

# Intra-Organizational Knowledge Integration System Design

A case of Yirgalem Addis Textile Factory PLC

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**Addis Ababa University**  
**Addis Ababa Institute of Technology (AAiT)**  
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Miretu Wubie

## **Abstract**

*Organizational competitiveness and decision-making capabilities today are very much reliant on the knowledge base, the stronger the knowledge base the higher chance of decisions making to address the complex and unpredictable competitive business conditions. Less production rate, late delivery time to customers and less quality product are the main problems behind the limitation of KI in the company. Therefore, the overall objective of this study is to explore the existing system of KI practice and to propose an intra-organizational knowledge integration that is suitable for textile industries, specifically YATF.*

*To address the research objective mixed research (qualitative and quantitative) design methods were conducted. Out of the total 172 sample respondents, 5 key officials were considered as a sample respondent for interview through purposive sampling. For the remaining 167 were selected for the structured questionnaire questions through random sampling.*

*Quantitative data's conducted through questionnaires were processed, coded and analyzed using descriptive statistics with the help of STATA soft ware. All the data collected through interviews and open-ended questions were analyzed qualitatively. First data were stored in the spreadsheet (Microsoft Excel). Second, the data were categorized and stored by major topics. Then, summarizing followed on the indication of codes Finally, the collected data through the interview was described as of its representativeness.*

*From both qualitative and quantitative analysis and observation, the result revealed that the existing intra-organizational knowledge integration practice in the company is not a good position. Moreover, there is no effort made in integrating organizational knowledge. The knowledge of the company is dispersed with in individuals and there is no centralized approach to achieve organizational goals.*

*Consequently, the analyzed data were used as an input for the final system design through identifying knowledge resources needed in the company that can be processed, stored, shared and transferred. The proposed system design enables KI both at individual level (with in a department) and among departments to enhance the overall company performance which is the originality and core value of this study. Finally, the study recommended that the company top management should emphasize facilitating the knowledge integration process to sustain the organizations competitive advantage.*

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## **List of Acronyms**

**KC:** Knowledge capturing

**KI:** knowledge integration

**KM:** Knowledge management

**KMS:** knowledge management system

**KS:** Knowledge sharing

**KT:** Knowledge Transfer

**YATF:** Yirgalem Addis Textile Factory plc

# CHAPTER ONE

## 1. Introduction

### 1.1. Back ground of the study

Ethiopia has a long history in textiles, the first garment factory was established in Dire Dawa town under Italian occupation in 1939 (Staritz & Whitfield, 2017). Recently Ethiopian textile industries show rapid growth in Africa Industry. To promote the textile manufacturing sector Ethiopian government has set up the Ethiopian textile industry development institute (ETIDI), under the minister of industry for the aim of enhancing the capacity of the textile and apparel manufacturing sector and different industrial parks are built across the country. Also, the cotton producers, ginner & exporters association, Ethiopian textile, and garment manufacturers association are stakeholders established to support the sector (Wagaye & Walle, 2019).

Despite this, the government gives attention to the development of the textile sector and it shows a growth nowadays companies face increasing competition. Low productivity, ineffective and inefficient management structure are the main challenges to compete in the international market (Kitaw & Matebu, 2010).

Hence, in today's competitive environment companies must focus on being first to knowledge-based productivity to face constant changes. An increase in the significance of the function of the knowledge-based productivity of the company is one of the most important issues of all times. Furthermore, knowledge as strongly correlated with the overall performance of the organization (Desta et.al, 2014).

Organizational competitiveness and decision-making capabilities today are very much reliant on the knowledge base, the stronger the knowledge base the higher chance of decisions to address the complex and unpredictable competitive business conditions (Winkelen & Tovstiga, 2009). To enhance the company overall performance and to sustain its competitive advantage needs to intra-organizational knowledge integration beyond developing the individual's knowledge. (Gavrikova, 2016) states about the KI "The fundamental premise of knowledge integration lies in that the primary strategic competitiveness of the organizations can be achieved through the enhancement of organizational capabilities and competencies aided by organizational knowledge and learning."

According to Rakevicius and Auzias (2016), the Knowledge integration process can be a part of a project. Hence, its integration process implemented properly could be highly contributed to achieving the project goals during its evolution. On the other hand Rossman (1995), the firms that are not implementing KI and knowledge innovation were potential lowest on new product performance (Essays, 2018). To achieve its competitive advantage and increase product performance the author advises that the company could give attention to KI

In addition to this local researches was conducted on the viewpoint of KM rather than integration. For example Habte (2014), studied knowledge management practices in commercial banks of Ethiopia. The study pointed out that the majority of KMS is paper-based rather than practical. In addition to this study (Tarekegn.M, 2017), studied the role of knowledge management in enhancing organizational performance in selected NGOs operating at Addis. The study outcome pointed out that knowledge is a key to gain a competitive advantage, which results the superior performance of the company.

In summary, knowledge integration can be used wherever for so many purposes accordingly, this implies that a common understanding which is integration knowledge with in the industries is important for better performance. It is therefore becomes interesting to explore the process of knowledge integration for their competitive advantage and sustainability of the company.

The ultimate goal of this study is to analyze the barriers and success factors of KI and to propose a system that enables the company to enhance its overall productivity and sustain its competitive advantage. This paper would take these points in to account and design a system of knowledge integration in YATF. Therefore, it will fill the gaps that are not consider in KI system and will add some value to the existing knowledge

## **1.2.Problem Statement**

Although, Ethiopia has long history in the textile industry the sector is constrained by low worker skill, product quality, productivity and less competitive in the international market (Balchin & Calabrese ,2019). According to ETIDI (2014), report foreign sources of knowledge are the most widely mentioned source of knowledge in the sector. The reason is because there is a knowledge gap locally.

Yirgalem Addis textile factory is one of the Ethiopian integrated textile factories had a capacity of, weaving, non-waving, knitting, dyeing and garment. The company has several problems and serious challenges related to the limitation of KI identified by the researcher during the preliminary assessment that has to be dealt with and overcome to fully benefit from the intra organizational KI.

Wastage of time is occurring repeatedly especially for the new product development process. Employees spend extra time searching for information (knowledge) to help them with their work informally consequently the productivity becomes low. However, the information (knowledge) may available in other departments. Despite the resistance of the workers against any change and lack of experience to share knowledge within the factory are factors to be mentioned which are causing the KI gap to exist, the main reason behind this gap is the absence of KI .

Late delivery is also the other problem occurring repeatedly. Customers are expecting to receive the product within their due date set during the order, but mostly not implemented. Hence, products manufactured in the company pass through different stages from raw material to the final output. During these development processes, some employees are well knowledgeable and accomplish their tasks on time, but other employees and departments do not have adequate knowledge about the work. Due to this fact, the product not be completed as per customer order time and consequently, the order becomes late. This is because of the limitation of integrating the employee's knowledge at all levels to accomplish the common goal. With these problems and serious challenges in mind, this study aims to look into KI in Yirgalem Addis textile factory to enhance its overall productivity and sustain its competitive advantage. This paper enables KI in the organization both at individual level (with in adepartment) and among departments to enhance the overall performance of the company which is the core value of this study. Therefore the following key research question to be answered.

- ❖ What was the practice of KI in the case company YATF?
- ❖ What are the factors that affect KI practice in the YATF?
- ❖ What supportive action the companies take for the success of KI?

### **1.3.Objectives**

#### 1.3.1. General Objective

The overall objective of the research is to design intra-organizational knowledge integration system that enhances competitive advantage of the case company (YATF).

#### 1.3.2. Specific Objective

In order to accomplish the general objective the following specific objectives are drawn:

1. To analysis the existing system of KI practice in the YATF
2. To identify and analyze the factors that influence the success of KI in the YATF
3. To identify and analyze the barriers of knowledge integration in the YATF
4. To design and propose a system that support KI practice of the case company

### **1.4.Significance of the study**

This study is the significance of the Yirgalem Addis textile factory because it tried to analyze the event of KI on the company and propose a system for the successful implementation of KI. Furthermore, the finding of the research will help the case company YATF

- ❖ To see the need to keep the use of KI practice in order to enhance its organizational performance.
- ❖ To see its strength and weakness in the use of its employee's knowledge and work on the weakness to grasp the goal of the organization.

It is believed that this study contributes to the integration of knowledge on the manufacturing company at large. Furthermore, the finding of this research could be used as a model to integrate the knowledge of employees in the textile industry and the result can help the sector to improve its overall performance. Also, this study assists employees who working in the sector to develop a deeper understanding of the issues and how this influences the organization's achievement of its overall strategic objectives. In specific, the following significances are listed

The result of the study would highlight how the limitation of KI affects organizations performance

- ❖ Is an opportunity for the textile factories to get recommendations on KI
- ❖ The study would act as a reference in KI especially for textile factories found in Ethiopia
- ❖ It can be used as a reference for students and researchers

### **1.5.Scope of the research**

The research is focused on intra-organizational knowledge integration in YATF. Due to the difficulty of addressing extra companies the scope of this study is delimited on the case perspective and its exceptionality, the researcher believes that it can reflect the case of other companies.

### **1.6.Limitation of the study**

Although the researcher maximum efforts have been made to successfully undertake the research, different limitations affected the as- planed completion of the research:

- ❖ Covid-19 highly affect the data collection especially data were collected through interview questionnaires. The researcher wanted to include all five managers in the study interview, but one of the managers refused to be interviewed , because of Covid-19 and the other was on a long leave of absence. To cover this, two highly experienced supervisors were forced to include.
- ❖ Lack of satisfactory information from respondents. Although it was difficult to obtain satisfactory information during the data collection, the researcher was able to gather all the information needed for the study by taking the time to explain the question to the respondents and to maintain the morale of the respondents.
- ❖ Shortage of materials in particular, about intra-organizational KI in manufacturing sector. Although it was difficult to easily obtain the materials directly needed for the study, the researcher was able to find the information that was looking through using related materials.

### **1.7.Organization of the thesis**

This thesis organizes into seven chapters. Chapter one deals with the study's overall background including a statement of the problems, objective, scope, significance & limitation of the study. Chapter two focused on the literature review, which mainly concentrates on the key concept of knowledge, KI, the importance of KI, the mechanism of KI and KI process. Chapter three focused on the research methodology and methods used to govern the study which contains research design, data collection method (both primary and secondary), targeted population, sample size, sampling procedure and data analysis method. The fourth chapter focused on the overall views of the case company background. Also, contains data presentation and analysis as well as discussion of the findings. The fifth chapter deals with the proposed intra-organizational KI system. Finally, conclusions and recommendations were drawn in chapter six.

## CHAPTER TWO

### 2. LITERATURE REVIEW

#### 2.1.Introduction

Business organizations are coming to view knowledge as their most valuable and strategic resource. They are realizing that to remain economical, they must manage their knowledgeable resources and skills (Hsu, 2008; Zack, 1999). Production of a certain good or service is an output of the knowledge use efficiently and systematically. Knowledge supports in solving problems and sharing the information (Mohajan, 2019). Knowledge refers to the amount of information, experiences, skills, beliefs, and memories an individual has. Based on the above all definition knowledge should be managed to improve product quality and quantity in any organization. There are different types of knowledge management'. These are knowledge sharing, transferring, integrating, etc. The aim of this research is knowledge integration.

Knowledge integration is the process of acquiring knowledge in the organization, then sharing, assimilating, and applying it to enhance operational and organizational performance (McIver et.al, 2019). Knowledge integration mechanism is the resources which contain several processes by which organization obtains the benefit of the acquired knowledge to improve the performance. Most organizational capabilities require integrating the specialist knowledge bases of several individuals, groups, or social communities, but not at Yirgalem Addis Textile Factory plc.

According to (Haddad & Bozdogan, 2009). Knowledge integration states to the capacity to form and manage a context that motivates hidden and discrete knowledge resources. It also contributes to emerging and launching new invention and to increase productivity in the company. Therefore, our focus is on how to recognize many characteristics of knowledge to the selected company, such as transferability, capacity for aggregation in the needed department, specialization in knowledge acquisition, and the knowledge requirements of production which have critical implications for management argument. Effective knowledge integration depends on:

- ❖ The extent to which the organization accesses to individual knowledge
- ❖ The span of specialized knowledge that the organization draws upon, and
- ❖ The degree to which the organization can reconfigure the current knowledge.

In contrast (Jimmy C. Huang 2001) the integration of knowledge normally takes place in the group. The essential thought to the effectiveness of these groups is the KI process during implementation. Hence, the effort of groups in the knowledge field becomes central to organizational success. Therefore, the challenge to create new knowledge (e.g., new product development, solutions to problems) implies that the integration of knowledge from different sources becomes the key capability for a company's management to control. In this situation, Knowledge integration is should be formed by a specific bundle of relations between members of a group rather than a separate information processing system.

## **2.2.Basic definitions of knowledge**

Before we can start to talk about knowledge integration (KI), we must start by clearly defining the meaning of the word "knowledge". According to (Haddad & Bozdogan, 2009) Knowledge is the most powerful engine of production. In this view, the organization was seen as a storehouse of information, with the main focus being on the efficient utilization of this information to achieve a competitive advantage.(Paula Danskin, 2005) Also, defined as, Knowledge is a fluid mix of framed experience, important values, contextual information, and expert insight that provides a framework for evaluation and incorporation of new experiences and information. According to (Gavrikova, 2016) knowledge is the information transformed into the ability for effective action. According to (Hajric, 2018)definition knowledge originates and is applied in the mind of the knower's. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, practices, and norms.

Other researchers defined knowledge as a piece of Valuable information from the human mind (Birru Yitebarek, 2017).It includes reflection, synthesis, and context a body of facts and principles accumulated by mankind with time. Knowledge is data or information that has been organized and processed to convey understanding, skill, gathered knowledge, and expertise as they apply to a current problem or activity

Academics have debated the meaning of "knowledge" since the word was invented, but let's not get into that here. (Servin & De Brun, 2005) definition, knowledge is "the facts, feelings, or experiences known by a person or group of people. Knowledge is derived from information but it is richer and more meaningful than information.

Knowledge includes familiarity, awareness, and understanding gained through experience or study. Knowledge results from making comparisons, identifying consequences, and making connections. Some experts include wisdom and insight in their definitions of knowledge. In organizational terms, knowledge is generally thought of as being "know-how", or "applied action". The last point is an important one. Today's organizations contain a vast amount of knowledge. However, in applying knowledge management principles and practices in our organization, knowledge is not our end, but the means for further action.

There are two knowledge perspectives these are object perspective and community perspective, knowledge is perceived as an object that can be codified, stored, and distributed (Evans et.al, 2001). This means that knowledge can in part be decontextualized, codified, and transferred from one place to another place and from one person to another person. The other perspective is the community perspective, which emphasizes social relationships as knowledge development structures.

### **2.3.Types of knowledge**

Knowledge may exist in two forms formalized and non-formalized form (Gavrikova, 2016). Tacit knowledge is personal to the individual. Knowledge about needs and requirements from stakeholders, e.g. customers and internal production (Helguson & Kalhori, 2012). Within business and knowledge management, there are two types of knowledge, namely explicit and tacit knowledge (Kenney, 2006). The explicit knowledge refers to codified knowledge, such as that found in documents, while the latter refers to non-codified and often personal/experience-based knowledge (Evans & Smith, 2001; Paiva, 2003).

In run-through, all knowledge is a mixture of tacit and explicit elements rather than being one or the other. According to (Keglovits, 2013) two types of knowledge can be distinguished; explicit and tacit knowledge. The first one is based on academic information, which can be learned formally, such as the information in encyclopedias. As for the tacit knowledge, it can be gained mostly from experiences, from other people, for instance, riding a bike or speaking a language. The technocratic attitude to knowledge management views knowledge as explicit, at the same time as the behavioral approach interpretations knowledge as tacit

(Han, 2019) has famed different types of knowledge such as objective knowledge (i.e., how much an individual knows about a product), subjective knowledge (i.e., how much an individual think he/she knows

about a product), and prior experience with the product, more studies have focused on a single type of knowledge.

Sharing tacit knowledge, on the other hand, is more challenging. This is because according to (Usman, 2018) tacit knowledge represents "knowledge based on the experience of individuals. It expresses itself in human actions in the form of evaluations, attitudes, points of view, motivation, and etcetera. Usually, it is difficult to express tacit knowledge directly in words, and often the only way of presenting it is through metaphors, drawings, and different methods of expression not requiring a formal use of language. As such, the tacitness of knowledge is a natural impediment to the successful sharing of knowledge between individuals in organization (Heidi K. & Gardner, 2011). Therefore, it is a more interesting area of research.

#### **2.4.Organizational knowledge creation**

Organizational knowledge creation is the ability of organizations to generate, develop, and socialize knowledge and to actualize it in their services, products, and systems (Keglovits, 2013).Creating, learning, and implementing knowledge from others for the company's profits need the importance of knowledge transfer. It affects outcomes including financial performance, new products introduced, and innovativeness.

Knowledge is one of the most important elements of core competence, and companies try to transfer and absorb it in each interaction with their environment. There are two sources of knowledge, internal and external. The internal sources of knowledge refer to the existing knowledge residing within companies, either in headquarters or subsidiaries, by contrast, the external sources of knowledge exist outside of company, companies' partners in their cooperative actions.

According to (Evans & Easterby-Smith, 2001), Knowledge is created only by individuals. An organization cannot create knowledge without individuals. The organization supports creative individuals or provides contexts for them to create knowledge. Organizational knowledge creation, therefore, should be understood as a process that 'organizationally' amplifies the knowledge created by individuals and crystallizes it as part of the knowledge network of the organization.

The effort of authors in the knowledge field becomes central to organizational success. Therefore, the challenge to create new knowledge (e.g., new product development, solutions to problems) implies

that the integration of knowledge from different sources becomes the key capability for a company's management to control. In this situation, Knowledge integration is should be formed by a specific bundle of relations between members of a group rather than a separate information processing system. However, how individuals and groups separately learn from KI is not well addressed.

