribution.

5.2.4 Fourth Part of Interview – Personal problems category

After organizational questions we begin to ask participants about personal berries. We identified the category named Personal problems with two codes: time and quarrels. This was our forth part of the interview. Valera from the Technical support and IT Department said:

“I have not enough time and a lot of work. And unsolved problems begin to be like a snowball. And this snowball grows very fast”

Valera told that his emotional behavior was not stable; he did not know what he should do first because every department needs his help. We have an interesting answer from Stas. He works as a logistician. He said next:

“Misunderstandings because of poorly thought process or multifaceted personality”

He meant that every day he spoke with different people and sometimes he could not understand them. Stas needs to find semi-trailer trucks for a shipment. He contact with carriers and with drivers of semi-trailer trucks. As Stas said he could repeat some information several times and people still did not understand him. Konstantin from the Security Department mentioned that an age of his colleagues influences to his work a lot. Alina (the dispatcher from the Logistics Department) told that:

“I convey words very poor. I do not find the right words when I want to say something”

Alina claims that she is very nervous and sometimes mixes some words or cannot say what she really thinks. To summarize, we can tell next. We can say one participant told about an age as a personal barrier. Three participants told that sometimes their colleagues speak with them in a raised voice and they have quarrels. Four participants told they had not enough time for their tasks. They would like to have more time and fewer tasks.
5.2.5 Fifth Part of Interview – Trust, motivation and language problems

category

Also we ask some question about the trust and the motivation. It was our fifth part and a last part of the interview. We identified the category named Trust, motivation and language problems with three codes: trust, motivation and language. Most participants told that they are not motivated. Stas (he works as logistician in the Logistics Department) said next:

“I am not motivated. It is necessary search in itself”

Stas told he liked his work. It begins like a competition for him. Stas explained that he gets a satisfaction when all semi-trailer trucks came for a shipment. To summarize we can tell that one participant has a self-motivation; another seven participants do not have a self-motivation and are not motivated by the research company.

When we ask Stas about the trust he said he did not trust one employee from the Trading House. She works as a specialist for a customer service. Lena said that she did not trust one guy, who works as logistician. They did not trust each other. As we can understand employees from the Trading House and logisticians connect with each other very close. They discuss between each other each autotrack’s and autotrack’s shipment. Sometimes they have reasons to no trust each other. Alina had a comment about the trust too:

“My works is constructed in a such way that I should always check the information”

Olga said the same words. She works as a broker in the Export and Import Department. She needed check all received information for several times in order to avoid mistakes. Also Olga told that a language factor influences a lot on her work. She explained that her department needed to translate documents from Russian into Ukrainian and this process took some time. Also Olga mentioned she asked employees from the Trading House several time to make an order in Ukrainian at once.

“Unfortunately the Trading House does not want to help to me”

Other participants told that the language factor did not influence on their work. Also we ask question about what participant would like to add to our questions. It was the last question and they can add whatever they want. Lena from the Logistics Department said an interesting thing:

“It will be great if we have video control in the rooms”

She said it would be much comfortable to have a video control. In this case each employee can see his or her mistakes and can admit these mistakes. Also in her opinion a video control could help people to have fewer quarrels.
5.2.6 Summary from Qualitative Data Analysis and Results

To summarize we can tell that we have conducted the interview with the eight participants from different departments. We found out what technology, organizational and personal barriers exist in the shipment process. All these barriers we included to a Table 5.2 Findings Results.

<table>
<thead>
<tr>
<th>Technology barriers</th>
<th>Organizational barriers</th>
<th>Personal barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of soft system</td>
<td>Amount of tasks</td>
<td>Lack of motivation</td>
</tr>
<tr>
<td>Office equipment</td>
<td>Work procedures</td>
<td>Lack of trust</td>
</tr>
<tr>
<td>Work distribution</td>
<td>Quarrels</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raised voice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Language factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of time</td>
</tr>
</tbody>
</table>

Table 5.2 Finding barriers

We indentified two technology barriers. They are “Lack of soft systems” and “Office equipment”. The organizational barriers could be represented as “Amount of task”, “Work procedures” and “Work distribution”. Also we found out six personal barriers. They are “Lack of motivation”, “Lack of trust”, “Quarrels”, “Raised voice”, “Language factor” and “Lack of time”. All these factors are given in no priority order in the Table 5.2 Findings Results.

5.3 Second Cycle – Quantitative Data Collection

After qualitative analysis was done, we started to collect quantitative data from our participants.

