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Doctoral Thesis

Human capital as a process

Learnings from an emerging economy

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Abstract

The purpose of the dissertation is to explore how human capital develops in an organization as a process with a specific focus on its sub-processes and contexts. This thesis defines human capital as a process where employees' knowledge, skills, and abilities are developed through events, mechanisms, relationships, and patterns that emerge during the process of interactions and interdependencies among employees and between employees and the organization. Studying the process of human capital and how it develops will help in integrating the 'aggregation' concept of strategy with the 'black box' concept of strategic human resource management. In addition, this thesis will help in studying the processual nature of human capital, and how inner and outer contextual factors affect human capital development. This dissertation sees the process of human capital development through the lens of the social exchange theory.

To achieve the above stated purpose, the dissertation followed two organizations: Ethiopian Airlines and Bishoftu Automotive Industry. Primary data was collected through interviews, observations, participating in official meetings, and listening to previous interviews given by members of the organizations to different media including radio and television programs. It also uses secondary data like document analyses, magazines, reports, and documents from the websites. It follows an interpretative approach in analyzing the data.

The findings of the dissertation show that the process of human capital development proceeds through three sub-processes. First, identifying potential human capital which is determined by 'who joined' and 'how they joined' the organization. People are joined an organization with their individual human capital like educational level, experience, attitude, behavior, and information processing and professional skills. These all determined as the origins of human capital. The relationships that employees have through their families, ethnic background, and social networks are considered factors for selecting potential human capital. Second, interactions and interdependencies characterized by *socioemotional* factors (trust, loyalty, fears, stress, tensions, frustrations, and delusive behavior); *homosociality* (relationship, group gains, and status consistency); and percieved organizational support (recurrent/refresher

training, career development training, induction and socialization, access to resources, and benefit packages). Finally, unit or industry specific human capital is developed because of the interactions and interdependencies among employees and between employees and the organization.

In addition, the process of human capital development is positively or negatively determined by inner and outer contextual factors of the organization. Inner contextual factors include employee mobility, strategic human resource management practices, organizational culture, organizational change, structure and infrastructure, and growth of the industry. Outer contextual factors include political, economic, sociocultural, competition, regulatory bodies, and customers. The findings of the dissertation also show the impact that outer contextual factors have on inner contexts and their implications for the process of human capital development.

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Chapter 1: Introduction

This introductory chapter describes the motivation of the thesis, its overall research purpose and research questions, conceptualizing human capital, and its significance and contribution. It also provides a brief outline of the structure of the thesis.

1.1 Background

There is a shift happening from building competitive advantages of physical assets to those provided by the people working for an organization (Pfeffer 1994; Ployhart et al., 2009). This shift is happening from the traditional sources of competition including product and process technologies, protected and regulated markets, access to financial resources and economies of scale to "people" based competitive advantages (Cabrera & Cabrera, 2005; Luthans and Youssef, 2004; Pfeffer, 1994; Ployhart et al., 2009). This major shift is happening because of the growing importance of free trade as a result of globalization, shorter product life cycles owing to changing customer preferences, more financial markets and increasing trends of fragmented markets to satisfy specific customer needs (Luthans & Youssef, 2004; Pfeffer 1994).

"People" in an organization refer to the knowledge, skills and abilities embedded in individuals (Becker & Husied, 1999; Ployhart & Moliterno, 2011). The knowledge, skills and abilities required for achieving the objectives of an organization are considered the human capital of that organization (Barney, 1991; Coff, 1997; Ployhart et al., 2014).

According to Ployhart et al., (2009) in today's knowledge based economies, organizations are changing their competitive advantages from tangible resources to intangible ones, that is, to human capital. Considering the importance of human capital for an organization, researchers and practitioners are also emphasizing on people and people management processes (Becker and Husied, 1999; Luthans & Youssef, 2004). This concept is broadly explained in human capital theory and a resource based view of firms (for example, Barney, 1991; Pfeffer, 1994; Wang et al., 2009).

Theorists of the resource based view argue that resources can be a source of competitive advantages if they are valuable and rare. A resource which is valuable and rare can also be inimitable and non-substitutable thus helping in building sustainable competitive advantages

(Barney, 1991; Hatch & Dyer, 2004). The valuablility, rareness, inimitability and non-substitutability of resources is happening as human capital is becoming specific to a firm, socially complex and causally ambiguous (Coff, 2002; Coff & Kryscynski, 2011; Hatch & Dyer, 2004). Therefore, the inimitability and non-substitutability of resources happens if firms can differ from their competitors by making their human capital specific to their firms, socially complex, causally ambiguous and path dependent. Such conditions are a result of understanding the process of how human capital develops. However, studies that take a resource based view do not focus on the process by which human capital develops.

It can be said that human capital is a promising source of competitive advantages (Coff & Kryscynski, 2011) when it is valuable, rare, inimitable and non-substitutable (Barney, 1991; Coff, 1997), when it is effectively managed and is firm specific (Wang et al., 2009), when both demand side and supply side are high or low (Campbell et al., 2013), when it is embedded within a firm and when individual interactions become unique to the organization and it is socially ambiguous (Bowman & Swart, 2007). Further, intangible assets like human capital become a source of competitive advantage when the process of human capital development within a firm is effectively managed and implemented.