## **2.5. Knowledge integration**

According to (Siddiqui et.al, 2019; Yang, 2005), knowledge integration refers to the capacity to shape and manage a context that stimulates hidden and dispersed knowledge resources. And he suggest the management and processing of organizational knowledge are increasingly being view as critical to organizational success. According to (Guzzo & Dickson, 1996) today in the business area teamwork plays a vital role. Teams always recognize itself, as a useful machine in achieving organizational goals. This is because of its characteristics which influence the performance of the organization. In the same way, in recent views about knowledge integration, knowledge is described as inclusive of information, technology, know-how, and skills. Here information refers to the codified part of knowledge that is already captured in documents or electronic format; know-how refers to the tacit or subjective knowledge of individuals that is developed through experience and which can be embodied or embedded in technologies, products, and tools; and skill refers to the innate personal knowledge of individuals evolved through practice and learning-by-doing. This last definition does not separate information from knowledge, but it does not lump or confuse the two concepts together either (Haddad & Bozdogan, 2009).

According to (Gavrikova, 2016) Knowledge integration is a process that aims at creating, sharing and using knowledge to improve the activities and goals of the Organization, with knowledge of the Organization's processes, the specifics of their operation are a kind of skeleton, on which "grow" various types of management information. When knowledge integration takes place within the borders of the company it is referred to as intra-company knowledge integration. This study aims at developing an understanding of the process that occurs within the company when knowledge is integrated within the borders of the company.

Knowledge integration has been done by Knowledge flow, Knowledge flow within a company is effective when it is transferred simply and speedily from the place it was generated to the place it is needed. The elements of the flow are an organization, individual employees, customers, suppliers, competitors, other institutions. Flows between individuals: quicker problem solving, learning, source of motivation; flows from individuals to the organization: individual knowledge is used as business knowledge, added value to the organization's collective knowledge; Flows around the organization: enable to save time and money, promote integrated knowledge

By knowledge selecting, links, and convergence points, then formed interdisciplinary team's new knowledge needed and realize the value of knowledge, which promotes individual cognition of interdisciplinary team member sustainable development. There are two main clues in interdisciplinary knowledge associated integration, subject knowledge integration, and creative thinking association. Knowledge integration accompanied knowledge acquisition, knowledge application, and Knowledge transfer, which reflect interdisciplinary knowledge innovation activities creative, unpredictability, and uncertainty (Ziqi Jin, 2016).

From the above literatures the researcher understood that, KI among companies is very important and can enhance their comparativeness in all aspect. However, the authors were more focused on knowledge integration between companies (enter- organizational knowledge integration).So far, there is no any explanation about knowledge integration experience with in a company.

## **2.6.Importance of knowledge integration**

Different scholars explain the importance of knowledge integration in the manufacturing process. Product innovation and development speed in the market are often regarded as the keys to survival and success in today's highly competitive market environment. According to (Yang, 2005)companies are social communities that permit the cooperation in the creation and replication of partly tacit, partly explicit organizing principles of work; the idea behind the concept of combinative capabilities is that it is the knowledge integration, rather than the knowledge itself that establishes the basis of a company's competitive advantage. The importance of combination is that it reduces the need for further communication among subunits because the combination provides memory for handling the routine situation.(Shi & Wang, 2016) also said that the function of knowledge integration is to allow an

organization to leverage the information resources it has and to support purposeful activity with positive definable outcomes. Knowledge is power, but without the adequate management of that knowledge, the consequences for organizations could be devastating (Zhang, 2012; H. K. Mohajan, 2019).

In any organization knowledge management is of vital importance for organizational achievement. Active knowledge management empowers the manufacturing organization to avoid rework and waste, improves service delivery, and safeguards knowledge from loss. Knowledge management helps in the decision-making process for the benefit of the company. It determines what internally held Knowledge can be used to benefit an organization by ensuring that this knowledge is easily available to those who need it. It helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities. The purpose of knowledge integration is to enhance organizational performance by explicitly designing and implementing tools, processes, systems, structures, and cultures to improve the creation, sharing, and use of different types of knowledge that are critical for decision-making (H. Mohajan, 2017a). Therefore, Knowledge integration brings the Yirgalem Addis textile factory plc. Members closer together and add value to the product throughout the manufacturing process.

According to (Mohajan, 2017a) knowledge is the greatest important factor of production, after labor, land, and capital. It is about managing and sharing knowledge for the development of an organization. In the competitive business world, knowledge management has become more essential for the sustainable development of organizations. The integration of primary activities usually results in greater efficiency because integration saves time, reduces errors, facilitates the coordination of activities, and reduces total inventory cost. Besides, integration improves cross-functional communication and synergy, which led to a higher innovation rate and greater new product success. Knowledge sharing promotes the leveraging of individual knowledge and supports knowledge integration for value creation (Hsu, 2008).

The linking within a company's internal features and its performance is commonly known as the resource-based view of the company. It explains how the internal resources of a firm contribute to develop and sustain its competitive advantage. Knowledge and knowledge integrations are seen as one

firm resource among some others and it is highly valuable since it can be a source of sustained competitive advantage.

Knowledge integration is measure by efficiency, scope, and edibility. The efficiency of integration reflects the extent to which a capability assists in accessing and utilizing individual specialist knowledge, Scope of knowledge integration pertains to the breadth of specialized knowledge the firm capability combines and Integration flexibility is the extent capability utilizes additional knowledge by reconfiguring existing knowledge (Kenney, 2006).

The boundaries that exist between different collections, when knowledge is integrated. Depending on the features of the boundaries, in the shape of difference, dependence, and novelty, the ability to share and assess knowledge varies. Difference refers to the amount of knowledge based on experience (expert versus novice) and type of knowledge (different specialties) (Grant, 1996). Dependence between groups refers to how dependent of each other the groups are when it comes to meet common goals with the common knowledge. The importance of this common knowledge is that permits individuals to share and integrate facets of knowledge which are not common between them. Accordingly, the boundaries between groups are a challenge for the organization, but employing different boundary-spanning activities also a source wherefrom knowledge can be created.

According to (Carlile, 2004), there are different types of boundaries based on degrees of complexity: these are syntactic, semantic, and pragmatic. These three boundary types represent three different processes of boundary spanning activities: transfer, translate, and transform. Syntactic boundaries are found between groups where differences and dependencies are known and in forehand specified. Knowledge can then be transferred and integrated without interpretation. Requirements for this type of integration are that the groups that are participating must have a common language, or a common syntax, which makes the meaning of integrated knowledge the same for the sender and receiver and that the conditions are stable (Ditillo, 2004).

If these requirements are missing, i.e. if novelties arise making differences and dependencies unclear, knowledge integration necessitates an intermediate step, an interpretation process, the word translation, and define the boundary as semantic. Translation occurs when sender and receiver have

different knowledge and are "living" in different contexts which make the shared language, or syntax, inadequate, but differences and dependencies are identified and the groups understand the consequences of them without changes in their domain-specific knowledge (Zhang, 2012,)

The third concept, transformation, is the most complex form of integration and is connected to pragmatic boundaries. It occurs when understanding differences in knowledge and context also is insufficient and there must be a deeper understanding of how changes at one part will affect the other (Tsai et.al, 2015). The knowledge cannot be separated from practice and the sender and the receiver have to negotiate and change their domain-specific knowledge in a way that supports the integration (Tsai & Hsu, 2014).

Living in the information society, where information is constantly created, transferred, managed and used, leads to the phenomenon of a knowledge economy. In an economy as such, capital is defined by intellectual capabilities; therefore, knowledge is the most valuable asset of an organization (Keglovits, 2013).

Despite the variety of efforts to explain the importance of knowledge integration in the manufacturing sector the required knowledge to where and when is not clearly located. Moreover, It explains how the internal resources of a firm contribute to develop and sustain its competitive advantage. Knowledge and knowledge integrations are seen as one firm resource among some others and it is highly valuable since it can be a source of sustained competitive advantage.

## **2.7. Success factors of knowledge integration**

There are different factors that affect knowledge integration practice, identifying those factors support organizations to control and use their knowledge asset effectively and efficiently. Although, there are various factors that affect KI practice, organizational and individual (human) factors are the main once which affect the process of KI (Cross, 2000).

### **2.7.1. Individual success factor**

The success of any knowledge integration depends on the willingness and trust among individuals. Knowledge integration is related to active participation, personal interest/ commitment, awareness and

attitude of individuals to share and transfer their knowledge with others. Therefore, organizations should focus on individual factors for the success of effective knowledge integration process (Keglovits, 2013).

- a) Attitude:** is asset of behaviors and beliefs towards a particular object or event. Thus, employee's positive attitude towards knowledge integration plays a great role to capture share and transfer their experience.
- b) Awareness:** awareness in the context of KI is the degree to which all participants are aware about KI and its importance they / he could gain from the integration. Thus, awareness among employees is the initial point of knowledge integration initiative in organization.
- c) Willingness:** an agreement to do something. Thus, willingness between the source and recipient affects the success of knowledge integration.
- d) Trust:** trust among employees, plays a great role to capture, share and transfer knowledge. In order to achieve organizations goal, organizations should give priority to creating a trust between participants.
- e) Motivation:** Motivation is one of the most driving factors for individuals to capture share and transfer their knowledge. And also, knowledge integration can be managed by motivating employees. Knowledge integration can be motivated by both intrinsic and extrinsic factors.
- f) Participation:** a way of working that helps an individual's right to actively participate in the activities and interaction of day to day life as freely as possible. Thus, individual's active participation is one of the most critical factors for the success of knowledge integration.

### 2.7.2. Organizational factor

At organization level there are different factors to promote knowledge integration. However, they don't use their knowledge resources effectively, this leads to less competitive advantage as compared to organizations used more effectively (Yang, 2005). The following organizational factors are influencing the success of knowledge integration;

- a) Culture:** organizational culture is one of the key factors that affect the practice of integrating both tacit and explicit knowledge. So, for the effectiveness of KI the organization culture should be taken into account through creating an open communicative environment and through acceptance of errors.

- b) Management support:** without top management supporting through setting strategic knowledge goals, facilitating necessary conditions like budget, it is impossible to change the organization culture with respect to knowledge integration. Thus, management supporting is a key issue for the success of KI in the organization.
- c) Knowledge management:** Knowledge management is one of the critical aspects if managed properly is a valuable asset for organization or that brings the success to the organization.
- d) Incentive:** incentive system of the organization can be range from monetary (bonus or salary increment) to non-monetary (recognition or promotion) and highly impact on the process of knowledge integration.

## **2.8.KI methods and techniques**

KI is the process is the process of incorporating new information's in to body of existing knowledge. There are different techniques to incorporate the process of KI such as training programs ,Team work, Creating good communication channel and meetings (H. Mohajan, 2017b). Formal and informal meetings, discussions, observations, and conversations are also viewed as knowledge-sharing mechanisms. Routine performance reviews, team meetings, training, social networking (email, and face book or any other), good communication channel, providing a module, knowledge map and images also facilitate tacit knowledge sharing (Usman, 2018).

Although, authors pointed different techniques to incorporate the process of KI the application methods and at what types of organizations were not clearly settled.

## **2.9.Knowledge integration process**

There are two common knowledge integration types. These are composition and compilation varies in the degree to which they constrain or amplify individual knowledge variation. For highly learnable knowledge, the integration process most likely to lead to higher performance is composition, which constrains individual knowledge variation to create value through replication and repetition (Zhang, 2012; Maaninen et al., 2006). For the knowledge that is difficult to learn, the integration process most likely to lead to higher performance is a compilation, which amplifies individual knowledge variation to create value through combination and augmentation.

The extent of knowledge tacitness will have a positive influence on the amount of knowledge distinction that exists across individuals, facilitating compilation integration, and impeding

composition integration (Keglovits, 2013). When knowledge is low on tacitness, and highly learnable, composition knowledge integration processes that constrain individual knowledge variability will be both high-performing and relatively easy to implement (Bullón et.al, 2017; Jimmy C. Huangc, 2003). When knowledge is highly tacit and highly learnable, composition knowledge integration processes that constrain individual knowledge variability will be high-performing but relatively difficult to implement. When knowledge is low on both tacitness and learn ability, compilation knowledge integration processes that amplify individual knowledge variability will be high-performing but relatively difficult to implement. When knowledge is highly tacit and difficult to learn, compilation knowledge integration processes that amplify individual knowledge variability will be both high-performing and relatively easy to implement.

The highest-performing integration process is determined by the degree to which the knowledge involved in work is learnable (H. Mohajan, 2017b). However, the degree of knowledge variability likely to emerge across individuals is based on the degree to which the knowledge involved in work is tacit(H. Mohajan, 2017a). Value from knowledge comes from two sources: the knowledge itself, and from activities that integrate individual knowledge into organizational capabilities. "Knowledge integration refers to the coordination and recombination of knowledge from different individuals, disciplines, functions (H. Mohajan, 2019). Knowledge combination requires two important preconditions: decomposability of knowledge into knowledge elements that can be combined; and degree of architectural knowledge.

### 2.9.1. Knowledge capturing

Knowledge capture is a very common method of transferring knowledge. While it is often not the most effective method, it is the most visible and easiest to understand. Put in simplest terms, it's a book, a website, or an online knowledge asset. Knowledge capture is a process that involves identification, elicitation, distillation, packaging, and publishing. It is laborious and time consuming. But, when done right, it enables knowledge to move from one to many regardless of time and space.

In the current global knowledge economy, Manufacturing Organizations must focus on creating, capturing, and acquiring knowledge with the view of retaining their knowledge for enhanced organizational performance. Knowledge acquisition is concerned with how to collect knowledge from

members of the organization or other sources and store that knowledge in an organizational memory. A knowledge acquisition process in an organization aims at obtaining knowledge from both internal and external sources. This knowledge is then developed to enhance the organization's competitive edge through increasing an organization's operational knowledgebase. Knowledge acquired can either be tacit or explicit but must add value to the organization. Knowledge capture is the ability of the organization to ensure that knowledge available is stored for future reference in either databases or manuals. (Aming'a, 2015) indicated that Recruitment, Expert systems, training, Brainstorming, mentoring, Knowledge repository, Interviews and Observation are knowledge capture and acquisition mechanisms.

The individual captures, amplifies, and enlarges that knowledge by his/her reflection and perception on previously accumulated knowledge by the group. Furthermore, the captured knowledge is a result of the members' interaction with other members. Knowledge elicitation is primarily accomplished through interviews, which for this purpose are conversations between people with relevant knowledge to share and a person responsible for eliciting this knowledge. Elicitation (a step in the process of knowledge capture) is typically followed by distillation to extract key lessons and insights in concise form suitable for packaging and publishing. Knowledge distillation is the extraction of meaningful knowledge from recorded conversations, interviews, or informational events. It is a step in the process of knowledge capture.

### 2.9.2. Knowledge sharing

Knowledge sharing can improve all levels of an organization's operation. Internally, it can help develop collaboration and innovation among staff members and avoid the loss of mission-critical know-how (Leyland, 2006, ). Domestically, it can equip local partners with critical knowledge and solutions, including for policy implementation. Internationally, it can inspire new solutions and development pathways that stimulate change and reforms (Brown, 2000). Knowledge-sharing engagements require preparation, and the single most important act of preparation is listening before sharing. Organizations knowledge sharing are carryout at three levels individually, through its employees; collectively, through its teams; and institutionally, at the organizational level (Cross, 2000).

### 2.9.3. Knowledge transfer

Key knowledge of a company has to be disseminated, shared, and used within the whole company so it can become an asset whereby the performance can be enhanced. Knowledge transfer means to convey and to diffuse knowledge among different organizations or within one organization. Regular meetings, training, and personal contact are ways to convey knowledge (Liu, 2007). Knowledge transfer process is complex, which involves a continuous and dynamic process. There are three approaches to select knowledge transfer method:

- ❖ User needs – can be used, when an individual, team, or organization has a specific needs in mind.
- ❖ Context and type of knowledge – can be used when an individual, team, or organization has a specific type of knowledge to be transferred.
- ❖ Level of experience – can be used when the potential receiver of the knowledge has a specific level of experience.

### 2.10. Mechanisms of knowledge integration

In this part tried to explain how knowledge integration could be done in the company. Knowledge integration is formed by a specific bundle of relations between members of a group rather than a separate information processing system (Yang, 2005). Some knowledge is tacit, making it difficult to use unless the knowledge integrates into the company's operation. The task of knowledge integration is often accomplished by the use of structures and processes. Using the formal processes and structures ensures the access and integration of knowledge among different functional units within the company.

Some literature suggests that the use of knowledge integration mechanisms enables a company to internalize and reorganize what it has learned and to decide on how to use the new knowledge. To utilize embedded knowledge that resides within individuals or social groups companies need to integrate knowledge in the manufacturing process (Zheleva & Viklund, 2014). In the course of the integration process, leaders must decide what knowledge should be accessed, evaluate the importance, and explore the way to reconfigure knowledge companies that neglect knowledge integration processes that may fail to achieve product innovation (Hsu.T, 2013).

Research on knowledge collaboration has found that individuals often develop and rely on their organizational networks in deciding with whom to collaborate and how to collaborate (Hamid & Salim, 2011). Because of it is impossible to master all knowledge and technology by one person. Individuals prefer to develop trans active memory systems within their knowledge networks.

Tran's active memory systems are constituted by individuals using each other as a memory source which provides a new perspective for an interactive process of knowledge integration. (Keglovits, 2013) described conceptual model for knowledge integration as trans active memory systems.

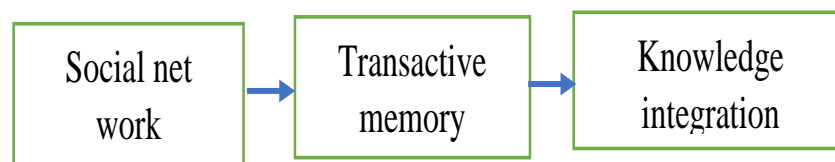


Figure 2.1: Conceptual model for knowledge integration as trans active memory systems (Peltokorpi, 2012)

As the supportive division of actor in a business organizations for remembering, learning, and communicating relevant knowledge, trans active memory systems is formed by individuals playing the role of external memory for others who, in turn, encode memories about the memories of others (Salim, 2011). Therefore, a TMS consists of the memory stores of particular individuals and any objectionably interactions in which the actors participate for better performance of the organizations. Trans active memory occurs when an individual understands what another one knows and uses that understanding to develop unlike but complementary knowledge (Ziqi Jin, 2016). The trans active memory systems construct specifically focuses on utilizing and integrating distributed knowledge, for example, expertise, making it an especially appropriate concept for understanding how individuals can optimize the value of relevant knowledge resources (Peltokorpi, 2008).

For clarity, we adopt the definition of knowledge integration: an ongoing collective process of promoting individual tacit knowledge development by transferring and sharing tacit knowledge work in organization. However, tacit knowledge cannot be shared through communication and interaction for a successful project, task, or work in an organization.