Questions are represented in Appendix B - Second cycle- Quantitative questionnaire. We sent a link of the questionnaire with close-ended questions via Skype and the social net vk.com to the same participants, who took part in the research. Close-ended questions were designed after qualitative analysis. Thus we wanted deeper understand the research problem and participants’ perspectives. Questions were designed by a site Prostolpos.ru. This site is a Russia platform to design and make interviews. This site is very useful and it is very easy and comfortable to design close-ended questions.
We have four questions, which includes different statements. We ask our participants to choose box, which extent to their agreement and disagreement. For our questions we used different scales as we wanted deep understand their perspectives and choices.

First question includes two statements and focuses on “how often”. A purpose to ask this type of question was to determine how regular participants have meeting with their managers and how often they have technology problems. Thus we could find out whether it is useful for the research company to provide more meeting with managers in order to solve technology problems.

Second question includes several statements. We could distinguish all statements into several categories. Statements from 1 to 5 focus on a leadership, statements from 6 to 8 are about organizations, statements 9 and 10 focus on the intrinsic motivation, from 11 to 12 ask participants about personal factors, statements from 13 to 15 focus on trusting relationships, statements 16th ask about language differences, from 17 to 20 ask about the extrinsic motivations. A scale is from “completely disagreeing” to “completely agreeing”. We could find out participants’ perspectives and determine barriers, which connect with organizational, technology and personal aspects.

Third question ask the participants to determine factors, which more affect their work, knowledge sharing and knowledge transfer. Based on the literature review we suggested 12 factors. A grade is from “strongly influences” to “not influences”. Thus, we could identify factors, which more influences on employees’ works. In this case we could suggest managers to what aspects they should pay more attention in order to solve problems with knowledge sharing and knowledge transfer.

As we identified from the literature review and from the results of qualitative research, the motivation plays a great role in knowledge transfer and knowledge sharing, so we wanted to focus on this aspect in a detail way. Thus our fourth question asks the participants what types of the motivation are more primarily interesting for the participants. The participants were asked to choose three types of the motivations. Thus, based on results from the fourth question, we could suggest the research company how to increase participants’ motivations in order to improve their work.

5.4 Second Cycle – Quantitative Data Analysis

After reading participants’ answers, we analyzed data and represented them in a readable and understandable way. From the site Protopros.ru we obtained Microsoft Excel’s tables, which include participant’s answers. We imported these tables to our computer and started to analyze results. After analyzing and calculations percentages of data we have these conclusions.
Analyzing the first question with two statements we obtain these results:

Three persons (38% of total participants) answer that they have the technical problems 2-3 times per month; another three participants (38%) have more than one time per week these problems. Only one person (12%) does not have at all the technology problems.

Speaking about the second statement, only two participants (24%) do not have at all meetings with managers, two people have meetings about one time per month and two employees have meetings 2-3 times per month.

We presented a graphic of the participants’ answers for better visualization.

Figure 5.1 Diagram of the participants’ results from first question

We can say that participants have the technical barriers to transfer and share knowledge and also organizational obstacle, as there is not enough amounts of meetings with managers to discuss the currents problems.

Analyzing the second question with twenty statements, we can say next:

Three participants (38%) said that that do not agree that managers help them to solve work problems, but at the same time another three people (38%) agree with this statement. Four people (50%) consider that their managers perform his or her duties, but two people (25%) think that managers do not perform their tasks. Four participants (50%) slightly agree that managers show trusting relationships to employees and only 3 people (36%) agree with this statement. Three employees (38%) slightly agree that managers praise a quality done work, but another three people agree with this statement. Only one participant does not agree that managers take care about employees’ work conditions. Three (38%) people, slightly agree with this statement. We can summarize the answers of the five statements about managers and could say that when employees think that managers could not help to solve
problems, then they could not trust her or him. Six people consider that their 
managers prices for a good quality done work, but two of the participants do 
not agree. Also a half of the amount of the participants agrees that managers 
perform their duties. Thus it could means that employees do not have so 
many problems with managers except weak trusting relationships between 
extaff and managers.

Speaking about the sixth statement, four (50%) participants think that their 
organization does not care about their satisfactions on the work, while 
another half of the amount of the participants have an opposite perspectives, 
they agree that the research company takes care about it. Four people marked 
that the organization does not care about their opinions, while three people 
think that the research company does care. One person slightly agrees about 
this statement. Four people consider that the organization does not motivate 
them at all, two people slightly agree with it and the rest of employees 
completely agree with it. To summarize these three statements about the 
organization, we could highlight that most problems connect with motivation 
factors and with organizational obstacles.