Theorists of human capital argue that human capital is the knowledge, skills, abilities and experiences embedded in individuals which provide economic value to a firm (Becker, 1964; Jiang et al., 2012; Schulz et al., 2013; Youndt et al., 1996). They also recognize that investments in human capital increase a firm's productivity and performance. In addition, there is also literature which follows the resource based view and human capital theory and focuses on firm specific human capital issues (Campbell et al., 2014; Gruber et al., 2012; Ployhart et al., 2011; Schulz, 2013; Sturman, 2008; Wang et al., 2009) to examine firm specific, socially complex and casual ambiguous human capital, issues of leveraging human capital which examine deploying and developing valuable and unique human capital to achieve new forms of organizational capabilities (Hitt et al., 2011; Kor & Leblebici, 2005; Lakshman, 2014; Wang et al., 2012). But such studies are not organized and focused on how human capital develops in an organization.

Two streams of studies in human capital – one which discusses strategy and the other which studies strategic human resource management (SHRM) study human capital and the

competitive advantages that it provides. The stream on strategy explains human capital as it originates from individual knowledge, skills, abilities and other characteristics aggregated to a "unit" level of human capital through a process of interactions and interdependencies which turn into a competitive advantages or performance (Barney & Felin, 2013; Crocker & Eckardt, 2014; Coff and Kryscynski, 2011; Felin and Hesterly, 2007; Nyberg et al., 2014; Ployhart and Moliterno, 2011; Ployhart et al., 2011; Ployhart et al., 2014; Wright & McMahan, 2011). "Unit" refers to a collection of people organized for a common objective (Ployhart et al., 2011).

The SHRM stream focuses on how human resource management practices such as skills, motivation and opportunities enhance human resource practices affect human capital. This includes the concept how human resource policies, strategies and practices affect human capital and turn it into a firm's better performance (Banks and Kepes, 2015; Becker & Huselid, 1999; Hatch and Dyer, 2004; Jiang et al., 2012; Youndt et al., 1996, 2004).

Researchers on strategy are focused on the "aggregation" concept of human capital in which individual human capital is aggregated to unit level human capital (Ployhart & Moliterno, 2011). However, they provide little insight into how human capital develops in an organization and the impact of interactions and interdependencies among people during its development. These studies do not look at how, what and why human capital develops within a firm (Ployhart et al., 2014). On the other hand strategic human resource management researchers give undue emphasis to human resource practices that enhance human capital by neglecting social interactions and interdependencies which facilitate the process of human capital development (Wright et al., 2014). As a result, they call human capital a "black box" where mediation between human resource practices and a firm's performance takes place (Wright & McMahan, 2011). Therefore, research on human capital process and the role of interaction and interdependence on human capital process is rare in the literature of strategy and strategic human resource management.

Even if studies provide evidence of how human capital is a source of a firm's performance and competitive advantage, they do not explain human capital by itself; these studies also lack integration of human capital processes. Exploring the question of how human capital develops in an organization may offer new theoretical insights into the strategy and the strategic human resource management mechanisms that firms need. My thesis argues that studying human

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capital as a process helps in integrating the debate between scholars who follow the "aggregation" concept while studying strategy stream and the "black box" concept that SHRM researchers study.

Most studies of human capital are conducted within the context of developed economies, but my study focuses on the process how human capital develops in one of the emerging economies of Africa --- Ethiopia. Due to the distinct social, political, cultural, economic and competitive nature of the region, my study provides new theoretical and practical aspects of human capital processes. Since resources like human capital are context dependent, empirical evidence from emerging economies like Ethiopia also offers new insights into the concept of human capital and its process. In addition, my study also explores how the human capital process is shaped by the context in which a firm operates (Kozlowski & Chao, 2012) as it is determined by distinct features like organizational culture, organizational politics, restructuring, the work environment and organizational policies and procedures. This also provides insights into the process of human capital in organizations in emerging economies.

As mentioned earlier, most existing literature takes a static view which measures human capital as a fixed resource and not as a process. As a result social relationship created due to the interactions and interdependencies among employees and between employees and the organization are missed in these studies. I conceptualize human capital as a process developed through the interactions and interdependencies among employees (Felin et al., 2009, 2012). These interactions and interdependencies are a result of the exchange of knowledge, information, skills and abilities among employees (Wright & McMahan, 2011). The interactions and interdependencies among employees also provide a base for the process of human capital development. Therefore, the process of how human capital is developed through interactions and interdependencies leads to the Social Exchange Theory (SET) as a suitable way for understanding this process because human capital in an organization develops during interactions and interdependencies among employees within an organization and also with its stakeholders in an exchange of intangible assets. SET also provides a lens for the process of human capital development by framing the interactions and interdependencies in knowledge, skill and ability transfers among employees, and the dynamics among people and between employees and the organization through motivational emotional support and exchange of valued resources.