According to (Jimmy, 2003) an organization's knowledge integration capacity is determined by two crucial mechanisms, which are direction1 and organizational routines. The underlying assumption is that rather than having all specialists master all subject matters, direction enables the communication between specialists by codifying tacit knowledge into explicit rules and organizational routines reduce the need for communicating the explicit knowledge.

Knowledge integration can be represented as a two-dimensional process with members of staff sharing and exchanging their tacit and explicit knowledge. Regular knowledge integration creates new knowledge through the process of knowledge donation and collection ( K. Mohajan, 2019).

Collection of knowledge: It indicates the receiver of knowledge who must consult colleagues through observation, listening or practicing from internal and external sources, and also to encourage them to share their intellectual capital (Svetlik et.al, 2007). Donation of knowledge: It represents the willingness and eagerness of individuals in organizations to give and share their knowledge with others through listening, talking to others to develop their self-knowledge, and solve problems more quickly (De Vries et.al, 2006).

In mechanisms of knowledge integration authors tried to explain how knowledge integration could be done in the company . Mechanisms used to adopt the challenges were not quoted and the target groups are only academic researchers and the management of the company.

## **2.11. Summary and Literature Gap**

From the above literature survey on intra-organizational knowledge integration, different studies have been done. Most of the studies focused on the importance of knowledge integration and the organization's role in the effectiveness of the knowledge integration process. On the other hand, when more knowledge is integrated more challenges occur in this integration process and as a result, more mechanisms are needed to be adopted and to sustain successful knowledge integration.

Thus, from the literature outputs, it could be concluded that intra-organizational knowledge integration implemented in the manufacturing sectors is very important. But, studies on intra-organizational knowledge integration in the textile manufacturing sector were not given attention in the different reviewed literature. It is because; textile manufacturing industries especially integrated textile

industries like yirgalemaddis textile factories production process are linked from raw material to final product output. Thus, it needs the integration of all employees' knowledge for the aim of achieving the company objective.

From the above reviewed selected literatures on knowledge integration to enhance organizational performance, researchers discover (modeling) various thoughts on knowledge managements such as types of knowledge, knowledge integration processes, and mechanism of knowledge integration. Knowledge integration in the above context is done through a process of transmitting and sharing knowledge from various sources in the organizational network to where it is needed, combining it with existing knowledge, before it can be applied to accomplish complex tasks and to solve major problems.

Some of them also proposed that, the integration of knowledge is not easy task and it depends on types of knowledge (tacit or explicit), amounts of knowledge (more amount of knowledge is difficult to integrate), and knowledge difference between the actors. Not only this, but also these, have stressed on the importance of tacit knowledge to the organizations, because they associated it with terms such as skills, know-how, know-why, working knowledge, high level of expertise i.e. we can know more than we can tell. But, in fact, for manufacturing company not only tacit but also explicit knowledge is critical.

According to the above literatures the main outcome of knowledge integration is the physical or informational integration of knowledge in products, processes, systems, services, and solutions. Additionally they out source Knowledge integration as the synthesis of individuals' specialized knowledge into situation-specific systemic knowledge. Thanks to them, they showed us the important, process, capability and mechanisms of knowledge integration on the different organizations. The aim of this study is modeling of intra-organizational knowledge integration for Ethiopian Textile Industries. Specifically, this study develops an organized method for consistently integrating participants' knowledge throughout the company's duration in Yirgalem Addis Textile Factory plc.

According to the above literature reviewed there were some arguments and agreements of the researcher. Even if they wrote about the definition of knowledge, types of knowledge, and important

of knowledge integration and processes of knowledge integration most of them focused on academics rather than company based. Additionally because of most of the researches have done by business and management researchers due to this they do not have know-how about textile industry and ability it could be improve quality and productivity. Because, the sectors, also needs multi-tasking/multi skilling at all levels. The value chain comprises of spinning, weaving, knitting and garmenting. Also, it uses different materials such as cotton, jute, and wool, silk, man-made and synthetic fibres.

As the matter of fact in textile company especially for integrated company there are different departments (Air conditioning, spinning preparatory, spinning, weaving preparatory, weaving, pretreatment, dyeing and printing and finishing) (Services, 2011). Different knowledge's (skilled workers) like textile manufacturer, textile chemists, mechanics, electricians and air conditioner experts were should be needed for these different departments. However, the literature does not explicate who learns (individuals and groups) from intra-company knowledge integration. To improve the productivity and product quality of the company the above skilled workers knowledge should be integrate, but they do not integrate and recommend it on the textile manufacturing company. This research focuses primarily on how knowledge can be effectively integrating between different work groups inYirgalem Addis Textile Factory plc. The key articles used by the researcher for this study are attached to appindex F.

## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY AND APPROACH**

This part focus on the overall design of the research and methods used to govern the study. It includes research design, data collection method, and target population, sample size, sampling procedure and data analysis method.

#### **3.1. Research design**

Research designs are one of the main issues for studies to be realized. According to, different literatures and authors research design is important to facilitate various operations in smooth way. To conduct this research, mixed research (qualitative and quantitative) research design methods were applied for the purpose of gain an insight in to the factors that affect KI in Ethiopian textile industries.

##### **3.1.1. Qualitative research method**

In this study, the qualitative research method was employed to find out new facts and to give suggestions in a better way. Thus, the respondent's perception of the existence of knowledge integration was studied on the base of qualitative data. Qualitative methods of data collection were employed through observation and interview. The issues expected to be gathered from observation and interview will be further discussed in section 3.3, II&III respectively.

##### **3.1.2. Quantitative research method**

According to Cresswell (1998), quantitative data is an accurate measurement because it puts the human aspect in numerical terms. It helps the researcher to put facts in the numeric term. As outlined in chapter one section 1.4, the second and third specific objectives were designed to answer the second research question (section 1.2). Furthermore, to answer these research questions and to address the research objective compressively quantitative methods of data collection were employed through questioner survey. The issues expected to be gathered from the questionnaire survey is further discussed in section 3.3, IV.

##### **3.1.3. Mixed research method**

The mixed research approach is a way of both qualitative and quantitative data collection methods sequentially or simultaneously. Ormrod (2005), states the importance of the mixed research approach

it enables the researcher to address research questions and to answer the research objectives compressively through gathering information qualitatively and quantitatively.

As mentioned in the first chapter both general and specific objectives were drawn (section 1.3 & 1.4) to answer the research questions (section 1.2). To address these objectives mixed research (quantitative and qualitative) approach was employed as this approach helps to triangulate research findings. Thus, the analyzed data from the qualitative and quantitative findings can be contrasted and compared (triangulate) with reviewed kinds of literature for the aim of achieving well organized information during the study discussion.

### **3.2. Data source and research methodology**

In this research, different sources are identified and used for the aim of getting information and an input during the research period. Methodology applied on the research includes literature review, direct observation, personal interview and questionnaires.

**I. Literature review:** review of literature contributes towards the formation of background information needed by both the researcher to build the study constructively and the reader to understand more systematically the research outcome. In this study, the researcher used different materials such as journals, books, working papers, articles and online reference's its concern on knowledge integration to understand the concept and benefits gained by knowledge integrations (KI) and to interpreting the data collected by various instruments. And also used to triangulate findings obtained from primary data. 100 articles were found from different references. Which selected articles which was related to knowledge integration and knowledge management especially knowledge definitions, KI process, KI mechanism, KI success factors, KI challenges are found to related to this research. Among those reviewed articles 69 were selected. Finally, the literature gaps have been identified and concluded.

**II. Direct observation:** The researcher tries to find information by way of direct observation without asking from the respondents. Information such as team leaders, technicians, quality officers and supervisors experience the way of documentation to capture, share and transfer knowledge in the company. Also, direct observation was utilized for the aim of understanding

the overall attitude of the factory management regarding the KI aspects.

- III. **Personal interview:** Personal interviews were designed as a source of data to collect information's regarding the KI in terms of capturing, sharing and transferring aiming to; understood the existing habit of KI practice and to provide general onions and important aspects that need to be considered when developing a KI system design. fourteen non background interview questions were designed in terms of capturing, sharing & transferring. During the interview time process, the duration mostly took was 60-75 minutes to complete. In-depth and semi-structured interviews with open-ended questions were designed for the aim of open-end discussions with respondents in addition to specific questions. Follow up questions were also arranged to assure that the researcher would gain the significance data. Interviews and open-end discussions were taken and recorded regularly; then transcribed in written form. Interviews and essential conversations were transcribed in written form. Key participants and detailed information about the interview questions were given in appendix A.
- IV. **Questionnaire:** The questionnaires were developed from concepts of different kinds of literature that focused on KI concerns in manufacturing industries. Well-structured closed-ended questions their concerns about the KI were used to get information about the company. The questionnaire included categorical and open-ended background questions, as well as 5 point liker-scale questions asked respondents to agree or disagree with statements related to knowledge integration practices. The questions to was grouped according to the discussion objects for this research. Based on this, it is designed by grouping into four parts. The first part deals with the background information of each respondent. The second part deals with the barriers which impede KI practice in the company. The third part focused on the procedures and tools for the successful implementation of KI. The fourth part is focused on the factors that influence the success of KI practice in the company. The fourth part was divided into two sections that are individual and organizational. First, the questionnaire was developed in English then translated into Amharic and finally back into English to ensure the consistency of the meanings. Key participants and detailed in formations about the questionnaire questions were given in appendix B.

Table 3.1: Questionnaire summary

No	Variables	Number of questions	
1	General information	3	
2	Barriers that impede KI	10	
3	KI methods techniques	7	
4	Factors influencing the success of knowledge integration	Organizational factor	15
		Individual factor	11
<b>Total number of questions</b>		<b>46</b>	

### 3.3. Sample strategy

This section includes about the description of target population, sample size and sampling procedure.

#### 3.3.1. Target Population

In the company, there are three sector groups divided into different departments. Administration, finance and production are the main sectors. The production department includes Knitting, dyeing, Woven blanket and Non-woven blanket and Garment departments. As of June 2020 report, the factory currently had a total of 473 permanent employees. From this 375 are directly engaged in production and the remaining staff (98) are working in the administrative and finance area.

The target populations of all permanent employees are the respondents for the questionnaires. Because of Knowledge in a company are expected to be all inclusive. Besides, considering respondent's work within different departments & positions was likely appropriate to get different thoughts within the same issues. Detail of the target population is presented in the following table.

Table 3.2: Target population

No	Category	Department	Position	Number of employees
1	Production	Garment, Blanket, Knitting Dyeing & printing	Manager	3
			Supervisor	16
			Section head	5
			Division head	3
			Operator	316
			Technicians	23
			Quality officers	30
2	Administration	Human resource	Manager	1
			Officer	47
		Procurement and supply	Officer	14
		Marketing and sales	Officer	5
		IT	Officer	2
3	Finance		Manager	1
			Officer	7
<b>Total</b>				<b>473</b>

### 3.3.2. Sample size

In this study simple random sampling method is applied. Hence, in simple random sampling method every member of population has an equal and independent chance of being chosen. In order to get reasonable and representative sample size that supports the study findings, the following formula was used.

$$n = \frac{NZ^2P(1-P)}{e^2(N-1) + Z^2P(1-P)}$$

Source: (Ketkesone, 2009)

Where,

n= is the desired sample size

N= is target population size =473

Z = values for confidence levels are (1.645 for 90% confidence level, 1.96 for 95% confidence level and 2.576 for 99% confidence level)

P: the proportion in the target population to have a specific characteristic. If no estimate available set at 50% (or 0.50)

e= is the level of precision or sampling error = (0.05)

$$n = \frac{473 (1.645)^2 0.5(1-0.5)}{(0.05)^2 (473-1) + 1.645^2 0.5(1-0.5)}$$

n=172

Therefore, 172 sample samples were selected from the target population. Out of the total sample respondents, 5 key officials (3 team managers and 2 supervisors) 3% were considered as a sample respondent for interview. For the remaining 167 employees (operators, technicians, quality officers, division head members, administrative and finance officers),of which 97% were selected for the structured questionnaire questions.

Table 3.3: Sample respondent

No	Category	Total staff	Sample Respondents
1	Managers	5	3
2	Supervisors	16	2
3	Section head	5	2
4	Division head	3	1
5	Administration officers	68	25
6	Finance officers	7	3
7	Operators	316	117
8	Technicians	23	8
9	Quality officers	30	11
<b>Total</b>		<b>473</b>	<b>172</b>

### 3.3.3. Sampling method

An interview is conducted with 5 selected key informants purposefully (3 team managers and 2 senior supervisors). By the way, the researcher wanted to include all five managers in the study interview,

but one of the managers refused to be interviewed and the other was on a long leave of absence. To cover this, two highly experienced supervisors were forced to include. On the other hand, the reason behind choosing the purposive sampling method for the interview to select key informants; the method is useful to reach a targeted sample quickly and with a purposive sample, it is expected to get the views of the target population. The selected interviewers have years of experience working in the textile industry and having good knowledge of these concepts; knowledge capturing, knowledge sharing and knowledge transferring. On the other hand, the remaining 167 respondents (operators, technicians, quality officers, division head members, administrative and finance officers) were selected for the structured questionnaire.

To get the desired representation, a random sampling method is applied to select respondents from each department and subsections for the questionnaire because this method is simple and suitable to adopt. And it also minimizes the potential for human bias in the selection of cases to be included in the sample. As a result, together with the purposive sampling method for the interview, the researcher believed that the method is highly representative of the target population that had been studied.

### **3.4. Pre testing or pilot study**

Once the questionnaires were constructed the research instrument must be tested to check whether or not it obtained the results the researcher required. Hence, before applying to the targeted respondents in the company pilot test was conducted and based on its result the data collection instrument was redefined. To assure the reliability of the data utilizing for the pilot survey, the reliability of the pre-test was tested using the internal consistency technique by STATA and Cronbach's alpha coefficient. As a result, an alpha value 0.74 and it is taken as a good indication of reliability. Then, the researcher selects seven employees from the manager, section head, administration officer, operator, technician and quality officer for the aim of checking the relevance, clarity and chance of ambiguity of each item in the instrument on the part of the respondents. Some unclear, ambiguous and very long statements have been identified through their feedbacks and then the researcher takes correction based on the feedback obtained.

### **3.5. Reliability test**

According to Ketresone (2009), the reliability of instruments measures the consistency of instruments. In this study for items with a 5 point liker type that requested respondents how they engaged in KI, the

response scale which includes 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Based on this an internal consistency reliability was tested by STATA and Cronbach's alpha coefficient as a result as shown below in the table below which was reliable. An alpha value of 0.70 or more is taken as a good indication of reliability.

Table 3.4: Reliability statistics

Success of intra-organizational KI	Reliability statistics	
	Cronobachs alpha	Number of items in the scale
Organizational factor	0.76	15
Individual factor	0.74	11
Barriers that impede KI	0.78	10
KI methods techniques	0.72	6

**3.6.Data analysis method**

After the collection of both primary and secondary data, the data analyzed was followed. The data were analyzed using qualitative and quantitative methods. As far as the quantitative method is concerned, questionnaires administered for employees were processed, coded and analyzed using descriptive statistics such as; central tendency (mean), percentage of frequencies and measure of dispersions (standard deviations) with the help of STATA software. The reason why the researcher used stata software is simple and the researcher has been used repeatedly for various tasks in the past. It is also, useful to analyze factors such as mean, percentage of frequencies dispersions (standard deviations) and correlations ( correlation among variables or factores).

All the data collected through interviews and open-ended questions were analyzed, based on (Miles, 1994) methods of qualitative analysis.Miles (1994), methods of data analysis assist researchers in terms of data reduction, data display and conclusion drawing and verification.

The qualitative data were functioning by arranging the data according to emerging themes or patterns. The first data were stored in the spreadsheet (Microsoft Excel). Second, the data were categorized and stored by major topics, i.e. culture of the organization, knowledge management systems, challenges,

techniques and awareness of KI process. Next to that, coding followed for categorizing or sorting texts. Then, summarizing followed on the indication of codes and their correlation to each other. Finally, the collected data through the interview was described as of its representativeness.