Three persons (38%) do not have a self-interested in their works, while the 
rest participants marked that they are interesting in their work. Four people 
(50%) marked that they do not have a wish to transfer and share knowledge. 
Another half of the amount of the employees have a desire to share and 
transfer knowledge. Two people do not agree that they show their creativity 
in a work, while three participants slightly agree with this statement about 
creativity. To summarize the answers on these two statements about self-
interested and a willing to share and transfer knowledge, we could say that 
most participants do not have the intrinsic motivation to share and transfer 
knowledge.

Four people do not have a risk to transfer and share knowledge, while 
three participants (38%) claims that they agree with this statement and have 
a risk to do it, one person completely agree with it. One employee do not 
realized what her or his duties are, while the rest of the participants clear 
understand and know what they need to do. To summarize these both 
statements we could claim that there is no barrier with a leadership in the 
research organization, but employees have the risk factor to transfer and 
share knowledge as it is connected to the personal barriers.

Three people do not trust their managers, while the rest of the amounts of 
the participants trust their manager. Only one person does not trust 
colleagues, while three participants slightly agree with the suggested 
statement. And only one person agrees with this statement and does 
completely trust colleagues. Five people check received information and 
another three participants slightly disagree with this statement. To summarize 
these three statements, we say that there is the barrier connected with the 
trusting relationship.
The participants did answer on the statement number sixteenth about the language factor. We could claim that only one person think that his or her colleagues use a different language and jargons, while the rest participants agree with this statement and in their work use a same terminology. Thus, we could summarize, that the language factor could be considered as not strong barrier, which could impact on knowledge sharing and knowledge transferring process.

Two participants (25%) feel responsible for their work and it increases their motivations, but another people have opposite perspectives. One participant does not care how his work effects the research organization, other participants slightly interesting to find it out. Five people do not sure that they want to build their career in this company and only two participants slightly agree with this statement, one person wants to make a career in this company.

On Figure 5.4 we presented a graphic of the participants’ answers of the second question with twenty statements.
1. Manager helps to solve arisen problems
2. Manager performs his/her duties
3. Manager shows trusting relationships to employees
4. Manager praises a quality and timely of a work
5. Manager takes care of work conditions
6. The organization takes care of my satisfaction in work
7. The organization cares about my opinion
8. The organization motivates me (bonuses, training, free meals, etc.)
9. I have a self-interest in my work
10. I have a desire to transfer and share information
11. I feel a risk to transfer and share knowledge because of a fear that I would become uncompetitive
12. I clearly realize my duties and what I need to do
13. I trust my manager
14. I trust my colleagues
15. I check received information from employees
16. I use the same terminology and jargon as my colleagues
17. I feel responsible for my work and it increases my motivation
18. I want to know how my work affects the whole organization
19. I want to make my career in this organization
20. I show a creativety in my work
Analyzing the third question with 12 factors, which could influence on the work, we can say next:

Four participants consider that time has a strong effect to their work and to knowledge transfer and to knowledge sharing. One participant think that time has a little impact on these processes. Six (75%) participants think that the trust influences on their work and two people consider that this factor is a strong impact aspect. Six participants think that the motivation influences on their work and another two participants do not consider this factor as a strong influence factor. Speaking about the risk factor, five participants think that it does not influence on their work, on knowledge transfer and on knowledge sharing. Five people (62%) claim that the self-interested factor has a little impact on their work. The factor as leadership is considered as the influences aspect from perspectives of three people and a little influenced from perspectives of another three participants. Four people consider a geographical factor as a little impact factor on their work. Use of modern technology is viewed as the influenced aspect according to perspectives of five participants. Salary is the strong influenced factor from six participants. Four people claim that friendly relationships with their colleagues have influences on their work, as a possibility of self-realizations from five participants. Four people consider that an operational mode has a strong impact on their knowledge transfer and knowledge sharing. On Figure 5.3 we represent the participants’ results of the third question.
Analyzing the participants’ answers of the fourth question, we can say next:

The participants would be primarily interested in additional payments as one of a strong motivation factor as six participants (75%) choose this category. Two (25%) participants choose co-payments for length of work as a factor, which would primarily interest the employees. Speaking about an additional payment for health improvements, this factor was chosen by one person. Five people (62%) choose a learning factor. Two people choose an insurance and a lunch factors. A Payment fare was chosen by two participants as well as corporative events. One person chooses a free or partial payment tour. A factor loans was not chosen at all. Speaking about last factor, a sport, this element was chosen by three participants. On Figure 5.4 we represent the participants’ results on the fourth question.