1.2 Research purpose and research question

Human capital is the main building block for achieving competitive advantages and improving productivity. As a result, literature studies human capital in different ways though these studies do not look at the dynamics among people or the processes by which human capital is developed in an organization. Therefore, the purpose of this thesis is to explore how human capital develops in an organization as a process with a specific focus on its sub-processes and contexts. To achieve this the thesis addresses two main questions:

- ✓ How do interactions and interdependencies develop among individuals during the process of human capital development and what role do they play in the development of human capital?
- ✓ What is the role of the inner and outer contexts of an organization in the process of human capital development?

1.3 Conceptualization of human capital

The micro-foundation and multilevel perspectives of human capital shifted the concept of human capital from an individual level perspective to a concept of "aggregation" and "unit level resource" (Ployhart & Moliterno, 2011). Therefore, there has been a paradigm shift in conceptualizing human capital. This shift is a result of micro-foundation and multilevel agendas of human capital being developed on the basis of multiple disciplines of economics, strategies, psychology and human resources (Nyberg et al., 2014; Ployhart et al., 2014). This shift can help us to understand how human capital is developed as a process. In adition to this, the micro-foundation and multilevel perspectives of human capital provides an introduction to the interactions and interdependencies among employees.

Human capital is conceptualized based on its characteristics and at what level they can be found. Wright et al., (2014) developed two dimensions for conceptualizing human capital; level of analysis and malleability of individual human characteristics. These two issues are aimed at exploring how human capital is characterized by the level of analysis and what individual characteristics are considered to be human capital. The level of analysis includes micro level and macro level. The micro level considers intra-individual and individual which focuses on how human capital inherent in individual characteristics can be a resource which

can be used by a firm. Macro level considers the "aggregation" of individual knowledge, skills and abilities within an organization. Malleability of individual characteristics is explained as a continuum of the stability and flexibility of human behavior.

Based on these features there are different definitions of human capital. For example, Coff & Kryscynski (2011) define human capital as an individual's knowledge, skills and abilities that can be increased through mechanisms like education, training and experience. Lakshman (2014) also considers human capital as the knowledge, skills and abilities residing with and utilized by individuals. These two definitions consider human capital as an individual phenomenon inherent in individual employees and they also see the impact of individual human capital residing in individuals. However, some others maintain that human capital begins with individuals, but they do not limit their analyses to this level (Wright & McMahan, 2011).

In the current paradigm human capital is considered an aggregated or unit-level resource (Nyberg & Ployhart, 2013; Ployhart & Moliterno, 2011; Ployhart et al., 2011) aggregated from individuals' knowledge, skills, abilities or other characteristics. Some others also consider human capital as both individual and unit level resources (for example, Ployhart et al., 2014). Crocker & Eckardt (2014) examine human capital as knowledge, skills and abilities at both the individual and unit levels.

From these definitions it can be concluded that human capital can be understood at three basic issues: First, it originates in individual level Knowledge, Skills and Abilities (KSAs) which reside in the middle of the stability and flexibility of human behavior. Second, it can be both individual and unit level resource which develop through interactions and interdependencies among employees, and third, human capital can be developed in an organization through interactions and interdependencies among employees and stakeholders. The interactions and interdependencies provide the base for studying human capital as a process. *In this thesis human capital is considered as a process where employees' KSAs are developed through events, mechanisms, relationships and patterns that emerge during the process of interactions and interdependencies among employees and between employees and the organization.*

1.4 Significance and contributions of the study

Studying human capital as a process and the interactions and interdependencies among people are significant for improving our knowledge of strategic management in general and of human capital in particular as this helps bridge the gap in the processes of strategy and strategic human resource management. I address this by exploring how human capital develops in an organization.

Human capital is an engine of the economic development of a country. Studying human capital as a process is significant for integrating the strategy concept of "aggregation" and the SHRM concept of a "black box". Studying the process of human capital development addresses the aggregation concept while exploring the interactions and interdependencies among people in an organization. The SHRM concept is also addressed while exploring the interactions between employees and the organization, as well as the context. In addition, the interactions, interdependencies, relationships, mechanisms, events and sub-processes in the process help to uncover the black box within human capital process.

Earlier human capital was studied using a resource based view and the human capital theory. Studying human capital as a process focuses on exploring the interactions, interdependencies and relationships and their impact on human capital. This thesis provides a new lens for viewing human capital as a social exchange which is a result of social interactions, interdependencies and relationships.

Since my thesis studies the process of human capital by exploring the interactions and interdependencies among people, mechanisms, processes and events that happen during this process it also has practical significance for managers and employees in different organizations. It will help managers to see the overall picture of human capital and how it develops. It will also help them in identifying relevant areas in human capital's development by considering people and people management programs and making employees' human capital firm specific or unit specific which is relevant for accomplishing organizational missions. In addition, my thesis is also significant for employees so that they can understand how social interactions and interdependencies affect their human capital.