Table 3.5: summary of data analysis

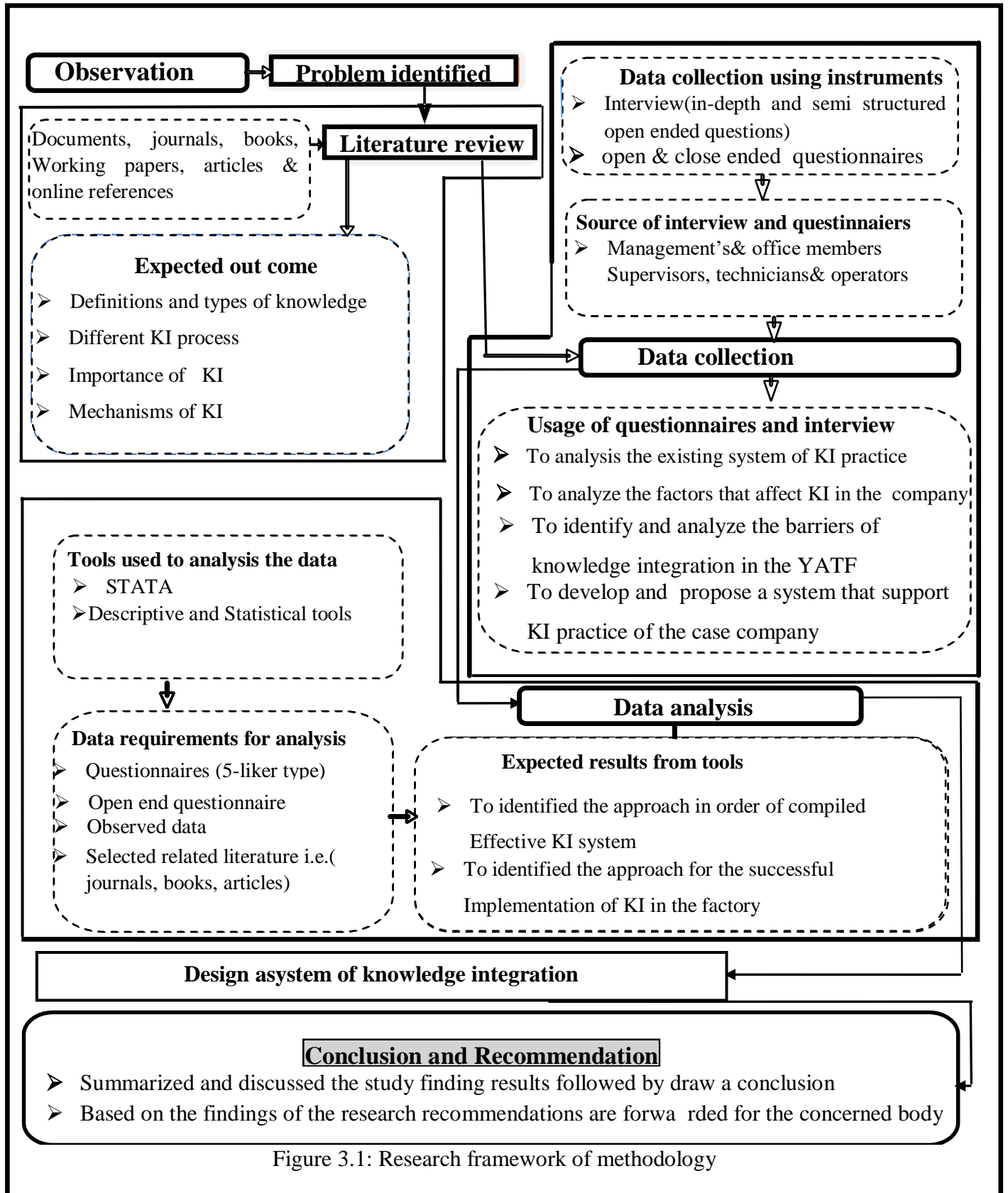
<b>No</b>	<b>Data collection method</b>	<b>Expected issues to be gathered</b>	<b>Tools</b>	<b>Method of analyzing</b>
1	Interview	<ul style="list-style-type: none"> <li>➤ Existing habit of KI practice</li> <li>➤ important aspects that need to be considered when developing a KI system</li> </ul>	Description	Thematic analysis
2	Closed ended questionnaire	<ul style="list-style-type: none"> <li>➤ Barriers of KI</li> <li>➤ tools for the successful implementation of KI</li> <li>➤ Core factors for the success of KI</li> </ul>	Excel & STATA	Describe the factors and identify their correlation
3	Observation	<ul style="list-style-type: none"> <li>➤ Way of documentation to capture, share and transfer knowledge</li> <li>➤ To understand the overall attitude and awareness of the factory management &amp; employees regarding the KI aspects.</li> </ul>	Description	Thematic analysis
Usage of the analysed data		<ul style="list-style-type: none"> <li>➤ To understand the current KIS of the organization including its strength and weakness</li> <li>➤ Used as an input for the final recommended KI system design.</li> </ul>		

### **3.7.Ethical consideration**

In order to obtain its co-operation a formal letter is submitted to the case company. Each research participant will be conducted within a convenient location and time for the interview. Respect for the dignity of research participants could be prioritized. Protect of the privacy of the study participants has to be ensured and an adequate level of confidentiality of the research data would be ensured. The participants in this research are involved voluntarily and they can draw from the study at any time without clarification and any penalty.

### **3.8.Research Frame work**

To conduct this research, different thoughts, data's and tools are considered to design the following framework. The methods to collect and analyze the data and the procedures followed to carry out the study are shown in the figure 3.1.



## CHAPTER FOUR

### 4. COMPANY BACK GROUND ,DATA PRESENTATION AND ANALYSIS

#### 4.1. Company back ground (Yirgalem Addis textile factory)

Yirgalem Addis Textile Factory PLC is a textile manufacturing company which is located in the southern part of the capital city of Ethiopia Addis Ababa at Debrezite road, Nifas Silk Lafto Sub City commonly named Adeyababa. The factory was established on July 16, 2002, E.C by six shareholders to produce yarn, blanket, knitted fabric and garment for the local and export market. The company has its organizational structure and functional departments such as production, finance, marketing and sales, engineering, HR and Administration, procurement and supply. The company chief executive officer has W/roYirgalemAssfaw, she is the major shareholder. As far, the factory has two deputy chief executive officers (DCEO) i.e. (Deputy CEO-operations and Deputy CEO-Support Services). Besides, the factory has seven managers within different departments i.e. (office administration and clinic, finance, garment, blanket, dyeing, printing and knitting). Currently, the factory has 473 permanent employees.

##### 4.1.1. Production facilities of the company

YirgalemAddis textile factory is an integrated textile factory consisting of:

- Knitting
- Dyeing
- Woven
- Non-woven
- Garment

##### 4.1.2. Products of the company

The production of the company is arranged for local as well as export market. However, greater portion of the products are sold locally. The products reach to customers through channel members such as wholesalers and retailers. Currently, yirgalemaddis textile factory PLC has produce the following products

- ❖ Finished knitted fabric,
- ❖ Garments (like: T-shirt, overcoat, under wear, sportswear, trousers and etc.),

- ❖ Woven blanket
- ❖ Non-woven blanket
- ❖ Belched yarn
- ❖ Various count of yarn
- ❖ 100% cotton Knit garment such as crew neck t-shirt, polo shirt and under wears

Even though the Yirgalem Addis textile factory is one of the Ethiopian integrated textile factories has a capacity of, weaving, non-waving, knitting, dyeing and garment. The company has several problems and serious challenges related to the limitation of KI identified by the researcher that has to be dealt with and overcome to fully benefit from the intra organizational KI. The study criteria for selecting this factory is less production rate, late delivery time to customers and less quality product

#### **4.2.Data presentation and analysis**

In this will discuss the result, discussion and interpretation of the data collected through interviews and questionnaires. In this section, there are four sections. The first section was focused on the background information of respondents. The second part deals with the data analysis and results on the knowledge integration system aspects. The third part focused on the discussions of overall findings. The last section was proposed an improvement systematic intra organizational knowledge integration system that enhances the competitive advantage of the case company (YATF).

#### **4.3.Questionnaire result**

##### **4.4.Back ground characteristics of the results**

The first analysis of data includes profiling the background characteristics of the respondents. In conducting this study, the quantitative data were collected through a questionnaire administered to 167 respondents work in YATF. The qualitative data was also collected using 5 key informants. Accordingly, the key demographic characteristics of respondents in terms of the level of education, position (job title) and service time (years) of the respondents who are currently working in yirgalem Addis textile factory PLC and participated in this study are presented in table 6, as shown below. The educational background of the respondents revealed that 32(19%) were below grade 10th. 98(57 %) were grade 10thcompleted. 26 (15%) have a college diploma. 16 (9%) of the respondents were first degree holders. Even though the case company (YATF) has more than 10 years of experience most employees, 130 (75.6%) have been 1-5 years of service time. 37 (21.5%) of the respondent have 5-10

years of working experience. The other 2.9 % of 5 respondents have above 10 years of service time. Those respondents were brought from other textile factories for their experience. The majority of employees of 75.6 % (130) were in a low range of service time. It indicates they have been less experienced in the textile sector. This is because there is a high rate of labor migration in the sector for various reasons such as wages and job inconvenience. That implies service year and level of education have their impact on the knowledge integration process.

As it is an integrated textile factory consisting of different departments and positions (job title), 1.7% (3) were from a managerial position. 1.2 (2%) of respondents were from the supervisor. 1.2% (2) were from section head, 0.6% (1) were from division head, 14.5% (25) of respondents were from the administration office, 1.7% (3) were from the finance office, 68% (117) were from the operator, 4.7% (8) were from the technician and the rest 6.4% (11) were from quality officer.

Table 4.1: Back ground characteristics of respondents

No	Item	Respondents	
		Frequency	%
Level of education	Below grade 10th	32	19
	grade 10th completed	98	57
	college diploma	26	15
	BA/ B.Sc. degree	16	9
	<b>Total</b>	<b>172</b>	<b>100</b>
Position (Job title)	Managers	3	1.7
	Supervisors	2	1.2
	Section head	2	1.2
	Division head	1	0.6
	Administration officer	25	14.5
	Finance officer	3	1.7
	Operators	117	68
	Technician	8	4.7
	Quality officers	11	6.4
	<b>Total</b>	<b>172</b>	<b>100</b>
Service time (years)	1-5	130	75.6
	5-10	37	21.5
	Above 10	5	2.9
	<b>Total</b>	<b>172</b>	<b>100</b>

#### 4.5. Factor that influence the success of knowledge integration

There are a lot of factors that influence the success of intra-organizational knowledge integration. In this study, the questionnaire was designed through reviewed different kinds of literature (see appendix D).

The success of intra organizational knowledge integration in YATF is assessed in this section by categorization in two levels, which are individual and organizational level. The researcher used different factors to assess the success of knowledge integration. Every factor has one or more questions to elaborate on the indication. From each question, the average response of the respondents was taken. For example for the culture of the organization about knowledge integration, there are four questions the average response taken because it has a common factor.

##### 4.5.1. Factors descriptive statistics of organizational level

At the organizational level, the success factor of knowledge integration in YATF is assessed based on different factors. It includes incentive system, communication, management support, knowledge management & culture of organization were used as indicators. As can be seen, the mean values for intra-organizational knowledge integration success vary from 3.87 to 2.51. The standard deviation “StdDev.” indicates how far the respondents’ responses to a question diverge from the mean. Also tells that the respondents concentrated approximately the mean or scatter far and wide. The maximum rating was an incentive system; it is the most important factor that affects KI practices followed by communication, management support, KM and culture of the organization with their descending order.

Table 4.2: Descriptive statistics of organizational factor

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>
Incentive	3.87	1.27
Communication	3.42	0.49
Managementsupport	2.82	0.86
Knowledgemanagement	2.72	0.86
Culture of organization	2.51	0.63

### **a) Incentive**

Incentive systems in the organization have been considered in two ways such as monetary and non-monetary incentives (acknowledgment and rewards).

Firstly, the respondents were asked does the company has any monetary incentives to encourage staff for their contribution. accordingly, 99% of them respond that the company doesn't provide financial incentives to individuals. Regarded to non-monetary incentive systems of the company to encourage employees for their contribution, 7% were agreed the company provides non-monetary incentives such as reward and acknowledgment. On the other hand, 53% and 38% of the respondents strongly disagreed and disagreed respectively regarded to non-monetary incentive systems of the company to encourage employees for their contribution to organizational knowledge development. Moreover, 88 % of the respondents agreed that the overall incentive system of the company is not clear enough. Interview respondents also assured that the company doesn't provide both financial and non-monetary incentives. Therefore, this analysis concludes that employees of YATF have felt that the incentive system is not motivational.

### **b) Communication**

Communication at the organization level to capture, share and transfer knowledge has been assessed in two ways. Firstly, the respondents were asked does the company has any implementable documents that help to properly capture and share knowledge and which are easily understood by employees. accordingly, 95% of the respondents strongly agreed that there are no implementable documents that help to properly capture and share knowledge but, 5% in different regarding the issue. Also, respondents were asked about intra-team communication in YATF, accordingly 87% of respondents confirmed that there is good intra-team communication.

The researcher was also, interviewed participants to find out about the internal culture of communication and assistance within the organization. Regarded to the issue, four of the five interview respondents were able to ensure that there is good communication experience in their department. During the data collection at a different time, the researcher also observes that there was a good culture of communication within the organization. So, it can be concluded that intra-team communication in YATF is a better position.

### **c) Management support**

Management support in the company has been considered in two ways. Hence, respondents were asked to assure whether the management encourages KI and facilitate the necessary conditions for the aim of organizational knowledge or not. Accordingly, about 17% and 59% of the respondents agreed and strongly agreed that the leaders of the company encourage and support knowledge capturing, creation, sharing and use respectively. But, 24 % of the total respondents said that leaders of the company don't encourage and support knowledge creation, sharing and use.

The other question forwarded to the respondents were regarding the management of the organization does encourage employees to suggest ideas for the aim of organizational knowledge development. As a result, 33% and 45% of the respondents agreed and strongly agreed respectively on the issue that the management in the organization encourages employees to suggest ideas for new opportunities for the aim of organizational knowledge development. But, 12% and 8% of the respondents strongly disagreed and disagreed respectively on the idea that the management in the organization encourages employees to suggest ideas for new opportunities, whereas 2% is indifferent.

Similarly, as it is indicated in the table, 61% and 33% of the respondents strongly disagreed and disagreed respectively the question regarding the existence of the necessary conditions facilitated by the management like budget and periodic plan to capture and organize knowledge in the organization. This means, about 94% of the total respondents believed that there was no budget and periodic plan to capture and organize knowledge in the organization. Therefore, from the response of the above questions regarding the first two questions ideas and contributions of employees were respected by the leaders and employees felt that their ideas are used in decision making and problem-solving. But, regarding the budget allocation and periodic plan to capture and organize knowledge in the organization the management is not in good condition.

Questions were also provided to interview respondents concerning management support to encourage knowledge integration. As a result, one of the respondents stated that some management members tried to support knowledge exchange among employees by motivating that the employees learn from others. However, at the organizational level interview respondents assured that the management

supporting the aim of organizational knowledge development through providing an incentive system and facilitating necessary conditions (training program, workshop and seminars) is not enough. so, from above responses and the researcher observation it can be said that the company KM system is not in a good position.

#### **d) Knowledge management**

Knowledge management is one of the critical aspects if managed properly is a valuable asset for the organization. Because of that, the respondents were asked different questions to assure whether the company knowledge management system is well or not. The result revealed that the company is not a good position regarded in knowledge management. So far, 65% and 27% of respondents strongly agreed and agreed that there is no activity for gathering, organizing and using internal and external knowledge. Only 8 % was different. The other question asked the respondents was the use of existing knowledge. Accordingly, 80% of the respondents assured that the company doesn't use the existing knowledge inappropriate way. Only 20% were agreed.

Interview respondents were also asked whether the existence of a system routine or guideline for capturing, sharing and transferring their knowledge. Concerning this, most of them agreed that there is no formal system or guideline. So far, the respondents said that if employees want to know something he/she ask the member department or other member department. Therefore, from the response of the above questions and conducted an interview the company KM system is not in a good position.

#### **e) Culture of organization**

The organizational culture is one of the key factors that affect the practice of integrating both tacit and explicit knowledge. Four questions were designed in the questionnaire survey to ask for respondents' opinions about the organization culture to improve KI practice. Accordingly, 95% of respondents strongly disagreed on the question regarding the company has a clear process for transferring better experiences including documents and lessons. Regarding the coordination and teamwork culture of the company, three questions were forwarded to respondents. 18% and 22% of the respondents strongly disagreed and disagreed on the idea that collaboration among employees in the company. But, 32% of the respondents were indifferent and 28 % of the respondents felt that coordination in the company is

good. Similarly, 76% of the total respondents' believed that teamwork in the company doesn't encourage. Only, 4% and 6% of the respondents were strongly agreed and agreed respectively that teamwork in the company is encouraged. 14% were indifferent to the issue. Thus it can be concluded that coordination and teamwork in the company are in a medium position.

Table 4.3: Summary of organizational factor analysis

No	Organizational factor	Specific question	Availability				
			Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1	Incentive System	The organization provides financial incentives to individuals who have successfully solved the problem by sharing knowledge with others	99%	1%			
		The organization provides non-monetary incentives to (acknowledgement and reward) individuals who have successfully addressed the problem by sharing knowledge with others.	53%	38%	2%	7%	
		Overall, the incentive system is clear enough	88%	6%	5%	1%	
2	Communication	There are implementable documents in the company that help to properly capture and share knowledge and which easily understood by employees	95%	5%			
		There is good intra-team communication and transferring of knowledge in my organization			13%	37%	50%
3	Management support	leaders encourage and support knowledge capturing, creation, sharing and use		24%		17%	59%

No	Organizational factor	Specific question	Availability				
			Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
		Management encourage employees to suggest ideas for new opportunities for the aim of organizational knowledge development	12%	8%	2%	33%	45%
		The management creates the necessary conditions, such as budget, timely planning, to capture and organize knowledge within the organization	61%	33%	6%		
4	Knowledge management	The company use appropriate knowledge management system to share knowledge	65%	27%	8%		
		The use of existing knowledge in the organization is encouraging	80%			20%	
5	Culture of organization	The organization has worked to raise awareness among employees by clearly articulating the objectives of knowledge integration.	95%	3%	2%		
		employees in the company coordinate with one another in doing tasks very well	18%	22%	32%	28%	
		Teamwork in the company is highly encouraged	76%		14%	6%	4%

#### 4.5.2. Factors descriptive statistics of individual level

At the individual level, the success factor of knowledge integration in YATF is assessed based on different factors. It includes motivation, trust, attitude, participation, willingness and awareness were used as indicators. As can be seen, the mean values for intra-organizational knowledge integration success vary from 4.17 to 2.31. The maximum rating was employee's motivation for intra-organizational knowledge integration success followed by trust, attitude, participation, willingness and awareness with their descending order.

Table 4.4: Descriptive statistics of individual factor

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>
Motivation	4.17	1.15
Trust	3.57	0.85
Attitude	3.25	0.64
Participation	2.38	0.81
Willingness	2.34	0.48
Awareness	2.31	1.01

##### **a) Motivation**

Motivation is one of the most driving factors for individuals to capture share and transfer their knowledge. And also, knowledge integration can be managed by motivating employees. Concerning this, the study result shows that 52% strongly agreed and 28% agreed that they are highly motivated to share and transfer their knowledge and experience with others. 12% were indifferent and 8% doesn't agree on the issue.

##### **b) Trust**

Trust is an essential attribute for the success of knowledge integration and can encourage collaborations among individuals in an organization or organization. In this regard, respondents were asked to provide whether they trust to share/transfer knowledge with the company stakeholders or not. As a result, 24% agreed and 67% strongly agreed on the presence of trust to transfer or share knowledge to company stakeholders. 9% were in different. Therefore it can be concluded that YATF is in a better position about employees trust to share/transfer knowledge with company stakeholders.

### **c) Attitude**

The attitudes of employees on personal competitiveness concerning knowledge transferring and sharing were asked to respondents, as shown in the table below 96% of them strongly agreed that knowledge transferring and sharing would not reduce their competitiveness. However, 64 % and 19% of respondents strongly disagreed and disagreed respectively that knowledge transferring and sharing may lead to a waste of their time. This means 83 % of respondents believed that knowledge transferring and sharing leads to a waste of their time whereas, 10% were indifferent. Similarly, 76% of respondents don't believe that knowledge transferring and sharing doesn't increase their workload. Hence from this analysis, it can be concluded that employees of YATF have a better attitude towards knowledge transferring and sharing.