Figure 5.3 Diagram of the Participants’ results from third question
Choose three types of motivation which will interest you primarily

![Bar chart showing participant results](chart.png)

To summarize, we can put these factors in a priority order based on the participants’ answers.

1. Additional payments (premium and bonuses);
2. Learning (courses, workshops, seminars, study);
3. Sports (membership to the gym, swimming pool, etc.);
4. Co-payments for length of work;
5. Payment fare (travel, shuttle buses, car maintenance);
6. Corporate events (tickets to theaters, cinemas, concerts, visits to nature, excursions (including those in other cities);
7. Additional payments for health improvement (to the main of the holiday);
8. Insurance;
9. Free lunch;
10. Free or partial payment tour

5.5 Results of Quantitative Data Analysis

To summarize the participants’ answers of the first question, we can say that the participants have the technical barriers to transfer and share knowledge and also organizational obstacle, as there is not enough amount of meetings with managers to discuss currents problems. Most of the participants
highlight that they have the technology problems more than one time per week. From our perspective, it is very often and thus brings a lot of difficulties to do their work well as employees are not able to share and transfer knowledge in an effective way. Two participants marked that they do not have meetings with managers to discuss current problems. From our perspective, it is a big problem as employees do not have a chance to talk with a manager and discuss current problems. Based on the result from the first question, most employees have meetings with their managers about 1-3 times per week. From our point of view, meetings with supervisors one time per month is still rare as during this month employees could collect a lot of questions they want to discuss with their managers and it could require a lot of time to solve these problems.

To summarize the participants’ answers of the second question, we can make conclusions that the employees have problems with trusting relationships between managers and colleagues. Most of the participants checked received information. It could mean that they do not trust a source of knowledge; they doubt a sender’s competence or consider that knowledge, which a person sends, could be incorrect. The employees do not have a wish to transfer and share knowledge. It could bring a lot of problems, such as a lack of time, as the participants all time need to check received information instead of focus on a current work. The participants do not see that managers show trusting relationships to employees. Thus it does not activate the employees to show trusting relationships too. It means that the employees do not want to be open about their perspectives and ideas when managers are not willing to show trust to them.

Also employees have problems with types of motivations, the extrinsic and the intrinsic ones. The participants feel no response for their work; they are slightly interesting to know how their work effects the organization. It could mean that employees do not feel as a whole part with the organization, they feel as a separate part, where there are organization’s part and employees’ part. Most of the participants are not sure that they want to build careers in this organization. Thus they do not have strong wishes to improve their work and the participants do not want to be involved in organizational problems and to its future plans. They do not have common goals. Some participants claim that they do not have the self-interested in their work. This problem could be connected with the intrinsic motivation and with the fact that the employees are not going to continue to work in this company. But most of the employees are interesting to do their work. Also, from participants’ answers, the research company is not willing to pay attention to their perspectives and advices. Thus, it makes employees feel not open to tell their thoughts and ideas. Most of the employees do not have problems with the language factor and feel comfortable to use both Ukrainian and Russian in their work. But for one participant it brings some difficulties and takes some time to do her work.
We suggested the participants answer the third question and marked the factors, which are more impact on knowledge sharing and knowledge transfer. Based on the results from participants’ answers on the third question, we can put the factors, which impact on knowledge transfer and knowledge sharing, in the priority order moving from a top to a bottom, where a 1th factor has a strong impact on knowledge sharing and knowledge transfer and a 12th factor does not influences on knowledge transfer and knowledge sharing:

Strong influence factors are:
1. Salary;
2. Time;
3. Operational mode;
4. Friendly relationship with colleagues;
5. Trust;

Influence factors are:
6. Motivation;
7. Possibility of self-realization;
8. Use of modern technology;
9. Leadership;

Factors which little influence are:
10. Self-interested;
11. Geographical factor;

A factor which does not influences is:
12. Risk factor.

As we can noticed from the list, most of the participants consider that self-interested, risk and geographical factor do not impact on knowledge sharing and knowledge transfer. The participants consider that these factors do not have the influences on these processes. From most of the participants’ answers, persons do not feel the risk to transfer and share knowledge. They do not think that shared and transferred knowledge could be used against them and make them less competitive. For most of the participants a salary, time, an operational mode, trust and friendly relationships with colleagues play a great role in knowledge sharing and knowledge transfer and the employees consider that these factors have a strong impact on these processes. Thus, the research company should pay more attention to these factors in order to increase a profit and effectiveness of a work.