Finally, most studies of human capital have been done in the context of developed countries. But resources like human capital are context dependent (Kozlowski and Chao, 2012). Thus,

the process of human capital development demands empirical evidence from emerging economies as this can provide new insights into the concept of human capital and how it is developed. In particular, this can help in exploring the role of inner and outer contextual factors in the process of human capital. Therefore, my research also contributes to academic studies on strategic management by providing theoretical and new insights in the context of emerging economies.

1.5 Thesis structure

Chapter 1 problematizes the phenomena and sets the objectives of the research.

Chapter 2 is a literature review. The literature review forms the foundation of the theoretical framework for the process of human capital development. This chapter includes the origin of human capital and the micro-foundation and multilevel concepts of human capital which provide an entry point to the process of human capital development, generic and firm specific human capital and leveraging human capital. In addition, it also reviews the inner and outer contextual factors of human capital and develops a theoretical framework for the process of human capital development.

Chapter 3 introduces the social exchange theory and its lens for the process of human capital development. The first part of the chapter discusses the social exchange theory by discussing its interactions, interdependencies and relationships. It also discusses forms of social exchange in relation to reciprocity and negotiated and indirect social exchanges. Intangible resources to be exchanged and their implications for the process of human capital development are also outlined in this chapter. Finally, it also discusses the socioemotional and integrative outcomes of social exchange and their implications for the process of human capital development.

Chapter 4 outlines the research methodology. It discusses the research paradigm of critical realism that influences my research. The chapter uses qualitative research following an interpretative approach. The thesis uses abduction reasoning while forming the theory by matching empirical data with theoretical pre-conceptions. In addition, the chapter specifies the research design, case selection, participant selection, data collection, access and choice of respondents, data analysis, research quality and ethics.

Chapter 5 gives the background of Ethiopian Airlines and the Bishoftu Automotive Industry (BAI). This chapter describes the historical and contextual details of the cases.

Chapter 6 outlines the findings of the Ethiopian Airlines' case study. These are discussed as a process following different stages in the process of human capital development starting from being employed, training in the aviation academy, starting work, continued training and firm specific human capital. In addition, concepts other than those that appear on the surface of the process of human capital are also presented in this chapter. Hence, it discusses emotive factors, relationships and favoritism based on ethnic and family backgrounds and employee perceptions as the main driving force in the process of human capital development.

Chapter 7 outlines the contextual factors (inner and outer contexts) which affect the process of human capital development in Ethiopian Airlines. The inner contextual factors include employees mobility, growth, organizational change and SHRM and the outer contextual factors include regulatory bodies, competition, customers and political and sociocultural aspects.

Chapter 8 gives the findings of the Bishoftu Automotive Industry (BAI) case study. The findings are presented as a process that follows different stages in human capital process. The chapter also gives an overview of the human capital process and gives the stages in human capital process chronologically from being employed by the organization, training in the industry and starting work and encompasses interactions and interdependencies among Ethiopian and Chinese experts and among Ethiopian experts; it also discusses automotive specific human capital. In addition, it also discusses concepts below the surface of human capital which encompasses the journey from negotiations to relationships, emotive factors and employee perceptions about the organization and how they are the driving force for human capital process.

Chapter 9 gives the contextual factors (inner and outer contexts) which affect the process of human capital development in BAI. Inner contextual factors include structure and infrastructure, organizational culture, strategic human resource management and employees mobility and outer contextual factors include political and economic factors.

Chapter 10 discusses the findings of the research and answers the research questions raised in the introduction. It identifies potential human capital, interactions and interdependencies

which are characterized by socioemotional factors, homosociality and perceived organizational support. It also discusses firm/unit specific human capital. Finally, inner and outer contextual factors also form a part of this chapter.

Chapter 11 gives the conclusion and summarizes the dissertation. It also lists the contributions, implications and limitations of the research and discusses future research areas.

Chapter 2: Literature Review

The aim of this literature review is trying to understand the process of human capital through studies on how human capital develops in an organization. It first discusses how human capital originates in an organization. This part of the review addresses the following questions: What is human capital? What are the characteristics of human capital and at what level do these characteristics start manifesting themselves?

Second, the review discusses the micro-foundation concepts of human capital which demand interactions and interdependencies among employees. This part also considers the micro and macro issues of human capital and the interactions and interdependencies among employees and their impact on the process of forming human capital. Third, the literature review addresses generic and firm specific human capital. Firm specific human capital is knowledge, skills and abilities which are important for an organization's main tasks. In contrast to this generic human capital may also be applicable to other organizations. Fourth, it reviews how firm specific human capital is leveraged to employees of the organization. Finally, inner and outer contextual factors which may positively or negatively affect the process of human capital is also a part of the review.

This thesis considers strategic human resource management and employees mobility as the inner contexts which affect the process of human capital development negatively or positively. In addition, the review also discusses the outer contextual factors such as social, political, economic and cultural factors. Finally, the review provides a theoretical framework for the research on the process of human capital.