### **d) Participation**

An Individual's active participation is one of the most critical factors for the success of knowledge integration. Concerning this, two questions were forwarded to the respondents to express their level of agreement on their participation to improve their knowledge and experience. In line with this, 79% confirmed they are actively participating in team work to update their knowledge and experience. 3% were different. But, 18% reported that don't actively participate in teamwork to update their knowledge and experience. Similarly, as it is indicated in the table, 61% and 23% of the total respondents confirmed that they are actively participating in the company training programmers such as peer teaching, workshops, seminars and meetings to improve their knowledge and experience respectively. The remaining 16% were different.

### **e) Willingness**

The willingness of the source and recipient affects the success of knowledge integration. In this regard, two questions were forwarded to the respondents to express their level of agreement on their willingness to share and transfer knowledge to the company stakeholders, as shown in the table below. In line with this, 100% confirmed their willingness to share and transfer their knowledge with others. Similarly, 96 % of the total respondents confirmed their willingness to learn from others formally or informally. Also, the researcher observe that employees willing to help others with their experience and knowledge as well as to learn from others. Therefore it can be concluded that YATF is in a better position concerning employees' willingness to help others as well as learn from others.

### **f) Awareness**

Employees' awareness about knowledge integration can be considered as one of the most important issues in the organization that can promote intra-organizational knowledge integration in terms of capturing, sharing and transferring. With regard to their level of awareness, respondents were asked whether they have a good understanding of the objectives of knowledge integration, 85 % of the respondents strongly disagreed on the issue. This implies that most of the respondents are not well aware that their knowledge is an organizational asset. The other question asked to respondents about awareness was whether they are well aware that knowledge integration (capturing, sharing and transferring) is one of their duties, 34% and 64% of respondents strongly agreed and agreed that knowledge capturing, sharing and transferring is not their duties respectively. This means most of the company employees are not well aware of knowledge integration.

Table 4.5: Summary of individual factor analysis

No	Individual factor	Specific question	Availability				
			Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1	Motivation	I am very motivated to share and transfer my knowledge with other employees		8%	12%	28%	52%
2	Trust	I trust to share/transfer knowledge with company stakeholders			9%	24%	67%
3	Attitude	Sharing /transferring knowledge would reduce my personal competitiveness	96%	4%			
		Sharing /transferring knowledge with others would waste time	64%	19%	10%	7%	
		Sharing /transferring	76%	20%	2%	2%	

No	Individual factor	Specific question	Availability				
			Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
		knowledge with others would increase my workload					
4	Participation	I am actively participate in team work to update my experience		18%	3%		79%
		I am actively participate in the company training programmers such as, peer teaching, workshops, seminars and meetings to improve my knowledge and experience		10%	6%	23%	61%
5	Willingness	I am willing to help when asked to help others with my knowledge and experience					100%
		I am willing to learn from others in a formal or informal way				4%	96%
6	Awareness	Emoloyees have a good understanding of the goals of knowledge integration	39%	48%	13%		
		I know that sharing knowledge is one of my duties	34%	64%		2%	

#### 4.6. Correlation and factor analysis

In this study, correlation is used to determine and analyze the relation between factors raised by the respondent results. The effect size varies between 0 (no relationship) and 1 (perfect positive relationship). As a general rule of thumb, the following cut-off points have been considered:  $r < 0.1$  weak,  $r < 0.3$  modest,  $r < 0.5$  moderate,  $r < 0.8$  strong and  $r \geq 0.8$  very strong.

##### 4.6.1. Analysis of organizational measurement

Based on descriptive statistics organizational extents that highly affect factors are selected from the respondents. Accordingly, the study creates a correlation among organizational variables (culture, management support, communication, KM and incentive). The result indicates that culture of the organization strongly correlation with incentive system. This means if the organization culture towards KI is changed will improve the overall incentive system of the organization. systems of KI has a modest correlation with management support, whereas moderate correlation with culture. If the management support employees through necessary conditions, such as budget, timely planning, to capture and organize knowledge that will improve the culture of the organization towards KI. Proper knowledge management strategies and policies of the organization, has a strong positive correlation with management support . Meaning that, if the company has clearly defined and align goals with policies and strategies of the company the management can support KI process accordingly. Proper recognition and reward have a strong correlation with management support and communication, Similarly a very strong correlation with KM. If the organization provides both monetary and non-monetary (recognition and reward) incentive system can be improving systems of knowledge management for the aim of intra-organizational KI.

Table 4.6: Correlation of organizational factors

Variable	Culture of organization	Management support	Communication	KM	Incentive
Culture of organization	1				
Management support	0.607	1			
Communication	0.696	0.447	1		
Knowledge management	0.734	0.857	0.588	1	
Incentive	0.849	0.773	0.759	0.862	1

#### 4.6.2. Analysis of individual measurement

Based on descriptive statistics individual extents those highly affects factors are selected from the respondents. Accordingly, the study creates a correlation among individual variables(attitude, awarness, wilingness, trust, motivation, and participation). The result indicates that ,Attitude strongly correlation with willingness. If individuals' attitudes towards KI is changed those become willing to capture, share and transfer their experience and knowledge to others. Individual'swillingness has a moderate correlation with awareness. Trust has a modest and strong correlation with I1 and I2 respectively, and a very strong correlation with Willingness. This implies that, if there is trust among employees the will willing to share and transfer their experience. Individual's motivation to share and transfer their experience and knowledge has a modest and moderate correlation with trust and motivation respectively, also strongly correlation with attitude and awarness. Meaning that individuals have motivated to share and transfer knowledge with other employees will improve attitude and awareness. Individuals' active participation has a moderate and strong correlation with (willingness& trust) and (attitude& motivation) respectively. Moreover, Individuals' active participation in teamwork or any training programs are given by the company such as peer teaching, workshops and seminars will improve employees' awareness.

Table 4.7: Correlation of individual factor

<b>Variable</b>	Attitude	Awarness	Wilingness	Trust	Motivation	Participation
Attitude	1					
Awarness	0.707	1				
Wilingness	0.848	0.628	1			
Trust	0.787	0.556	0.929	1		
Motivation	0.797	0.766	0.523	0.486	1	
Participation	0.724	0.911	0.554	0.515	0.875	1

#### 4.7.Knowledge integration techniques

An analysis of a list of KI tools was carried out to examine the implementation of these tools in the case company and to evaluate their importance for the successful application of KI. As a result, only 17% were agreed on the availability of job training. Moreover, 65% of the respondents disagreed on the availability of job training and 18% were indifferent. 78% of

respondents strongly disagreed on the availability of regular meetings to support knowledge management, utilization and exchange. However 14% were agreed on the availability of regular meetings to support knowledge management, utilization and exchange; 8% were indifferent on the issue. 88% of respondents disagreed on the presence of setting important images or maps in the right place to facilitate knowledge exchange. On the other hand, 10 % of the respondents agreed on the issue. 2% were indifferent. 73% of the respondents disagreed on the usage of different techniques like email, Facebook, or any social networking for knowledge exchange and 24% of them agreed on the usage. 3% were different. On the other hand, 66% of respondents felt that an organized line of communication channels within the company to facilitate knowledge exchange is not appreciable. Whereas, 29% of the respondents confirmed that the communication channel within the company is appreciable,5% were indifferent. Similarly, 72 % of the respondents disagreed with the extensive use of modules to help employees to gather and share their knowledge; 24% were agreed on the issue. The other tool considered in this study was the encouragement of teamwork to improve knowledge sharing and transferring among employees. Accordingly, 39% and 58%of respondents strongly disagree and disagree on the encouragement of teamwork in the company for the aim of improving knowledge sharing and transferring among employees. 3% of the respondents were different.

On the other hand, the ranking was given by the respondents for each 7 KI implementation techniques. Accordingly, the minimum value implies the higher the priority to be considered as an important technique. In this regard, a regular meeting has been taken as the first important tool for the effectiveness of KI in the company following job training. All the ranks have depicted in the table below.

Table 4.8: Rank of usefulness of techniques for KI proposed in this research (by respondents)

<b>No</b>	<b>Items</b>	<b>Rank</b>
1	Job training	2
2	Regular meeting	1
3	Knowledge map and images	5
4	Social networking (email, and face book or any other)	7
5	Creating good communication channel	6
6	Providing a module	3
7	Team work	4

#### 4.8.Barriers of intra organizational knowledge integration

In this section, the barriers that hinder intra- organizational knowledge integration response of 10 questions were analyzed. Hence, all ten variables reflect the barrier that may hinder knowledge integration in YATF. Thus, as shown in Table 14, these variables are analyzed in the context of YATF based on the rankings given by respondents. Accordingly, the minimum value implies the higher the priority to be considered as a barrier. In this regard, lack of awareness has been taken as the first barrier that hinders knowledge integration in the company following the culture of the organization. Lack of management support is also confirmed by the respondents as a barrier in the third place. Similarly, lack of proper intra-communication systems is placed as a fourth and limitation of employees actively participating in any knowledge exchange activities like training and meeting ranked by the respondents as a fifth place for impeding knowledge integration practice. Lack of an incentive system, lack of enough time and lack of trust because due to assuming knowledge is power ranked by the respondents as 6th, 7th and 8th places respectively for impeding knowledge integration practice. Regarding the two variables i.e. lack of proper use of knowledge integration techniques; and lack of proper knowledge management system were ranked at 9th and 10th places respectively.

Table 4.9: Rank of barriers of knowledge integration (by respondents)

No	Barrier	Rank
1	Lack of awareness	1
2	culture of organization	2
3	Lack of management support	3
4	Lack of proper use of knowledge integration techniques	9
5	lack of proper knowledge management system	10
6	Lack of incentives	6
7	Lack of trust	8
8	Lack of time	7
9	Lack of participation	5
10	Lack of communication	4

#### **4.9.Existing system of knowledge integration in company**

One of the objectives of this study is to investigate the existing KI practice of the case company yirgalem Addis textile factory. Thus, after analyzing and triangulation of the datas collected through interviews, closed ended questionnaire and observation the following main issues were identified about the existing KI system of the organization.

##### **4.9.1. Awareness about the goals of KI within the organization**

Understanding the goals of doing anything contributes to the success of the work. One of the purposes of this study is to identify the goals of KI and to demonstrate how these goals can be achieved within the organization. Therefore, the researcher used a variety of methods to understand the organization's understanding of the goals of KI. Accordingly, the concept of the integration of knowledge within the organization is presented as an organization and as an individual.

Among the questions was that the organization had worked to clarify the goals of the KI. Regarded to this question, 95% of the respondents stated that the organization did not set the goals of the integration of knowledge. The three managers and two supervisors interviewed also stated that the organization has not been able to create awareness for the staff by clearly articulating the objectives of the integration. Also, during data collection, the researcher observed that the organization did not clearly state the goals of knowledge integration, either in the area of the billboards or in the documents.

On the other hand, employees are asked to understand their understanding of the goals of KI as individuals 85% said they did not understand. Also, during the interview, the researcher asked the participants to describe the objectives of the KI, and he noticed that the participants were having difficulty expressing the objectives of the KI. The above suggestions show that both the organization and its employees do not have a clear understanding of the purpose of knowledge integration.

##### **4.9.2. In terms of providing resources to achieve the objectives of KI**

Adequate human and material resources are needed to effectively integrate knowledge into an organization. Participants were asked questions in this regard, including whether the management allocates a budget for organizational knowledge updating like for training. 61% and

33% of the respondents strongly disagreed and agreed respectively the question regarding the existence of the necessary conditions facilitated by the management like budget and periodic plan to capture and organize knowledge in the organization. This means, about 94% of the total respondents believed that there was no budget and periodic plan to capture and organize knowledge in the organization.

Another question posed to the participants was whether the organization has the internet infrastructure to achieve its KI objectives. Four of the five participants interviewed (2 managers and 2 supervisors) stated that the organization did not have adequate Internet infrastructure, and one of the managers stated that the organization did not have Internet infrastructure. Also, the researcher was able to observe that the Internet was limited to certain areas, such as managers and some administrative offices. On the other hand, the researcher observes that there are two halls for training and exchange of knowledge; But now the company has not used them much.

In addition to material resources, human resources play a major role either to capture the company knowledge resource or properly stored. During the field visit the researcher understood that in the company there are a small number of key employees (especially supervisors) whose continuation is very important for the company; if these employees separate from the company by any means is a serious risk for the company. So, it is very important to share its knowledge and experience with all concerned members of the organization. Moreover, participants were asked questions about using and sharing the knowledge and experience of employees within the organization. Accordingly, 80% of the respondents assured that the company doesn't use the existing knowledge inappropriate way. Only 20% were agreed. On the other hand, in terms of the organization's human resource allocation and contribution to the integration of knowledge, the participants said that the current human resources structure of the organization is good if it is used properly.

#### 4.9.3. In terms of properly capturing and managing the knowledge resources within the organization

For the organization to work efficiently based on knowledge, it is necessary to properly capture and manage the knowledge resources of the organization. Therefore, the researcher is trying to understand the knowledge capturing and management of the organization.

Accordingly, The respondents were asked different questions to assure whether the company knowledge management system is well or not. The result revealed that the company is not in a

good position regarded in knowledge management. So far, 65% and 27% of respondents strongly agreed and agreed that there is no activity for gathering, organizing, and using internal knowledge.

Interview respondents were also asked whether the existence of a system, routine, or guideline for capturing, sharing and transferring experiences and to express the technique if any. Concerning this, among five respondents three of them agreed that there is no formal system or guideline. These three participants (2 managers and 1 senior supervisor) confirmed that the organization lacks the form to manage knowledge and the experience to handle good practices.

On the other hand, the remaining two participants (one working in the garment and one work in dyeing) stated that the daily activities in their room were recorded, especially when there were new products. The researcher was able to see that there is an experience in recording quality-related works, especially in the garment and dyeing area.

#### **4.10. Discussion of findings**

According to the detailed analysis made earlier and actual observation, the researcher identified the factors that encourage or discourage knowledge integration practice in the company. The factors affecting knowledge integration could be categorized into two ways such as organization and individual factors. This is because, for organizations to manage their knowledge based assets, they must primarily understand factors that affect knowledge integration at the individual level. About the individual level, the study result revealed that willingness is the most important factor that affects knowledge integration practice followed by motivation, trust, and participation in teamwork, awareness and attitude towards knowledge transferring and sharing. Willingness plays a great role in knowledge integration in terms of capturing, sharing and transferring. Without an individual's willingness, it is difficult to achieve the organizational knowledge integration process. In this study, 98% and, 96% of the respondents assured their willingness to share and transfer their knowledge with others and learn from others formally or informally respectively. The other most important factor considered in this study was individuals' awareness about KI. The result of the study revealed that most of the respondents are not well aware that their knowledge is an organizational asset. Moreover, 52% and 35% of the respondents strong disagree and disagreed on the issue. Similarly, the majority (95%) of the study participants don't believe KI as their duty.

At the organizational factor culture of the organization, top management support, and techniques

of knowledge integration, KM and incentive systems were used in this study. Managements can lead the company to actively and dynamically create knowledge by understanding and providing the knowledge vision of the company, developing and promoting knowledge integration assets, and creating a convenient environment to exchange knowledge (Brown, 2000).

In this study, as mentioned in the previous section (5.4, b) management supporting were considered in different ways. Moreover, 65% of the total respondents said that leaders of the company don't encourage and support knowledge creation, sharing and use. Similarly, 77% of the respondents disagreed on the existence of the necessary conditions facilitated by the management like budget and periodic plan to capture and organize knowledge in the organization. However, further analysis from the interview indicated that management encourages employees to suggest ideas for the aim of organizational knowledge development. This indicates that employee's ideas were respected by the leaders and they felt that their opinions are used in decision making and problem-solving.

The organization members must be motivated to participate in the KI process other ways no or inadequate knowledge will be probably integrated (Kenney, 2006). With this regard, 88 % of the respondents agreed that the overall incentive system of the company is not clear enough. Therefore, it can be concluded that employees of YATF have felt that the incentive system is not motivational. Proper use of appropriate techniques is essential to be effective in capturing, sharing and transferring knowledge. In this regard, 95% of the respondents strongly agreed that there are no implementable documents that help to properly capture and share knowledge (section, 4.5.1.b ).

The other important organizational factor for knowledge integration is a proper system of knowledge management. According to Carlile (2004), Knowledge management is a fundamental and mandatory issue that brings success to the organization. From the analysis of quantitative and qualitative data, there are problems confirmed by respondents about managing organizational knowledge in YATF. Limitation of activities like gathering, organizing and using internal and external knowledge; lack of appropriate knowledge management system to capture, and share knowledge; Limitation of using existing knowledge in the organization were the major once which are basic for designing knowledge integration strategy.

In general, from both qualitative and quantitative analysis, the result revealed that the existing intra- organizational knowledge integration practice in the company is not a good position. Moreover, there is no effort made in integrating organizational knowledge. The knowledge of the company is dispersed here and there under individuals and there is no centralized approach to achieve organizational goals.

## **CHAPTER FIVE**

### **5. SYSTEM DESIGN DEVELOPMENT AND DISCUSSION**

#### **Introduction**

This chapter of the paper was intended to answer the research objectives. As analyzed and discussed in the previous chapter, it needs to propose an implementable KI system that contributes to the knowledge integration system of the case company. The development of the system design is based on the literature review, quantitative data collected through a questionnaire survey, and qualitative data collected through interviews. The KI system aims to improve the overall competitiveness of the company. The important characteristics which make the system of KI preferable are compatibility with the knowledge and skill of the user (i.e. ease to use), compatibility with existing tools and techniques, addressing the possible KI factors, flexibility to apply for every operation as per necessity. The system of KI needs management commitment for its effective implementation.

As discussed in chapter two section 2.10, different researchers develop different systems of KI and suggest the use of knowledge integration systems from a different perspective. However, there is no explicit method published to develop an intra-organizational KI system design. Hence, much effort has been exerted to make it as comprehensive, simple, and clear as much as possible. In addition to the research effort to evaluate and improve the proposed system interviews were conducted with selected experts working in the textile industry.