We asked the participants to answer our fourth question and choose the factors, that most motivate them to share and transfer knowledge. To summarize the participants’ answers of the fourth question, we can put these factors in the priority order based on the participants’ answers.

1. Additional payments (premium and bonuses);
2. Learning (courses, workshops, seminars, study);
3. Sports (membership to a gym, swimming pool, etc.);
4. Co-payments for length of a work;
5. Payment fare (travel, shuttle buses, car maintenance);
6. Corporate events (tickets to theaters, cinemas, concerts, visits to nature, excursions (including those in other cities);
7. Additional payments for health improvement (to the main of the holiday);
8. Insurance;
9. Free lunch;
10. Free or partial payment tour.

As we can see from the list, first factor is additional payments. This factor could connect with the results of the previous question, where most participants choose the salary as the strong impact factor on knowledge sharing and knowledge transfer. Learning could allow the participants to increase their knowledge sharing and knowledge transfer as they could learn more about new technology tools to effective their work. Thus, for an employee it would be easy to share and transfer knowledge. Also during a learning, employees could discuss current problems, which they have and express their ideas and thoughts. It could create strong trusting relationships between employees and managers and thus could increase knowledge sharing and knowledge transfer. We can tell the same about a sport factor. During sport time and corporate events, the participants could discuss different situations at their work, could share perspectives and point of views and could exchange their experiences. Free or partial payment tour, free lunch and additional payments for health improvement insurance are not considered as the strong factors to motivate participants to share and transfer knowledge.
6 Discussion

*In this chapter we discuss the results of the research work and provide a connection with the theory of use.*

Our research focuses on knowledge sharing and knowledge transfer barriers in the research company. We wanted to identify what barriers exist in the shipment process and how these barriers could be overcome. We were interested in two research questions:
1. What barriers exist between the departments to prevent knowledge transfer and knowledge sharing?
2. How these barriers could be overcome?

To answer on these questions, we reviewed literature and provided the qualitative and quantitative research.

First to answer on these both questions we wanted to understand what knowledge is. From our perspective, if we would know more about knowledge and how it could be shared and transfer, than for us it would be more useful and easy to determine knowledge transfer and knowledge sharing barriers and do our research. Polanyi’s perspective (1966) of knowledge is based that all knowledge has a tacit element. Polanyi (1996) claims that some type of knowledge could have a limited capability to be transferred and shared. Nonaka and Takeuchi (1995) expand the Polanyi’s theory of knowledge. According to Nonaka and Takeuchi (1995), there are two different types of knowledge: tacit and explicit. They (1995) explain (see chapter 2.1 What knowledge is) that tacit knowledge exist in person’s skills, experiences and ideas. Thus, it is hard to capture and codified this type of knowledge. Explicit knowledge is an opposite to tacit one and could be represented in a database, a document and so on. Based on the results from our research, we determined that the participants use explicit and tacit knowledge, so knowledge sharing and knowledge transfer touch both explicit and tacit knowledge. From our perspective, barriers, which connect with sharing tacit knowledge, are the lack of trust, the lack of motivation and touch human aspects. Obstacles, which connect with explicit knowledge transfer, could touch organizational and technology barriers.

For our research work we use the theory of knowledge sharing and knowledge transfer barriers by Riege (2005). We look on barriers from three perspectives: from organizational, from technology and from personal aspects. Thanks to this theory, we obtained the wide picture of existing barriers and we touched all obstacle elements in the research company. We consider that another theory of knowledge sharing and knowledge transfer barriers is not so useful for our research work. For instance, Cantoni, Bello and Frigerio (2001) suggest a theory of barriers, where these obstacles are looked from culture and localization perspectives. From this point of view, they (2001) do not include organizational aspect in the theory, thus do not
represent a full picture of problem with knowledge transfer and knowledge sharing. Based on the theory suggested by Riege (2005) and results from qualitative and quantitative research we identified that technology, organizational and personal berries exist in the research company.