2.1 Origins of human capital

Human capital within a firm is embedded in interactions, interdependencies and relationships among the employees (Ployhart & Moliterno, 2011). Ployhart & Moliterno (2011) discuss how human capital is created and transformed across organizational levels. This concept is applicable if unit level human capital is developed as an aggregation of individual level knowledge, skills and abilities. This intensifies the process of human capital as a unit level is created from individual knowledge, skills and abilities. Kozlowski & Klein (2000:55) explain human capital as:

"a phenomena as emergent when it originates in the cognition, behavior or other characteristics of individuals amplified by their interactions and manifests as a higher level, collective phenomenon."

In addition to individual knowledge, skills and abilities, Kozlowski & Klein (2000) also recognize that the origins of human capital are individuals' cognitive, behavioral and other characteristics. Kozlowski & Klein (2000) and Ployhart & Moliterno (2011) argue that human capital originates in individual knowledge, skills, abilities and cognitive and behavioral aspects as they develop during interactions and interdependencies. Their rationale is that since employees in an organization work together in a similar context their individual knowledge, skills and abilities about a specific task becomes similar, and such similarities lead to the development of human capital (Ployhart & Moliterno, 2011). As a result, this human capital becomes inimitable and non-substitutability.

This process of building unit level human capital may lead it to be firm specific, socially complex, causally ambiguous and path dependent. Bowman & Swart (2007) argue that ambiguity is created during the process of human capital due to the interactions and interdependencies between individuals' knowledge, skills and abilities. As a result, there are linkages between a firm's human capital and performance or its competitive advantage. This stream of literature recognizes concepts of human capital like human capital development and interactions and interdependencies among employees.

A new trend in research on human capital also focuses on micro-foundation and multilevel perspectives and sees human capital's micro origins and its development to a higher level. This stream of literature focuses on understanding the nature of human capital by analyzing *how* and *why* interactions and relationships among individuals shape the process of human capital development. Instead of a structural and functional analysis of human capital, this stream of literature explains the origin and evolution of human capital's development through individual choices and social interactions (Barney & Felin, 2013).

Therefore, to study how human capital develops in an organization it is important to understand its origins, for which the following questions are posed:

"At what level is new value created, or, put differently, what is the locus of knowledge?" Felin and Hesterly (2007: 195) *and*

"Where is the deep structure [of human capital] located?" (Foss, 2011: 1415).

These questions help in determining what characteristics become human capital and at what level do they originate. There has been a lot of debate on whether an individual or the collective part of human capital is the source of human capital and whether new value creation starts at the individual level in an organization. Felin & Hestely (2007) and Foss (2011) argue that individuals are the principal center of knowledge and they are in the foreground of the process of human capital development. In a micro-foundation and multilevel analysis, individuals are a source and locus of knowledge creation (Felin et al., 2009). Ployhart & Moliterno (2011: 132) acknowledge that, "The roots of human capital lie at the individual level and exist in the full range of employees' knowledge, skill and ability."

Since human capital originates at the individual level and is expected to aggregate at the higher level, this perspective is called a micro-macro analysis. In this perspective individuals are considered the basis for human capital process and they also serve as a base for exploring the sources or inputs that form a part of the process of human capital development.

The next aspect addressed by literature is what type within individual are supposed to be human capital or not? Ployhart & Moliterno (2011) note that the origin of human capital depends on individual differences that range from cognitive KSAOs (knowledge, skills, abilities and other characteristics) which is (general cognitive ability, knowledge, skill and experience) to non-cognitive KSAOs (personality, value and interest) and from context generic KSAOs to context specific KSAOs. This classification also considers the stability of KSAOs which is not affected by education and experience throughout adulthood, malleable and context based. Therefore, such literature classifies human capital based on content (cognitive human capital and non-cognitive human capital) and specificity (context-generic human capital and context-specific human capital).

According to Ployhart et al., (2014) KSAOs originate in individual differences. They define individual differences as individual capacities that are heterogeneous across individuals. Individual differences include cognitive and non-cognitive ones, relatively malleable and

situationally induced constructs such as motivation and attitude and physical characteristics. But due to variability, specificity and situationally induced characteristics not all individual differences are KSAOs. Therefore, they characterize KSAOs as those which have intra-psychological origins and are relatively stable across a meaningful timeframe. Consequently, they consider KSAOs as individual human capital. Wright et al., (2014) consider knowledge, skills, abilities and other changeable but relatively stable human characteristics as being a part of human capital. They discuss the origin of human capital by recognizing its characteristics ranging from stability to malleability:

"The relatively malleability of individual characteristics. At one end, this dimension is anchored on stable (difficult-to-change) characteristics (e.g., intelligence, personality, physical attributes), while at the other end are malleable (easier-to-change) characteristics, such as affect or behavior. Between these two extremes are characteristics, such as skills and knowledge that are changeable but remain relatively stable once acquired" (Wright et al., 2014: 360).