#### **5.1.Goals of the system**

The nature of the core business of YATF indicates that the company needs to properly handle its knowledge for the sustainability of the competitiveness in terms of productivity, product quality of products and excellent service delivery for customers based on their order. During the field visit the researcher understood that in the company there are a small number of key employees (especially supervisors) whose continuation is very important for the company; if these employees separate from the company by any means is a serious risk for the company. So, it is very important to share its knowledge and experience with all concerned members of the organization. All over, based on analysis of the organization business context and KI problems, the following KI system goals are identified:

1. **Enabling the organization to properly manage basic knowledge assets:** To be successful and competitive as an organization, an organization needs a well-organized and updated knowledge management system. YATF is an integrated textile factory that has many departments and professionals. Therefore, the knowledge of these professionals in an appropriate and organized manner will enable the organization to be more efficient and competitive. Thus, this system helps the organization to manage the knowledge assets in each department properly.
2. **Reuse of documents, reports, ideas and experiences:** reuse of past pieces of information acquired from the company day to day activities helps to avoid past mistakes, save time, minimizing rework and prevent problems.
3. **To create integration and easy access to existing knowledge resources:** better utilization of information and knowledge at the proper time will increase quick decision making process of the company.
4. **To develop employees potential by creating well learning environment:** Most of the people in the organization are considered to be more knowledgeable, with more experienced employees such as managers, supervisors and section heads. However, if the company loses these professionals by any means, there will likely be a gap in the organization's performance. As a result, the system allows employees to learn from each other and contribute better to the organization, rather than relying on specific professionals.
5. **Enabling departments to work with other departments to fill the knowledge gap:** This means that all departments work for the same purpose (for the success of the organization), making the organization more effective by covering one knowledge gap and learning from each other (sharing their knowledge).

## **5.2. Enabling resources that help to realize the system**

The main resources in the case company that help to capture, share and transferring knowledge are:

1. **Human resource:** One of the main resources used to realize the system of knowledge integration is the human resource. This refers to the employee's competence and creativity to solve problems. It is the company's renewable source. Thus, human resources play a major role either to capture the company knowledge resource or properly stored. Also, the new system of KI should not only explicitly capture and store knowledge but also facilitate sharing, transferring and making practical use of the available knowledge. So, to capture,

store, share and transfer all knowledge assets of the company (either tacit or explicit) human resources were considered as the main enabling resource in the system design.

2. **ICT plat forms including internet and intranet:** Once the knowledge is stored in the knowledge repository database it needs access to the stakeholders of the company. Thus, it can be accessed by using transferring tools such as the internet, intranet and communication tools (manuals, video and audio player). The intranet is an organization's private network implemented using internet protocols for the aim of exchanging information (or knowledge stored in the knowledge repository database). So, these ICT platforms help to share knowledge between individuals or departments via email, telegram, or any social network.
3. **Hall:** The company's two main types of knowledge have been distinguished such as explicit and tacit. Tacit knowledge of the company is non-codified and often personal/experience-based knowledge and it is difficult to capture and document. So, to share and transfer these types of knowledge such as employee's perceptions, opinions, skills and experiences through the regular meeting, discussion forums, training and seminars enough hall should be available.

### **5.3.knowledge assets of the organization**

This section of the system describes types of knowledge resources needed in the company that can be processed, stored, shared and transferred through the organizational KIS. This knowledge resource represents the real asset of an organization and can be advanced into further valuable assets for the aim of enhancing the company's competitive advantage. In the company, two main types of knowledge have been distinguished such as explicit and tacit. Although, these knowledge sources are available and useful for the organization it needs to classify. The reason for classification is having different nature that requires different methods and procedures to capture, share, transfer and re-use. Explicit knowledge source of the company is found in two ways, either from computer format (soft copy) or in paper-based format, so it can be easily captured, shared and transferred. Reports, manuals and documents are the main sources among the explicit knowledge of the company. Tacit knowledge of the company is non-codified and often personal/experience-based knowledge, so it is difficult to capture and documented, however, can be shared and transferred through direct or indirect contact. Employee's perceptions, opinions, skills and experiences are the main sources of tacit knowledge of the company.

#### 5.4.knowledge assets of departments

For making the system manageable, classifying the company process and defining major functions is essential. Also, to conceptualize the knowledge-related activities to some kind of hierarchical structure which may give a consistent basis of capturing, sharing and exchanging and understanding the creation and flow of knowledge among interacting participants or process activities. Each department has its knowledge assets. The knowledge types and flow relationship data was collected during the data collection via interview and observation examples of each department knowledge asset were given in the appendix G. Based on the overall activities performed and organizational structure, the company process can be classified to:

1. **Production process:** The major functions of this process are production planning, manufacturing products, checking and control the quality of the products. YirgalemAddis textile factory is an integrated textile factory consisting of:
  - A. Knitting
  - B. Dyeing
  - C. Woven
  - D. Garment
2. **HR and administration:** The major functions of this process are hiring necessary employees, conduct training to improve the skills of an employee, preparing a job description for individual employees, performance appraisal for each department and individuals.
3. **Accounting and finance:** Preparing yearly financial statements, controlling the company bank settlement activities, follow up on proper utilization of cost&budgetare the major functions of accounting and finance.
4. **Procurement and property:** The major functions of this process are purchasing and supplying materials at the right place, time, price and quality. organizing and regulating materials handling and movement.
5. **Sales and marketing:** The major roles of this process are expanding the marketing segment, promoting & increase sales volume, receiving sales orders from customers and follow up the order, delivering the products to the customer at the right quantity, quality and time.

## **5.5. Knowledge integration process**

Intra-organizational knowledge integration means to handle the content and richness of knowledge within the company. Thus, it is essential to choose appropriate techniques for integrating knowledge. Therefore, in this study, intra-organizational knowledge integration means directly prompts the knowledge integration process forward. The company needs to adopt the appropriate technique for integrating knowledge. Techniques used for facilitating the process of KI are identified and discussed in the previous chapter (section 4.7).

### **5.5.1. Knowledge integration with in a department (among individuals)**

As stated in the introduction, one of the purposes of this system is to enable employees in each department to learn from the best knowledge and experience of the staff and enabling the company from dependent on a few individual's knowledge. Therefore, how departments can share and use their employee's knowledge in an organized way will be described clearly in the following stages.

#### **1. Knowledge capturing**

Each department is required to properly record critical knowledge values. To this, department heads need to appoint a professional who can better record the knowledge values in their department. Department knowledge assets recorded in section 5.4.5, is considered to be useful as example.

#### **2. Knowledge filtering**

The knowledge that is captured from the departments needs to go through the filtering process. Once knowledge is captured it needs to filter before storing in the knowledge repository. Thus, the captured knowledge needs to integrating, summarizing and sorting. It is best the cleaning process is done by a supervisor and approved by the department head.

#### **3. Knowledge repository**

A knowledge repository is used as an organization memory and preservation of knowledge assets that could be used to share company knowledge resources systematically. And also, it can be used as an abridge that facilitates knowledge capturing and using. Also, includes the knowledge that is gained from best practices, reports, well-developed modules employee's best experiences

or any important knowledge assets. Hence, for easy retrieval of the stored knowledge, it could be stored within proper indexing. The knowledge repository database should be handled by a person who is responsible and assigned by the department head.

#### **4. Knowledge sharing**

Once, departments record basic knowledge assets and put them in the right place it will be easier to share with staff members using a variety of techniques. As discussed early section (5.2.) there is two knowledge resource in the company called as tacit and explicit. However, they have not similar characteristics. Furthermore, explicit knowledge sources of the company can be, register either in the from computer format (soft copy) or in a paper-based format, so it can be easily captured, shared and transferred. Reports, manuals and documents are the main sources among the explicit knowledge of the company. Tacit knowledge of the company is non-codified and often personal/experience-based knowledge, so it is difficult to capture and documented, however, can be shared and transferred through direct or indirect contact. Employee's perceptions, opinions, skills and experiences are the main sources of tacit knowledge of the company. So explicit knowledge types can be shared with the help of telegram group and email accesses. On the other hand, tacit knowledge asset types are difficult to write and share. So, it can be shared through job training, motivating teamwork, regular meetings (weekly, monthly, or any other) depends on the nature of the department.

#### **5. Knowledge updating**

In addition to sharing knowledge with staff members in each of the departments, it is important to update the knowledge repository when new jobs and processes are available. Therefore, it is very important to update the system at least every three months when there are new knowledge values due to the hard workers and creativity of the staff or the dynamics of the work. The reason for this is that every three months, it is important to note that new orders are coming into the organization at least every three months. The reason for every three months is to say that, as the data from the organization shows new orders will arrive in the organization at least every three months.

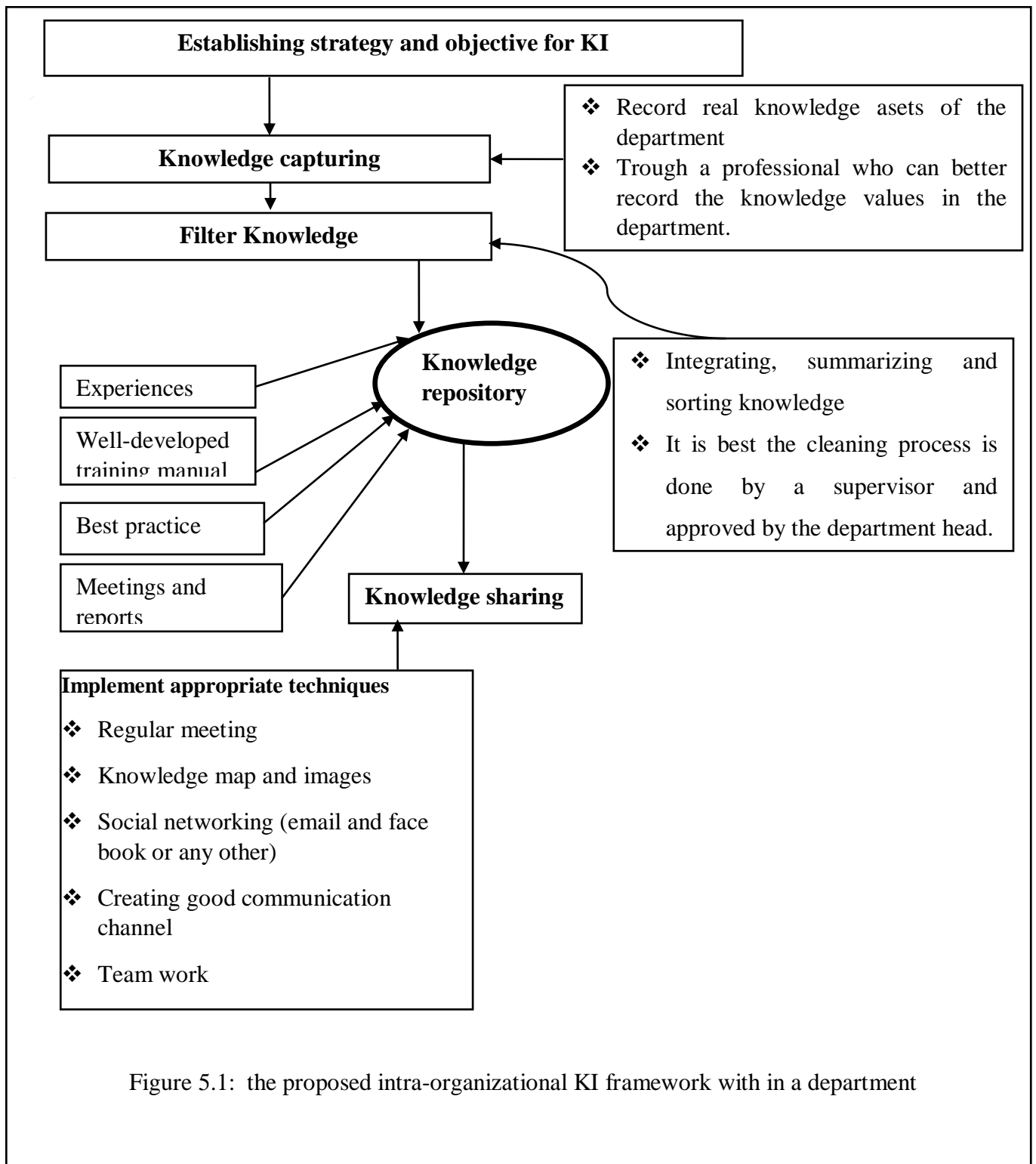


Figure 5.1: the proposed intra-organizational KI framework with in a department

### 5.5.2. Knowledge integration among departments

Production departments such as weaving, knitting, printing and garment are the main departments (based on the case company) that play a major role in general day-to-day manufacturing operations. Accordingly, knowledge integration among these departments plays a major role to enhance the overall company performance. Figure 3 shows knowledge sharing between production departments such as between knitting and garment, weaving and garment, printing and knitting, printing and weaving printing and garment. The production departments have a high interaction rate and a large amount of information, reports and documents were exchanged every day. So, to achieve the company objective in terms of product quality, on-time delivery to customers order and to enhance productivity appropriate knowledge sharing among departments is a very critical issue. As discussed in chapter four (section 4.7) knowledge (both tacit and explicit) were exchanged by different mechanisms including regular meeting (daily or weekly), job training, reports, social networks (telegram group, email). The internet is also used as a platform to disseminate and exchange knowledge.

As departments work for the common purpose of the organization, one of the purposes of this system is to share the knowledge assets of one department with others. In connection with this, the researcher tried to explain in the following way which department will share the knowledge value for which department will make the organization more effective.

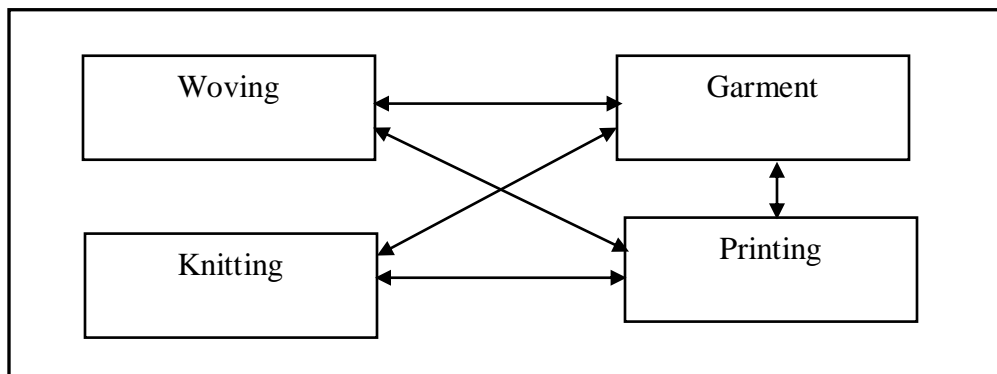


Figure 5.2: Department interaction and knowledge flow

#### 1. Knitting and Weaving versus garment department

Since most of the garment raw materials (fabric) are mainly from the weaving and knitting departments, there is a great deal of information and knowledge exchange between these

departments on a daily today's manufacturing operation. Therefore, it is important to systematically share the knowledge of the departments as many knowledge assets can be shared by departments. The garment department also imports weaving and knitting fabric inputs following customer orders for a better quality of sewing products. Concerning this, the researcher was able to confirm by interview and observation that there is a better knowledge of fabric quality and packaging in the garment department. Therefore, if the garment department shares its experience of fabric quality and packaging with the weaving and knitting departments, it will highly contribute to the quality of the product. This can be done by developing a knowledge sharing plan from the garment department (months or weeks) and providing a better performance of the organization regarding garment product quality.

## **2. Weaving and knitting versus Printing**

One of the most important inputs for textile printing is the quality and production and handling of the fabric on which it is used. Therefore, it is possible to do a better printing if the printing department shares the knowledge of the weaving and knitting departments on how the fabric should be produced and stored in a way that is suitable for printing.

### **5.5.3. Knowledge integration among production departments with other supporting departments**

To perform the overall objectives of the company effectively the above process activities (production departments) knowledge assets must be coordinated to other supporting departments. Also, supporting the department's knowledge assets should be integrated into each other for the aim of accomplishing the company objective. When HR and administration process hires relevant employees and gives adequate training can contribute to the company's performance. When the finance and accounting process allocates adequate budget and cash by controlling the finance, the performance of the company can be improved.

By purchasing the right material from the right source at the right amount, quality, time, and cost and implementing a stock control framework, utilizing acquirement and property administration process can increase the company performance. The overall performance of the company depends on each department's performance, each process activities function well the company's performance can improve. Hence, most of these activities are associated with the exchange of knowledge (both tacit and explicit) within different departments of the company. For example,

the purchasing department received information from the production department on which specific material is required for the requested product.

### **1. Printing versus purchasing department**

The printing and dyeing department uses different types of ink for printing, and most of these raw materials purchases are made by the purchasing department. However, The researcher was able to confirm in an interview that this sometimes differentiates between the purchased color criteria like color accuracy and color quality from the printing and dyeing order. Therefore, to solve this problem, the printing and dyeing department properly shares its knowledge with the purchasing department, it will solve the problem and reduce the unnecessary expenses of the organization. Therefore, it is possible to improve the performance of the organization by minimizing problems by sharing documents through telegram or e-mail with selected professionals (supervisors and team leaders) from the printing and dyeing department. In addition, for tacit knowledge types providing job training to purchasing will contribute to the overall printing process.

### **2. Garment versus purchasing department**

For the garment department inputs like needle threads and scissors are exhaust quickly and need-to-change on time. But these items, the needles, are like a machine; The color and type of threads vary according to the type of fabric that is sewing. However, these inputs are usually purchased by the procurement department, although they are sometimes accompanied by experts from the garment department. However, the researcher was able to confirm that there is a better knowledge of the inputs than in the procurement department. Therefore, the garment department by using its own knowledge and experience prepare detailed information about the most frequently used inputs and store them in the knowledge repository and update the knowledge repository when new knowledge resources are available. Then shared to the procurement department by email or telegram through a representative (supervisor or manager). It helps the organization from unnecessary costs.

Like the garment department, other departments can also be effective in terms of quality and productivity by sharing the required knowledge resources to other departments from their knowledge repository through using social media (email or telegram). In addition, the organization can be able to a better performance by sharing tacit knowledge types through

meeting and job training techniques for procurement and other concerned departments. Consequently, the company can deliver the required product or customer order at the time of order. Quality and productivity increase and the competitiveness of a company will enhance.