Qualitative and quantitative data analysis shows to us that participants have several barriers in knowledge sharing and knowledge transfer. These barriers connect with the technology, organization and personal aspects. Based on the participants’ answers of qualitative research we identified that technology barriers are a lack of soft system and office equipments. The participants claim that they have a problem with 1C program, which they use for their work. The problem, which the employees meet during the using of 1C program, is that this program on each Monday stops to operate during one hour. This fact is connected with a planning checking and an upgrading a database. Also, this program could be failed 1-2 times per week. Office equipments could be broken several times per week. It brings delay to share and transfer knowledge and it takes some time to fix office equipments. As we can see from the quantitative research, the participants claim that they have the technology problems more than one time per week. We could assume that these problems could connect with the fact that the employees have rare meetings with managers to discuss existing problems. Thus, managers are late informed about current problems. We could advice the research company to provide more often meeting with supervisors. In this case, supervisors could find out about problems on time and could solve them. We know that some companies use another solution. Each working day one employee from a technology department visits other departments to find out problems. It takes him about 10 minutes to ask whether employees have problems with office equipments or not. In this case, an employee from a technology department could analyze problems and solve them in an effective way. Thus, these 10 minutes of checking could avoid problems and increase an effectiveness of a work.

In our research work we identified that there are organizational barriers in the research company too. This type of barriers connects with amounts of tasks, with a work procedure and with a work distribution according to the qualitative research. We identified that these barriers influence on employees’ works and do not allows participants sharing and transferring knowledge in an effective way. The participants claim that they have many tasks, which they need to do and thus could not focus on current issues and could not do their work well. As the participants have many task to do, they meet another problem to share and transfer knowledge. It is a lack of time. The employees need pay attention to finish their tasks on time and they have no free time to exchange their perspectives and idea and transfer knowledge. Speaking about a work procedure as the obstacle to transfer and share knowledge, most of the participants said that sometime they do not know their duties. They claim that it would be useful and effective if they know for
sure what they need to do and when a task should be finished. Thus, they could plan their workday and time. As we identified from qualitative research, a work procedure impacts on employees’ works and on knowledge sharing and on knowledge transfer. A work of one employee depends on a work of another employee. The participants said that sometime they need to do a work of another person as they could not wait when this person will finish a task and transfer results to these participants.

From our perspective, these three problems connect with a manager’s work aspect. Quantitative research supports the results of qualitative research. We determined from the quantitative questionnaire, that managers do not help employees to solve problems from participants’ perspectives. Most of the participants claim that managers do not pay attention to a work condition and to operational mode of employees. Thus, it makes a connection with the previous barriers. If managers have more often meetings with employees, they could discuss problems and tasks between each other. Thus, from our point of view, employees could do their work in an effective way and they would not have problems with a lack of time. Also, it would be useful for managers to provide a list of work procedures and tasks. Thus, employees could clearly understand what they need to do. In this case, employees could save time and do their work in a productive way. Also this list of work procedures could help employees to better understand their work and its value to the research company. We believe that this list of work procedures could allow employees understanding how their work could impact on other employees’ works. Based on the results from quantitative research, the participants told that they slightly feel responsible for their work. A list of work procedures and tasks could help the participants to avoid this problem.

We found out that the research company has the personal barriers too. According to the results from qualitative research, we determined the personal obstacles such as: a lack of motivation, a lack of trust, quarrels, a raised voice, a language factor and a lack of time. The participants said that they are not motivated to transfer and share knowledge. We could suggest managers to pay more attention to motivation factors. Some employees said that they are not self-interested in their work and are not going to continue to work in this company. As we can see, the participants have weak intrinsic and extrinsic motivations. From our perspective, the company should pay more attention to motivation factors in order to increase knowledge sharing and knowledge transfer, to obtain more profits and to increase an effectiveness of employees’ works. Based on the results from quantitative research, we could suggest the research company to provide several motivation factors. These factors were chosen by the participants as the primarily motivation factors to share and transfer knowledge. From our perspectives, managers could provide bonus systems, training, memberships to a gym and co-payments for length of a work as most of the participants chose these factors. These motivation factors could enable employees to
share and transfer knowledge. During training employees could learn more about program 1C and thus avoid the problems with this software in future. We think that also trainings, corporate events and membership to a gym could allow the participants to build strong trusting relationships with each other, to discuss work problems and to get common goals. All these elements could increase knowledge sharing and knowledge transfer between employees of the research company.