Therefore, individual knowledge, skills, abilities and other characteristics are widely accepted components of the origins of human capital (Campbell et al., 2012; Coff & Kryscynski, 2011; Nyberg & Ployhart, 2013; Wright et al., 2014). Nyberg et al., (2014: 321), define the individual components of human capital as:

"knowledge is the factual or procedural information necessary for performing specific job; skills are the individual's level of proficiency and capabilities to perform a specific task; ability is more enduring that is necessary for an individual to perform a job; other characteristics often refers personality traits that affect the individual's ability to perform a specific task."

They classify human capital as knowledge based human capital and skill and ability based human capital. Scholars of micro-foundation also recognize the heterogeneous nature of individual KSAOs which endows to unit level of human capital through a process of interactions and interdependencies among them.

Strategy and strategic human resource management literature views human capital in a distinct way. There are a number of studies on strategies (for example, Barney and Felin, 2013; Coff and Kryscynski, 2011; Felin & Hesterly, 2007; Foss, 2011; Nyberg et al., 2014: Ployhart &

Moliterno, 2011: Ployhart et al., 2014; Wright & McMahan, 2011; Wright et al., 2014) which consider human capital as aggregation concept. Strategic human resource management scholars consider human capital as a mediating factor between human resource practices and a firm's performance (for example, Banks & Kepes, 2015; Becker & Huselid, 1999; Jiang et al., 2012: Gambardella et al., 2015: Liu et al., 2015; Schulz et al., 2013; Selvarajan et al., 2007; Snell & Youndt, 1996; Youndt et al., 1996).

I first present the micro-foundation perspective of human capital (interactions, interdependencies and relationships during the process of human capital) after which I discuss generic and firm specific human capital (for example, Campbell et al., 2013; Hatch and Dyer, 2004; Sturman et al., 2008; Wang et al., 2009), leveraging human capital (for example, Carmeli and Schaubroeck, 2005; Hitt et al., 2011; Kor & Leblebici, 2005; Lakshman, 2014; Wang et al., 2012) and contextual factors including inner and outer contextual factors. Inner contextual factors include strategic human resource management and employees mobility while outer contextual factors include social, political, economic and cultural factors.

2.2 Micro-foundation and multilevel perspectives of human capital

"As processes, emergent phenomena originate bottom-up and are formed through dynamic interactions among individuals (or whatever units are relevant at the point of origin). The nature of the interaction process is shaped and constrained by higher level contextual factors (e.g., structure, culture, leadership, and workflow) operative in the unit. Different interaction process dynamics and constraints shape the way that phenomena emerge and manifest" *(Kozlowski and Chao, 2012: 338).*

This quote points out three basic issues in the process of human capital development. First, human capital as a process originates at the micro level; in this case from an individual's knowledge, skills, abilities and other characteristics. Second, the process of human capital development is determined by the dynamic interactions and interdependencies among individuals' KSAOs. Third, the interactions and interdependencies among individuals are shaped by the context in which a firm operates. Ployhart and Moliterno (2011) maintain that human capital can develop through interactions and relationships among individual KSAOs. Therefore, considering this literature on the multilevel and micro-foundation concepts provides an entry point to understanding the process of human capital development.

2.2.1 Multilevel concept of human capital

The multilevel concept of human capital details how higher-level phenomena develop from lower level phenomena when both these phenomena are likely to be isomorphic or partially isomorphic (Nyberg & Ployhart, 2013; Ployhart & Moliterno, 2011). This is because multilevel theory considers how constructs across levels of analysis are integrated (Ployhart and Moliterno, 2011). What my thesis is concerned with is not the multilevel concept, but the mechanisms employed when unit level human capital emerges. As a result, the interactions and relationships form a higher level of human capital. This provides a point of entry to the process of human capital development. The multilevel concept of human capital has the following considerations. First, it should be determined at what level the constructs exist – individual, unit or firm level. Second, researchers should consider how and why individual level constructs aggregate as a higher-level construct and finally, researchers should be aware of the fallacies of a multilevel analysis when the effects of the context are neglected in taking the findings of one level to the next level and misattributing the level theory for a construct (Ployhart & Moliterno, 2011). Therefore, a multilevel conception of human capital enables one to integrate the interactions among the micro and macro levels of the analysis as a combined process (Kozlowski & Chao, 2012) because unit level human capital is developed through dynamic interactions, interdependencies and relationships among individuals. Concepts like interactions, interdependencies and relationships provide an entry point for studying the process of human capital development.

There is lack of empirical literature on the process of human capital development and studies by Kozlowski & Chao (2012) and Ployhart et al., (2014) are rare examples. Therefore, this review includes very few empirical results and conceptual literature to determine how human capital develops in an organization. An inspiring paper is that by Ployhart and Moliterno (2011) who develop a conceptual framework that determines how individual level KSAOs develop into higher level human capital through the emergence of an enabling process. This enabling process is the way by which individual knowledge, skills, abilities and other characteristics are transformed into a higher level of human capital. An emergence enabling process includes the complexity of the unit's task environment which indicates the extent of interdependencies and coordination among the members. It also indicates how the social environment ties the unit members by creating bonds and networks. Consequently, the authors

propose a unit task environment which includes temporal placing, a dynamic task environment, the strength of the members' linkages and the work flow structure. The unit enabling process includes a unit's behavioral process (coordination, communication and regulatory process), cognitive mechanisms (unit memory, unit climate and unit learning) and effective psychological states (cohesion, trust and positive or negative mood) and how these affect the development of human capital to a higher level.