Table 5.1: Summary of knowledge integration among department

Knowledge Integration			
knowledge Integration among departments	Examples of knowledge exchange among departments	Techniques used to knowledge integration	Resources used to integrate knowledge
Knitting versus garment department	knowledge of fabric take off activity from the machinery	Social networking (email, and face book or any other)	Internet/interanet
	Fabric quality	Training, Meeting	Hall
	Knowledge of fabric unfolding and spreading	Knowledge map and images	Stationary materiale
	Knowledge of fabric folding	Job training	Hall
knitting versus Printing	knowledge of fabric and materials properties	providing a module	Stationary materiale
	Knowledge of colour fastness and durability	Job training	Hall
	knowledge of standards about colour	Social networking (email, and face book or any other)	Internet/interanet
	which dyeing and printing material with the datail recipe is needed	Meeting	Hall
Printing versus purcheasing department	Knowledge of raw materials property	Job training	Hall
	Monitor store inventory based on sales and intake	Social networking (email, and face book or any other)	Internet/interanet
	knowledge of fabric and materials properties	Job training	Hall
	Knowledge of colour fastness and	Job training	Hall

Knowledge Integration			
	durability		
	knowledge of standards about colour	providing a module	Hall
	which dyeing and printing material with the detail recipe is needed	providing a module	Stationary materiale
Garment versus purchasing department	Knowledge of raw materials property	Job training	Hall
	Quality of raw material (Yarn, Button)	job training, sharing through Social networking (email, and face book or any other)	Internet/interanet and hall
	Knowledge of packing materials	Job training,	

### 5.6.Evaluation of the system

In addition to the research effort to evaluate and improve the proposed system interviews were conducted with selected experts. Thus, Four key experts, especially those with extensive experience in the textile industry, have been asked to review the proposed system. The interview aims to investigate respondents' evaluation and understanding of the proposed KI system in terms of usefulness, ease of use, applicability, completeness and structure. Detailed information about the interview questions was given in appendix E.

Table 5.2: Interviewees profile

Respondents profile	Profile	Total experience
R1	Textile engineers with experience in the textile and garment industry as a supervisor, line leader and team leader	8 years
R2	Textile engineer with experience in the textile and garment industry as a supervisor and team leader	6 years
R3	An industrial engineer with experience in the chemical and textile industry as operator and supervisor	6 years
R4	Having a degree of masters in business administration with experience in different industries including textile and garment as a senior officer and manager	14 years

### **5.7.Experts interview findings**

To evaluate the proposed KI system, the developed system was presented to the respondents. Thus, the researcher described the main functions of the proposed KI system and its benefit. Also, to incorporate the respondent's comments and suggestions the researcher tried to analyze the survey responses. Accordingly, most of the feedback received from the respondents was positive and they all agreed on the importance of the proposed system. Experts also believe that if the company can implement this system, it will be able to solve the production and quality problems caused by the knowledge gap.

However, they offered to explain the process of KI to improve and enhance the understanding of the system. accordingly as shown in the proposed system the process of KI was explained. Another issue that participants raised as a weakness in the proposed system were that the system should not be limited to the integration of knowledge into production areas. With this in mind, the researcher tried to include how the integration of knowledge can be implemented out of production departments especially, with key supporting departments like purchasing.

## CHAPTER SIX

### 6. Conclusion and Recommendation

#### 6.1. Conclusion

The aim of this research to develop a system on how to integrate knowledge in terms of capturing sharing and transferring within a textile manufacturing company a case of Yirgalem Addis textile factory. The system was developed through the findings from the analysis of quantitative data collected from the questionnaire and qualitative data collected from semi-structured interviews and researcher observation. The system can help to improve the awareness and understanding of both organizational and individual levels about intra-organizational KI. In general, the conclusions of this research are presented according to the main objectives of the study.

- ❖ One of the objectives of this study is to examine the existing system of KI practice in YATF. Hence, the finding of this study reveals that knowledge integration in terms of capturing, sharing and transferring among employees is carried out mostly in an informal way rather than in an organized and formal way. In general, from the conducted questionnaire, interview and observation the result revealed that the existing intra-organizational knowledge integration practice in the company is not a good position. Moreover, there is no effort made in integrating organizational knowledge. The knowledge of the company is dispersed with individuals and there is no centralized approach to achieve organizational goals.
- ❖ The second objective of this study was to identify and analyze the factors that influence the success of KI practice. In this regard, different questions under organizational factors and individual factors were grouped and forwarded to the respondents. Concerning organizational factors (culture, management support; techniques, knowledge management & incentive system) were used as indicators.

At the organizational level, the success factor of knowledge integration in YATF is assessed based on different factors. It includes culture, management support; techniques, knowledge management & incentive system were used as indicators. The majority of the respondents strongly claimed the incentive system and management support. Moreover, 65% of the total respondents said that leaders of the company don't encourage and support knowledge creation, sharing and use. Similarly, 77% of the respondents disagreed on the existence of the necessary

conditions facilitated by the management like budget and periodic plan to capture and organize knowledge in the organization. Similarly, 98 % of the respondents agreed that the overall incentive system of the company is not clear enough. 95% of the respondents strongly agreed that they have difficulty obtaining implementable documents that help to properly capture and share their knowledge with others. From this, it can be concluded that there exists a limitation of management support, lack of proper use of knowledge integration techniques, lack of proper knowledge management system and lack of clear and enough incentive system were organizational factors that affect intra-organizational knowledge integration.

At the individual level, the success factor of knowledge integration in YATF is assessed based on different factors. It includes attitude, awareness, willingness, trust, motivation and participation were used as indicators. As result, willingness is the most important factor that affects knowledge integration practice followed by motivation, trust, and participation in teamwork, awareness and attitude towards knowledge transferring and sharing.

- ❖ The third objective of this study was to identify and analyze the barriers that hinder knowledge integration practice in the YATF. Addressing this objective required various kinds of literature were reviewed and ten main challenges were identified; from which three of them were identified as the main barrier: lack of awareness, the culture of the organization and lack of management support has been taken as the 1st, 2nd and 3rd barrier respectively that hinders knowledge integration in the company.
- ❖ The last objective of this study was to develop a system on how to integrate knowledge within yirgalem Addis textile factory. In this regard, as discussed in the previous chapter KI system was developed. Hence, the proposed KI system presented the process of capturing, sharing and transferring knowledge within the case company. Also, interview were conducted to validate the proposed system and the findings from the questionnaire survey were entertained accordingly.

## **6.2. Recommendation**

Based on the findings of the study the following recommendations are proposed for practice and future work:

### **I. For practice**

- ❖ Top management should encourage employees to suggest ideas for new opportunities for the aim of organizational knowledge development.

- ❖ YATF should organize implementable documents in the company that help to properly capture and share knowledge and which easily understood by employees.
- ❖ Incentive systems both monetary non-monetary (recognition and reward) should be implemented to inspire employees to improve their knowledge capturing and sharing practice.
- ❖ Creating awareness of KI attitude and its importance
- ❖ Creating good organizational cultures (teamwork and collaboration and innovative)
- ❖ Build trust among employees

## **II. For future work**

This research has developed a system of intra-organizational knowledge integration within a textile factory in a case of YATF. However, there are several areas of future researches that can be followed by considering this research as a starting point.

- ❖ Based on the proposed system, should provide a detailed strategy to integrating knowledge and experience of employees by preparing a schedule within a specified period and improving its continuity
- ❖ future researches on other similar manufacturing companies are strongly recommended to upgrading the proposed KI system.

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## **Appendix: A**

**Addis Ababa University**  
**Addis Ababa Institute of Technology (AAiT)**  
**School Of Mechanical and Industrial Engineering**  
**Graduate Program in Industrial Engineering**

Dear participants;

My name is MihretuWubie and, I'm a master's graduate student at the School of mechanical and industrial engineering. This questionnaire is designed to gather information on intra-organizational knowledge integration in yirgalem Addis textile factory. The main purpose of this questionnaire is to obtain information about the company overall experience about intra organizational knowledge integration.

The information you provide will not implicate you individually in any way. Your response will be used in aggregate with other respondents avoiding any individual identification. Thus, your honest and unreserved response to the questions is appreciated very much.

Your kind cooperation is very much appreciated.

If you need any clarification please communicate me through the following addresses.

Mobile: +251-9-38-31-06-77

E-mail: mihretuwubie18@gmail.com

With best regards!

MihretuWubie

## **Key terms**

In order to ensure that all participants have the same understanding of knowledge integration practice, the following terms are defined:

**Knowledge integration (KI):** is a process that aims at creating, sharing and using knowledge to improve the activities and goals of the Organization

**Intra organizational knowledge integration:** knowledge integration with in the company

**Knowledge capturing (KC):** an iterative process of identifying the source of tacit or explicit knowledge and using appropriate techniques and technologies to retain it.

**Knowledge sharing (KS):** The process of capturing tacit or explicit knowledge and using appropriate techniques and technologies to transform it into shareable form, and share it between individuals in a group or organization involved in a project

**Knowledge Transfer (KT):** The process of moving previous knowledge, experience, and skills of individuals and groups to a new area in order to share and reuse captured knowledge that would lead to development of new ideas, processes, and practices.

## **Part 1: Interview guiding questions for factory key officials (Managers and supervisors)**

- Would you explain your educational background, your position and department in the organization, and also your work experience?
  1. How is repetitive work (information) and knowledge recorded or documented with in your department? (culture)
  2. Does the organization has worked to raise awareness among employees by clearly articulating the objectives of knowledge integration
  3. please mention the goals of intra organizational knowledge integration
  4. Does the management facilitate the necessary conditions like budget, periodic plan to capture and organize knowledge in the organization? (Management support)
  5. Does the management encourage employees to suggest ideas for new opportunities for the aim of organizational knowledge development? (Management support)
  6. What do you think of intra-team communication and sharing of knowledge in the company? (communication)
  7. does the company has the internet infrastructure to achieve the goals of knowledge integration
  8. What do you think of knowledge management? In your opinion how explain the current status of knowledge management in your organization?(KM)
  9. Does the company have any incentive system to facilitate knowledge capturing, sharing and transferring among employees (incentive)
  10. In your opnion, how to explain employees approach suchas; theirattitude, awareness, willingness, tust, motivation and participation towards KI?
  11. What problems have you encountered/ expect in the process of capturing, sharing and transferring knowledge in your department? Please explain in detail? (Challenge)
  12. What knowledge assets doeshave in your department? please mentioned the core knowledge assets in the department?
  13. What do you think of implementation tools used for intra- organizational knowledge integration? Please explain it? (techniques)
  14. In your opinion, what measures should the company take in order to success for capturing, sharing and transferring experiences effectively?

## **Appendix B: Questionnaire Survey English version**

### **Structured questions prepared for the employees and administration officers**

#### **General Instructions:**

In the following part there will be some liker scale questions please circle the response that best describes your opinion in the scale.

#### **Part 1: Personal Information:**

1. What is your educational back ground?

a. Below grade 10    b. grade 10 completed    c. college diplomad. BA/ Bsc    e. M.Sc.

2. Position

a. manager    b. Supervisorsc. Section headd.Division head e. Administration officer

f. Finance officer g. Operator    h. TechnicianI. Quality officer    j. manager

Other: please specify it-----

3. Work experience in the company in years

a. 1- 5 years    b.5-10    c. More than 10

Read each statement carefully and respond to each item by expressing your degree of agreement or disagreement by ticking (‘√’) one of the alternatives for each question scale:

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

## Part 2: Factors (Individual and organizational) influencing the success of KI

### Organizational level

No	Code	Organizational factor	Availability				
			1	2	3	4	5
1	O1	The organization has worked to raise awareness among employees by clearly articulating the objectives of knowledge integration					
2	O1	Employees from different departments frequently interact to discuss work-related issues					
3	O1	employees in the company coordinate with one another in doing tasks very well					
4	O1	Teamwork in the company is highly encouraged					
5	O2	leaders encourage and support knowledge capturing, creation, sharing and use					
6	O2	Management encourage employees to suggest ideas for new opportunities for the aim of organizational knowledge development					
7	O2	The management creates the necessary conditions, such as budget, timely planning, to capture and organize knowledge within the organization					
8	O3	There are implementable documents in the company that help to properly capture and share knowledge and which easily understood by employees					
9	O3	There is good intra-team communication and transferring of knowledge in my organization					
10	O4	In the company, there is different activities for gathering, organizing and using internal and external knowledge					
11	O4	The company use appropriate knowledge management system to share knowledge					
12	O4	The use of existing knowledge in the organization is encouraging					
13	O5	The organization provides financial incentives to individuals who have successfully solved the problem by sharing knowledge with others					
14	O5	The organization provides non-monetary incentives to (acknowledgement and reward) individuals who have successfully addressed the problem by sharing knowledge with others.					
15	O5	Overall, the incentive system is clear enough					

## Individual level

No	Code	Individual factor	Availability				
			1	2	3	4	5
1	I1	Sharing /transferring knowledge would reduce my personal competitiveness					
2	I1	Sharing /transferring knowledge with others would waste time					
3	I1	Sharing /transferring knowledge with others would increase my workload					
4	I2	Employees have a good understanding of the objectives of knowledge integration					
5	I2	I know that sharing knowledge is one of my duties					
6	I3	I am willing to help when asked to help others with my knowledge and experience					
7	I3	I am willing to learn from others in a formal or informal way					
8	I4	I trust to share/transfer knowledge with company stakeholders					
9	I5	I am very motivated to share and transfer my knowledge with other employees					
10	I6	I am actively participate in team work to update my experience					
11	I6	I am actively participate in the company training programmers such as, peer teaching, workshops, seminars and meetings to improve my knowledge and experience					

### Part 3: KI techniques

No	Tools used to implement knowledge integration	Availability				
		1	2	3	4	5
1	Our department provide job training for employees					
2	Our department organizes regular meetings to support knowledge management, utilization and exchange					
3	To facilitate the sharing and transfer of knowledge, our department places important images or maps in the right place.					
4	Our department encourage employees to use different techniques i.e. (email, Face book or any social networking) to capture and share knowledge					
5	There is a good line of communication channel within the company to facilitate knowledge exchange					
6	Our department develop modules to help employees in order of gather and share their knowledge					
7	Our department encourage team work to improve knowledge sharing and transferring among employees					

Which of the following technique considered as the most critical factor for knowledge integration in your company? Please rank as 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup>.

- \_\_\_\_\_ A. Job training
- \_\_\_\_\_ B. Regular meeting
- \_\_\_\_\_ C. Knowledge map and images
- \_\_\_\_\_ D. Social networking (email, and face book or any other)
- \_\_\_\_\_ E. Creating good communication channel
- \_\_\_\_\_ F. providing a module
- \_\_\_\_\_ G. Team work

**Part 4: List of items used to analyze barriers of knowledge integration**

No	Challenges for the success of knowledge integration	Availability				
		1	2	3	4	5
1	Employees are well aware of the importance of knowledge exchange					
2	In the company there is a clear process for capturing, sharing and transferring better experiences including documents and lessons					
3	The organization facilitates knowledge integration platforms (workshops and seminars) on a regular basis.					
4	The company has different activities for gathering, organizing and using internal and external knowledge					
5	There is good knowledge management system in the company					
6	In my organization, lack incentive system discourage staff for their contributions to the development of organizational knowledge					
7	Employees doesn't share/transfer knowledge because they think knowledge is power					
8	Employees don't share/transfer knowledge because they have not enough time					
9	In our department employees are actively participated for any knowledge exchange activities like training and meeting					
10	Lack of proper intra-communication systems is one of challenges faced knowledge integration					

Which of the following considered as the most critical challenge of knowledge integration in your company? Please rank as 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>

- \_\_\_\_\_ A. Lack of awareness
- \_\_\_\_\_ B. culture of organization
- \_\_\_\_\_ C. Lack of management support
- \_\_\_\_\_ D. Lack of Proper usage of Knowledge Integration Techniques
- \_\_\_\_\_ E. lack of proper knowledge management system

- \_\_\_ F. Lack of incentives
- \_\_\_ G. Lack of trust
- \_\_\_ H. Lack of time
- \_\_\_ I. Lack of participation
- \_\_\_ J. Lack of proper communication

# Appendix C: Questionnaire survey Amharic version

አዲስ አበባ የኒሽርስቲ

አዲስ አበባ ቴክኖሎጂ ኢንዱስትሪዎች (አ.አ.ቴ.ኢ.)