As it was mention above, another personal barrier is the lack of trust. The quantitative and qualitative researches show to us that most of the participants do not trust their colleagues and managers. The employees claim that they need to check received information in order to be sure that there is no error. We can assume that this barrier connects with the fact that the participants have meetings with managers 1-3 times per month, which is not regular. Also this obstacle could connect with the fact that, from most of the participants’ perspectives, managers do not show trusting relationships to them and do not help to solve problems. We think that these factors unable the participants to show trusting relationships in the research company, to feel free to express their thoughts and ideas and to share and transfer knowledge. Also, from the participants’ perspectives, managers do not take care about employees’ work conditions. Another factor, which connects with trusting relationships, is that most of the participants work in the research company average 1.5 years, several participants work during 10 months, one of them works in the research company 6 months. From our point of view, this factor brings the barriers to build trusting relationships between managers and employees. We consider that trust does not appear from nowhere and it requires a lot of time to build strong relationships between employees. We think that other barriers, quarrels and raised voices, connect with the previous barriers. From our point of view, as the employees think that they have problems with work procedures and work distributions and sometimes they need to do another employee’ work, the participants might have quarrels because of these reasons. Speaking about last personal barrier, the language factor, for one employee it is hard to share and to transfer knowledge and to operate with documents in different language, but for most of the employees there is no problem to do it.

To summarize, we could suggests the research company and managers to pay more attention to current problems, to provide often meetings with employees, where they could discuss current situations, to show trusting relationships to them, to pay attention to employees’ perspectives and thoughts and to apply different factors of motivations. Thus, we believe that our research could help the research company and managers to improve employees’ and managers’ works, to share and to transfer knowledge in an effective way, thus the company could obtain more profits and become more competitive.
7 Conclusions and Future Research

In our research we were interesting to find out what barriers exist in knowledge sharing and knowledge transfer. From our point of view, knowledge sharing and knowledge transfer play an important role in knowledge management and allow employees exchanging their perspectives, thinking, and ideas, and thus create a strong relationship between each other. We believe, that for company it is very important to support knowledge sharing and knowledge transfer. In this case, employees could interact with each other and exchange necessary knowledge for their work.

The study was conducted in Ukrainian company, which produces mineral wool. We made qualitative and quantitative researches. In our research work we used open-ended and closed-ended questions in order to have a wide understanding of the research scope. The literate review was done and several organization documents were obtained in order to deeper understand the problems, which are connected with knowledge sharing and knowledge transfer. We asked eight participants from different departments. These participants were voluntaries. We found out that technology, organizational and personal barriers existed in the research company. Also we suggested some advices for managers to improve employees’ works.

Being critical to the theory, which we chose (Riege, 2005), from our perspective this theory allows researchers investigating current barriers in an organization, but does not explain what causes were of these barriers and how these barriers interact and affect each other. Also, we think this theory does not allow us telling what barriers are reasons and basis for an emergence of other barriers. Another critical factor in our research is that we ask the participants’ perspectives and not managers’ perspectives. Thus, the results of research could be different and show some new aspects about knowledge transfer and knowledge sharing.

We can say that our research touch not only knowledge management, but also information management. From the participants’ results we found out that employees transfer and share data, information and knowledge. Helps to the 1C program they transfer and share data: numbers of semi-trailer trucks, amount of mineral wool, duration, client’s name, etc. Then, employees convert this data and create a list of shipment, waybills and a release for shipments. In these documents, data are gathered and organized. From this point of view, we can consider these documents as the information, as it has structured data, a sender, a receiver and a meaning (according to the literature review in Chapter 2.1 What Is Knowledge). A dispatcher uses the list of shipments. Speaking about knowledge we can give an example, based on the participants’ answers. In the Appendix C you will see an example of the list of shipments, where one dispatcher uses circles and lines to manage a shipments process. For this employee, these lines means that semi-trailer trucks will not come to the research company for some reasons, the circle
means that semi-trailer trucks is now loading. Another dispatcher uses letters to manage this process. For instance, letter “L” means that truck is loading now, letter “O” means that truck is loaded already and now is leaving the research company. Each dispatcher uses her or his own system to manage the process. This system could include different letters, marks and notes etc. It means that another employee could not understand what these notes and circuits mean until an owner of this system explain and interpret his or her knowledge.