In addition, Ployhart & Moliterno (2011) also propose that the inter-relationship between the complexity of the task's environment and the unit emergence enabling state also facilitates the development of human capital. Hence, human capital at a higher level is socially complex, causally ambiguous and specific to the firm; here human capital can generate sustainable competitive advantages. Ployhart (2014) takes this argument further by studying how individual KSAOs are combined through an enabling process to create synergy and greater unit level capacity.

2.2.2   The micro-foundation concept of human capital

The other main fundamental issue discussed as an entry point to the concept of human capital process is the concept of micro-foundation. The micro-foundation theory of human capital describes how human capital is developed from individual human assets and focuses on explaining collective phenomena at a higher level. This process demands lower level attributes like knowledge, skills and abilities of individuals, processes and their interactions (Barney and Felin, 2013; Felin et al., 2012). Micro-foundations are rooted in individuals' actions and interactions (Barney & Felin, 2013; Foss, 2011). Therefore, how human capital is developed in an organization is subject to micro-foundation concepts. Because human capital originates in heterogeneous individual knowledge, skills, abilities and other characteristics these are developed through micro-interactions, interdependencies and relationships.

The micro-foundation concept of human capital also recognizes that individuals in an organization make up the KSAOs. Individuals with distinct KSAOs engage in information processing, interpretation and reactions in making choices thus feeling and behaving differently. This process leads to an aggregation of individual KSAOs and constitutes the organization or the unit's human capital. Thus, the unit-level construct comprises of an

aggregation of individual-level constructs (Wright & McMahan, 2011) and it is developed as a consequence of individuals' interactions, relationships and the context in which they interact.

In addition, in the micro-foundation concept of human capital, aggregating individual human capital to the unit level human capital needs complementarities in individual human assets. These complementarities might be driven by trust, shared routines and artifacts of common work (Campbell et al., 2014). Nyberg & Ployhart (2013) maintain that human capital at the unit level is developed from individual KSAOs through environmental complexity which refers to the coordination required by the unit and a supportive climate which is a shared sense of the unit and communication and trust.

Felin et al., (2009) discuss the importance of micro-foundation issues in the process of human capital in an organization. Consequently, aligning firm and individual interests and acknowledging trust and cooperation in knowledge creation help the process of human capital development. These authors maintain that micro-foundation issues such as incentives and motivation, discretion and ownership, an alignment between self-selection and interest and human capital's heterogeneity are important for understanding how human capital is formed in an organization.

Individuals interact with one another using different human assets. This can impact how individuals perceive, process and react to information (Wright & McMahan, 2011). Thus, individual differences in information processing may enable individual KSAOs to transform into a unit level human capital resource. Therefore, understanding the nature of the task's complexity and emergence enabling states is vital for understanding how information processing, knowledge and self-control (intelligence) transform into unit-level resources. To illustrate, individuals with higher information processing abilities may react to different task demands differently as compared to those with less effective information processing abilities. Similarly, those with a higher potential for information processing may show different types of social interactions as compared to the others.

"In either case, the nature of intelligence may differ as a function of the information processing or self-control of members within the unit, and thus the likelihood that intelligence contributes to human capital resources and competitive advantage" (Fagan & Ployhart, 2015: 7).

Based on these arguments the task's environmental complexity, the emergence of enabling states, aligning individual interests with the firm's interest and an information processing approach enable or restrain the process of human capital. These concepts also lead us to the impact of interactions and interdependencies on the process of human capital development.

There are three reasons why individual level KSAOs lead to collective human capital resources through interactions and relationships among individuals (Ployhart et al., 2014). First, micro-foundation concepts that improve the combination and coordination of individual KSAOs may create collective constructs of human capital at a higher level that are different from their individual origins. Second, multilevel theory suggests that individual level KSAOs transforms into partially isomorphic collective constructs. Finally, social psychological theories of interdependence change move from individuals to relationships and interdependencies among individuals for identifying how they interact with each other and how they form an interaction process and structure. Therefore, concepts from multilevel and micro-foundation may help in studying human capital as process.

2.3 Generic versus firm specific human capital

Some literature classifies human capital into general and firm specific human capital. Firm specific human capital refers to knowledge, skills and abilities that are only important in a given firm. In contrast, generic human capital refers to knowledge, skills and abilities that are valuable in a variety of firms (Coff, 1997; Datta & Iskandar-Datta, 2014).