የሜካኒካልና ኢንዱስትሪያል ምህንድስና ትምህርት ቤት

ድህ-ረምረቃ በኢንዱስትሪያል ምህንድስና

በይርጋለም አዲስ ጨርቃ ጨርቅ ፋብሪካ ሠራተኞች የሚሞላ መጠይቅ

ውድ ተሳታፊዎች:-

ምህረቱ ወ.ቤ እባላለሁ በሜካኒካል እና ኢንዱስትሪያል ምህንድስና ትምህርት ክፍል የድህረ ምረቃ ተማሪ ነኝ።ይህ መጠይቅ የተዘጋጀው **Intra-Organizational Knowledge Integration system design With in Textile Industries Acase of Yirgalem Addis Textile Factory** በሚል ለሚካሄደው ጥናታዊ ፅሁፍ ሲሆን አላማውም በፋብሪካ ውስጥ ለድርጅታዊ ዕውቀት አያያዝ፣ልወወጥ እና ተያያዥ መረጃዎችን ለመሰብሰብ የተቀየሰ ነው።መጠይቁን በሚሞሉበት ጊዜ ስምዎንም ሆነፊርማዎትን ማስቀመጥ የማያስፈልግ ሲሆን ከመጠይቁ የሚገኙ ምላሾችን ቃቄና ሚስጥራዊነቱ በተጠበቀ መንገድ የሚሞላና የሚቀመጥ ነው።ይህንንም ግምት ውስጥ በማስገባት መጠይቁን ሲሞሉ በነፃነትና በትክክለኛ መንገድ እንዲሞሉ በአክብሮት እየጠየኩ ጥናቱን በተመለከተ ለሚኖር ማንኛቸውም ጥያቄና አስተያየት ከታች የተገለፀውን አድራሻ መጠቀም እንደምትችሉ በትህትና እገልጻለሁ።

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ስለ ትብብሩዎ ከልብ አመሰግናለሁ

ማስታዎሻ:-ለእያንዳንዱ ጥያቄ ከተሰጠው አማራጭ እርስዎን የሚገልፀውን ያክብቡ ክፍልአንድ:አጠቃላይ መረጃ

1. የትምህርት ደረጃ

ሀ. ከአስረኛ ክፍል በታች ለ.አስረኛ ክፍል ያጠናቀቁ ሐ.ኮሌጅ ዲፕሎማ መ. የመጀመሪያ ዲግሪ ሠ. ማስተርስ

2. በድርጅቱ ውስጥ ያለዎት ኃላፊነት ወይም የስራ ድርሻ

ሀ. ሱፐር ቫይዘር ለ. የክፍል ኃላፊ ሐ. የክፍል ኃላፊ ረዳት መ. የአስተዳደር አፈሰር ሠ. የፋይናንስ አፈሰር ረ.አኘሬተር

ሰ. ቴክኒሻን ሸ.ጥራት ተቆጣጣሪ

ሀላፊነትዎ ከተጠቀሱት ዉጪ ከሆነ እባክዎ ይግለፁት-----

3. እዚህ ፋብሪካ ውስጥ ያገለገሉበት ጊዜ

ሀ. ከ1-5 አመት ለ.ከ5-10 አመት ሐ.ከ10 አመት በላይ

ማስታዎሻ:-ቀጥሎ እያንዳንዱን ጥያቄ በጥንቃቄ ያንብቡ እና የእርስዎን ሀሳብ በተሻለ የሚገልፀውን በመምረጥ የ (‘√’) ያድርጉ::

1= በፍፁም አልሰማማም 2= አልሰማማም 3= አላዉቅም 4= እስማማለሁ 5= በጣም እስማማለሁ

**ክፍል ሁለት ፡ በእውቀት ውህደት ስኬት ላይተ ጽዕኖ የሚያሳድሩ ምክንያቶች በድርጅት ደረጃ**

	የመጠይቁ መግለጫ	አመላካች				
		1	2	3	4	5
1	ድርጅቱ የእውቀት ውህደት አላማዎችን በግልጽ በማስቀጠል ለ ሰራተኞች ግንዛቤ የማስጨበጥ ስራ ስርቷል					
2	ከተለያዩ ዲፓርትመንቶች የመጡ ሠራተኞች ከሥራ ጋር በተያያዙ ጉዳዮች ለመወያየት አዘውትረው ይነጋገራሉ					
3	በኩባንያው ያሉ ሰራተኞች ተግባሮችን በጥሩ ሁኔታ ለማከናወን እርስ በእርስ ይተባበራሉ					
4	በኩባንያው ውስጥ የቡድን ሥራ በጣም ይበረታታል					
5	መሪዎች የእውቀት ፈጠራን ፣ ማጋራትን እና አጠቃቀምን ያበረታታሉ እንዲሁም ይደግፋሉ					
6	አመራሩ ሠራተኞች ለድርጅታዊ ዕውቀት ልማት አዳዲስ ሀሳቦችን እንዲጠቁሙ ማበረታታት					
7	ማኔጅመንቱ በድርጅቱ ውስጥ ዕውቀትን ለመያዝ እና ለማደራጀት እንደ በጀት ፣ ወቅታዊ ዕቅድ ያሉ አስፈላጊ ሁኔታዎችን ይፈጥራል					
8	በኩባንያው ውስጥ እውቀትን በተገቢው ለመያዝ እና ለማጋራት የሚያግዝ እንዲሁም ሰራተኞች በቀላሉ ሊረዱት የሚችልሉ የአተገባበር ሰነዶች አሉ					
9	በኩባንያው ውስጥ ሰራተኞች እርስ በ እርስ እውቀትን እና ልምድን እንዲለዋወጡሉ የሚያስችሉ እንደ ሥልጠና ፕሮግራም እና ስብሰባዎች ያሉ መደበኛ ዕድሎች አሉ					
10	በኩባንያው ውስጥ ውስጣዊ እና ውጫዊ እውቀትን ለመሰብሰብ ፣ ለማደራጀት እና ለመጠቀም የተለያዩ እንቅስቃሴዎች አሉ					
11	ኩባንያው እውቀትን ለማካፈል ተገቢ የእውቀት አያያዝ ስርዓትን ይጠቀማል					
12	በድርጅቱ ውስጥ ነባር እውቀትን የ መጠቀም ሁኔታ አበረታች ነው					
13	ድርጅቱ እውቀትን ለሌሎች በማጋራት ችግርን በብቃት ለፈቱ ግለሰቦች የገንዘብ ማበረታቻዎችን ያበረክታል					
14	ድርጅቱ እውቀትን ለሌሎች በማጋራት ችግርን በብቃት ለፈቱ ግለሰቦች ከገንዘብ ወጪ የሆኑ እንደ ዕውቅና እና ማበረታቻ ሽልማቶችን ያበረክታል					
15	በአጠቃላይ ማበረታቻ ስርዓቱ በቂ ግልፅ ነው					

በ እውቀት ውህደት ስኬት ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶች በግለሰብ ደረጃ

	የመጠይቁ መግለጫ	አመላካች				
		1	2	3	4	5
1	ዕውቀት ማጋራት / ማስተላለፍ የእኔን የግል ተወዳዳሪነት ይቀንሳል					
2	ለሌሎች ዕውቀት ማካፈል / ማስተላለፍ ጊዜዬን ያባክናል					
3	ዕውቀት ማጋራት / ማስተላለፍ የእኔን የስራ ጫና ይጨምራል					
4	ሰራተኞች እውቀት ውህደት ዓላማዎች ላይ ጥሩ ግንዛቤ አላቸው					
5	እውቀትን ማጋራት ከተግባሮቼ አንዱ እንደሆነ አውቃለሁ					
6	በእውቀቴ እና በተሞክሮቼ ሌሎችን ለመርዳት በተጠየኩ ጊዜ ለማገዝ ፈቃደኛ ነኝ					
7	መደበኛ ወይም መደበኛ ባልሆነ መንገድ ከሌሎች ለመማር ፈቃደኛ ነኝ					
8	ከኩባንያው ባለድርሻ አካላት ጋር ዕውቀትን ለማካፈል / ለማስተላለፍ እምነት አለኝ					
9	ለሌሎች ሠራተኞች ያለኝን ዕውቀት ለማካፈል ከፍተኛ ተነሳሽነት አለኝ					
10	ልምዶቼን ወቅታዊ ለማድረግ በቡድን ሥራ ውስጥ በንቃት እሳተፋለሁ					
11	እውቀቴን እና ልምዶቼን ለማሻሻል ፣ እንደ የ አቻ ትምህርት ፣ አውደ ጥናቶች ፣ ሴሚናሮች እና ስብሰባዎች ባሉ የካምፓኒው የሥልጠና ፕሮግራሞች ላይ በንቃት እሳተፋለሁ ::					

**ክፍል ሶስት ፡ በድርጅቱ ውስጥ የእውቀት ውህደት ለማሳደግ የሚጠቀሙ መንገዶች ለመለየት የተዘጋጀ**

ተ.ቁ	የመጠይቁ መግለጫ	አመላካች				
		1	2	3	4	5
1	ዲፓርትመንታችን ለሠራተኞች የሥራ ስልጠና ይሰጣል					
2	የ ፅዕቀት ኢያያዝን፣ አጠቃቀምን እና ልወ.ወ.ጥን ለማገዝ መምሪያችን መደበኛ ስብሰባ ያዘጋጃል					
3	የእውቀት ማጋራትን እና ማስተላለፍን ለማቀላጠፍ ዲፓርትመንታችን ጠቃሚ ምስሎችን ወይም ካርታዎችን በተገቢው ቦታ ያስቀምጣል					
4	መምሪያችን እውቀትን ለመያዝ እና ለማጋራት የተለያዩ ቴክኒኮችን (ኢሜል ፣ ፌስቡክ ወይም ማንኛውም ማህበራዊ አውታር) እንዲጠቀሙ ያበረታታል					
5	በኩባንያው ውስጥ እውቀትን ለመቅረጽ እና መለዋወጥ ለማመቻቸት የሚረዳ ጥሩ የግንኙነት መስመር አለ					
6	ዲፓርትመንታችን ሠራተኞች እውቀታቸውን ለመሰብሰብ እና ለማጋራት የሚያግዙ ሞጁሎችን ያዘጋጃል					
7	ዲፓርትመንታችን በሠራተኞች መካከል የእውቀት ማጋራትን እና ሽግግርን ለማሻሻል የቡድን ስራን ያበረታታል					

ከሚከተሉት ውስጥ የትኛው እርስዎ በሚሰሩበት ድርጅት ውስጥ የእውቀት ልውውጥን ተግባራዊ ለማድረግ በጣም ይጠቅማል? እባክዎ 1ኛ፣2ኛ፣3ኛ፣4ኛ፣5ኛ፣6ኛ እና 7ኛ በማለት በድረጃ ያስቀምጡ

- \_\_\_\_\_ ሀ. የሥራ ስልጠና
- \_\_\_\_\_ ለ. መደበኛ ስብሰባ
- \_\_\_\_\_ ሐ. ጠቃሚ ምስሎችን ወይም ካርታዎችን በተገቢው ቦታ ማስቀመጥ
- \_\_\_\_\_ መ. እንደኢሜል እና ፌስቡክ የመሳሰሉ ማህበራዊ አውታርን መጠቀም
- \_\_\_\_\_ ሠ. ጥሩ መወያየት ግንኙነት መስመር መመስረት
- \_\_\_\_\_ ረ. ጠቃሚ ሞጁሎችን ማዘጋጀት
- \_\_\_\_\_ ሰ. የቡድን ስራ

**ክፍል አራት: በድርጅቱ ውስጥ ለእውቀት ውህደት ስኬት ችግር የሆኑ ምክንያቶችን ለመለየት የተዘጋጀ**

ተ.ቁ	የመጠይቁ መግለጫ	አመለካኝ				
		1	2	3	4	5
1	ሰራተኞች ስል እውቀት ልውውጥ ጠቀሜታ በቂ ግንዛቤ አላቸው					
2	በድርጅቱ ውስጥ ሰነዶችን እና ትምህርቶችን ጨምሮ የተሻሉ ልምዶችን ለመያዝ ፣ ለማጋራት እና ለማስተላለፍ ግልፅ ሂደት አለ					
3	ድርጅቱ በመደበኛነት የእውቀት ውህደት መድረኮችን (ወርክሾፖች እና ሴሚናሮችን) ያመቻቻል ::					
4	ኩባንያው ውስጣዊ እና ውጫዊ እውቀቶችን ለመሰብሰብ ፣ ለማደራጀት እና ለመጠቀም የተለያዩ ተግባራት አሉት					
5	በኩባንያው ውስጥ ጥሩ የእውቀት አስተዳደር ስርዓት አለ					
6	ድርጅቱ ሰራተኞች ለድርጅታዊ ዕውቀት እድገት ያበረከቱትን አስተዋጽኦ ያበረታታል					
7	ሠራተኞች ዕውቀት ኃይል ነው ብለው ስለሚያስቡ ዕውቀትን ለማካፈል ፈቃደኛ አይደሉም					
8	ሰራተኞች በቂ ጊዜ ስለሌላቸው ዕውቀታቸውን ለሌሎች አያካፍሉም					
9	በእኛ ውስጥ ያሉ ሰራተኞች እንደ ስልጠና እና ስብሰባ ያሉ ለማንኛውም የእውቀት ልውውጥ እንቅስቃሴዎች በንቃት ይሳተፋሉ					
10	ትክክለኛ የውስጠ የመገናኛ ስርዓቶች አለመኖር የእውቀት ማዋሃድ ከሚገጥማቸው ፈታኝ ሁኔታዎች ውስጥ አንዱ ነው					

ከሚከተሉት ውስጥ የትኛው እርስዎ በሚሰሩበት ድርጅት ውስጥ የእውቀት ልውውጥ እንቅፋት ተደርጎ ይወሰዳል ? እባክዎ 1ኛ፣2ኛ፣3ኛ፣4ኛ፣5ኛ፣6ኛ፣7ኛ፣8ኛ፣9ኛ እና10ኛ በማለት በድረጃ ያስቀምጡ

- \_\_\_ ሀ. በቂ ግንዛቤ አለመኖር
- \_\_\_ ለ. የድርጅቱ ባህል
- \_\_\_ ሐ. በቂ የማይጅመንትድጋፍ ካለመኖር
- \_\_\_ መ. የተለያዩ እውቀቶችን ለመሰብሰብ እና ለማደራጀት በቂ ቴክኒኮች ካለመኖር
- \_\_\_ ሠ. ትክክለኛ የእውቀት አያያዝ ስርዓትአለመኖር
- \_\_\_ ረ. በቂ ማበረታቻዎች ካለመኖር
- \_\_\_ ሰ. እምነትማጣት
- \_\_\_ ሸ. የጊዜ እጥረት
- \_\_\_ ቀ. የተሳትፎ እጥረት
- \_\_\_ በ. የግንኙነትእጥረት

## Appendix D: Questinniare design

No	Code	Factor	Catagories
1	O1	culture	Organizational
2	O1		
3	O1		
4	O1		
5	O2	Management support	
6	O2		
7	O2		
8	O3	Techniques	
9	O3		
10	O4	knowledge management	
11	O4		
12	O4		
13	O5	Incentive	
14	O5		
15	O5		
16	I1	Attitude	Individual
17	I1		
18	I1		
19	I2	Awariness	
20	I2		
21	I3	Wilingness	
22	I3		
23	I4	Trust	
24	I5	Motivation	
25	I6	Participation	
26	I6		

## **Appendix E: Knowledge integration framework evaluation check list**

1. Please give your comment on the applicability of the proposed KI system?
2. Which point in the proposed system you disagree or would like to have further explanation?
3. Do you think the proposed KI frame work can resolve existing barriers to access knowledge?
4. Please give your comment on the completeness and ease of use of the proposed system?
5. Do you think the system does impact on day to day operation of your department? How?

## Appendix F: Summary of literature review

<b>Authors</b>	<b>Title</b>	<b>Objective</b>	<b>Outcomes</b>	<b>Limitation</b>
(Peltokorpi, V. 2008)	Knowledge Integration and the Meaning of Boundary Activities	On how knowledge is integrated within a work setting (between different work groups).	A main result of the study is that knowledge integration in the two cases was more complicated than the literature suggests.	Moving the required knowledge to where the problem or task is not clearly located.
Zhang, D. (2012).	A study on the mechanism of tacit knowledge Integration	To investigate tacit knowledge integration based on social networks from transactive memory systems perspective.	Atransactive memory system has significant and positive effect on tacit knowledge integration directly.	The stickiness on this tacit knowledge to the allocated problem is not explained
(Jimmy, 2003)	Knowledge integration processes and dynamics within the context of cross-functional projects	on exploring and conceptualizing the efficiency, scope and flexibility of knowledge integration	The development and nurturing of social capital within and beyond the project team is crucial, as is the promotion of project awareness through the creation of common knowledge.	It focuses knowledge integration between companies, there is no anyexplanation knowledge integration experience with in a company
(H. Mohajan,	Tacit	To examine the	It is unwritten, unspoken	The application

2019)	Knowledge for the Development of Organizations	concept of tacit knowledge and the application of it for the development of organizations.	and hidden vast storehouse of knowledge of a person.	methods and at what types of organizations were not clearly settled
(Services, 2011)	Human Resource and skill requirements in the Textile Industry	To investigate human resource and Skill Requirements in the textile industry	The key skill sets across the mainstream sectors of the textile and clothing industry is fabric manufacturing, fabric processing and garmenting. Skill constructing in these areas would be key to industry effectiveness going onward.	How skill can building in the set area not clearly explained.
(Auzias, 2016)	The process of knowledge integration: A case study of a change project.	To find out how does the knowledge integration process change during the evolution of project	When more knowledge is integrated more challenges occur in this integration process and as a result more mechanism is needed to be adopted to sustain successful knowledge integration in the project.	Mechanisms used to adopt the challenges were not quoted and the target groups are only academic researchers and the management of the company
(Haddad & Bozdogan, 2009)	Knowledge integration in large-scale organizations and networks –conceptual overview and operational definition	To define the powerful concept of knowledge integration in large-scale organizational networks	They proposed the integration process at both the conceptual and operational levels and identified and classified the main strategies, practices, channels and mechanisms for integrating knowledge in practice.	Their study focuses only between organizations (inter organization)

## Appendix G: Examples of Knowledge assets available in the company

Department	Examples of knowledge assets available in the department	knowledge type	
		Tacit	Explicit
Garment	Knowledge of fabric unfolding and spreading	✓	
	Knowledge of proper handling of the cutter		✓
	Knowledge of cutting the fabric properly based on the plotter machine design		✓
	Knowledge of properly coding each bundle of the fabric		✓
	Attaching the interlinings parts	✓	
	Knowledge to proper joining the fabric parts	✓	
	Knowledge of ironing the assembled fabric	✓	
	Knowledge to checking quality of the products	✓	
	Knowledge of folding the final assembled fabric	✓	
	Knowledge of packing the final product/ fabric		✓
Knitting	Knowledge of material handling such as cone, fabric roll and needles	✓	
	Procedure to collect the yarn from creel zone and condense through the guides	✓	✓
	knowledge of yarn knotting activity	✓	
	knowledge of fabric take off activity from the machinery	✓	
	Knowledge for checking the fabric roll	✓	
Weaving and Non woving	Knowledge of material handling of cone, cones and fabric roll	✓	
	knowledge of weft yarn knotting	✓	
	Knowledge of warp yarn knotting	✓	
	Knowledge of controlling operations of machine		✓
	knowledge of fabric take off activity from the machine		✓
	Knowledge for checking the fabric roll	✓	

Dyeing and printing	knowledge of fabric and materials properties		✓
	Knowledge of colour fastness and durability		✓
	knowledge of standards about colour		✓
	which dyeing and printing material with the detail recipe is needed		✓
HR and administration	Knowledge of principles and procedures for personnel recruitment		✓
	Managing files and records	✓	
	Knowledge of providing training and development		✓
	Arranging employees benefit and administration	✓	✓
	Performnace appraisal		✓
Accounting and finance	Knowledge of transactions	✓	
	Knowledge of how preparing balance sheets		✓
	Processing invoices		✓
	Knowledge of record payable and accounts receivable		✓
	Prepare monthly, quarterly and annual financial reports		✓
	Assist with budget preparation		✓
	Knowledge of financial regulations		✓
	knowledge of financial and accounting procedures		✓
Procurement and property	Knowledge of raw materials property		✓
	Work and communicate with suppliers	✓	
	Maintain store shelves by removing outdated or damaged products	✓	✓
	Monitor store inventory based on sales and intake	✓	
Marketing and sales	knowledge of optimize sales volume and profitability	✓	
	Ensuring stores and shelves are stocked with the right types and quantities of products		✓
	Properly displaying products for the customers	✓	
	Work and communicate with buyers and distributors	✓	
	Knowledge of customer needs	✓	
	Analyze sales data to identify best-selling lines and to develop promotional strategies		✓