We focused our research on the shipment process. We asked the participants only from some departments. These departments take part in the shipment process. We can suggest making another research. A next research can touch a production process and other departments in order to obtain a full picture of knowledge sharing and knowledge transfer in the whole organization. We believe that the shipment process connects very close with production process. Both processes interact with each other. From our point, this research can help to built full picture of knowledge sharing and knowledge transfer of the research company.
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Appendix A – First cycle- Qualitative interview

1. What is your name?
2. What type of knowledge do you more use in your work?
3. What type of knowledge do you more share and transfer?
4. What technology tools do you use to share/transfer knowledge?
5. What technology problems do you have with using the technology tools?
6. How these technology problems affect knowledge sharing and knowledge transfer?
7. What type of organizational problems with knowledge sharing and knowledge transfer do you have?
8. How these organizational problems affect knowledge sharing and knowledge transfer?
9. What type of personal problems with knowledge sharing and knowledge transfer do you have?
10. How these personal problems affect knowledge sharing and knowledge transfer?
11. What are the reasons to trust/not trust a sender/receiver?
12. How are you motivated to share/transfer knowledge within your organization?
13. How the language factor affects knowledge sharing and knowledge transfer?
14. Would you like to add something?
Appendix B – Second cycle- Quantitative questionnaire

1. How often do you have technology problems:
   - One time per day
   - One time per week
   - One time per month
   - More than one time per week
   - More than one time per month
   - More than one time per day
   How often do you have meetings with managers to discuss existing problems:
   - One time per day
   - One time per week
   - One time per month
   - More than one time per week
   - More than one time per month
   - More than one time per day

2. Please choose the answer which you completely disagree, disagree, slightly disagree, slightly agree, agree or strongly agree with each statement
   - Manager helps to solve arisen problems
   - Manager performs his/her duties
   - Manager shows trusting relationships to employees
   - Manager praises a quality and timely of work
   - Manager takes care of work conditions
   - The organization takes care of my satisfaction at work
   - The organization cares about my opinions
   - The organization motivates me: bonuses, training, free meals, etc.
   - I have a self-interest in my work
   - I have a desire to share and to transfer knowledge
   - I feel a risk to transfer and to share knowledge because of fear that I could become uncompetitive
   - I clearly realize my duties and what I need to do
   - I trust my manager
   - I trust my colleagues
   - I check received information from employees
   - I use the same terminology and jargon as my colleagues use
   - I feel responsible for my work and it increases my motivation
   - I want to know how my work affects the whole organization
   - I want to make my career in the organization
   - I show creativity in my work
3. Please choose the answer which you completely strongly influences, influences, slightly influences or not influences with each statement
- Time
- Trust
- Motivation
- Risk factor
- Self-interested
- Leadership
- Geographic factor
- Use of modern technology
- Salary
- Friendly relationship with colleagues
- Possibility of self-realization
- Operational mode

4. Choose three types of motivation which will interest you primarily
- Additional payments
- Co-payments for length of work
- Additional payments for health improvement (to the main of the vacation)
- Learning (courses, workshops, seminars, study)
- Insurance
- Free lunch
- Payment fare (travel, shuttle buses, car maintenance)
- Corporate Events (tickets to theaters, cinemas, concerts, visits to nature, excursions (including those in other cities)
- Free or partial payment tour
- Loans
- Sports (membership to the gym, swimming pool, etc.)
**Appendix C – List of shipment**

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83 (86)
Appendix D – Release note for shipment

Разрешение на отгрузку готовой продукции со склада

Разрешение № 5770 на отгрузку готовой продукции со склада

Запись на вдавання готової продукції зі складу

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<thead>
<tr>
<th>№ товару</th>
<th>ТП Фасад (1000<em>600</em>50)</th>
<th>Кількість</th>
<th>Артикул</th>
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84 (86)
Appendix E – Waybill

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<th>No.</th>
<th>Групів №</th>
<th>Вага, т.</th>
<th>Фактична вага, т.</th>
<th>Маркування</th>
<th>Розмір, мм</th>
<th>Кількість</th>
<th>Індекс поштового багажу</th>
<th>Планові дати поштового багажу</th>
<th>Строки</th>
<th>Планові дати відправлення</th>
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ВАНИТОПО-РОЗВАТКУВАЛЬНІ ОПЕРАЦІЇ

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<tr>
<th>Спроба</th>
<th>Виконання (КПЕ, кілібр. фірм.)</th>
<th>Час, год., хв.</th>
<th>Видача матеріалу</th>
<th>Накладення, розв'язання, слід</th>
<th>Порядок</th>
<th>Транспортні патрули</th>
<th>Кількість, шт.</th>
<th>Відомості від особи</th>
<th>Кількість, шт.</th>
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ІНШІ ВІДОМОСТІ (заповнюється автономністю)

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<th>Види промислових подій в дн. вм.</th>
<th>Місце виконання подій</th>
<th>Час виконання</th>
<th>Кількість, шт.</th>
<th>Відомості про події</th>
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Розділ: правила

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<th>Події</th>
<th>Розспізнання</th>
<th>Кількість, шт.</th>
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Підпис техніка на служі