Human capital at the collective or unit level is firm specific because of various reasons. First, individuals have a distinct portfolio of human capital and the distinctiveness of the unit-level human capital increases with each new member. Second, value at the unit level increases when we account for complementarities among KSAOs. Such complementarities are likely to be firm specific in nature as they reflect an idiosyncratic mix of individuals. Third, the emergence of an enabling process also plays a role (Ployhart & Moliterno, 2011; Ployart et al., 2014; Wright et al., 2014). Therefore, human capital developed through such a process is considered to be firm specific which comes with experience, relationships and interdependencies among a firm's employees. Human capital developed through a process of learning becomes firm specific. Consequently, it provides inimitable human capital as a source of competitive advantage (Hatch & Dyer, 2004; Sturman et al., 2008). This indicates that firm specific human

capital includes tacit knowledge of interpersonal relationships and organizational culture which are socially complex and causally ambiguous. When isolating mechanisms of a firm's human capital specificity if social complexity and causal ambiguity are strongly protected from the firm's rivals it leads to competitive advantages for the firm (Coff, 1997; Coff & Kryscynski, 2011).

The resource based view of a firm considers firm specific human capital as an isolating mechanism owing to the idea that employees with firm specific human capital are less likely to leave the firm and cannot be employed and used by rival firms (Campbell et al., 2013). These authors also argue that firm specific human capital can continue as an isolating mechanism if the following boundary conditions are satisfied. First, the exchange value of the employees' general human capital is no greater than the use value of firm specific human capital. Second, the exchange value of employees' skills and firm specific skills must be tightly coupled. Finally, supply side mobility is not low.

Literature on human capital emphasizes firm specific human capital as it is a source of sustaining competitive advantages. Despite its importance there are different perspectives on the specificity of human capital. Considering specificity and transferability, Sturman et al., (2008) argue that human capital's specificity is an issue of degree because greater specificity is associated with greater value and lower specificity is associated with less value for the same firm, and greater specificity is also associated with lower transferability while the reverse is true for less specificity.

In contrast, Campbell et al., (2013) show that firms can sustain their competitive advantages by using their general human capital if both demand and supply side mobility constraints are high. However, it is difficult to understand competitive advantages of firm specific human capital when both demand and supply side constraints are low. Ployhart et al., (2011) argue that generic human capital has an important indirect effect on sustainable competitive advantages as it lays the foundation for developing firm specific human capital. Therefore, there is a possibility that generic and firm specific human capital are important for a unit's effectiveness and performance. Their empirical results show that changes in generic human capital are positively related to changes in firm specific human capital. Consequently:

"The more a unit can acquire high-quality generic human capital, the greater the development of unit specific human capital. Therefore, change in generic human capital directly influenced change in unit-specific human capital over time" (Ployhart et al., 2011:362).

Different researchers have also classified firm specific human capital. Campbell et al., (2014) identify the dimensions of firm specific human capital as location specific and colleague specific human capital. Location specific human capital refers to firm specific human capital which creates value that does not depend on a particular group of employees. In contrast, colleague specific human capital refers to firm specific human capital embedded in employees' relationships to create value which is a component of social capital. Colleague specific human capital is also acknowledged by Ployhart & Moliterno (2011) when human capital emerges at the unit level through interactions and interdependencies among individual KSAOs. Campbell et al.'s (2014), empirical results show firm specific human capital (both colleague and location specific human capital) affects the performance of an individual and the firm. Schulz et al., (2003) also classify firm specific human capital into task specific and non-task specific human capital. Task specific human capital refers to employees' experience gained in the current position over time and non-task specific human capital refers to employees' experience accumulated in prior jobs within the firm.

Therefore, understanding firm specific human capital requires effective governance. The higher the firm specific human capital, greater the need to adopt economic and relationship-based employee governance mechanisms. Literature also shows that firm specific human capital is more likely to lead to economic governance to secure employees' economic gains, but relationship-based governance moderates the relationship between firm specific human capital and performance by facilitating trust between the firm and its employees (Wang et al., 2009). Similarly, compensation is positively related to task specific experience and non-task-specific capital. However, task specific human capital is associated with higher employee compensations (Harris & Helfat, 1997; Schulz et al., 2003).

Thus, human capital developed through interactions, interdependencies and relationships among individual KSAOs leads to firm specific human capital. This firm specific human capital continues to play a role when the isolating mechanisms of firm specificity, social

complexity and causal ambiguity are sustained in an organization. Consequently, social interactions may also play a significant role in sustaining firm specific human capital.

2.4 Leveraging human capital

Leveraging human capital is the process of transferring collective and individual tacit knowledge into explicit knowledge (Lakshman, 2014). Hence, human capital that is embedded in individuals' skills and collective working relationships is called tacit human capital which is rare and difficult to imitate (Hitt et al., 2001). Partners (senior employees with tacit knowledge) who transfer their tacit knowledge, skills and abilities to associates (new employees) is referred to as human capital leveraging (Hitt et al., 2001; Kor & Leblebici, 2005; Sherer, 1995). These authors operationalize human capital leveraging as the number of associates assigned under partners. The rationale for their argument is that when partners frequently interact with associates and monitor their performance, this interactive process helps in developing associates' skills and knowledge (Hitt et al., 2001). This leveraging concept of human capital may help associates gain tacit knowledge from their partners. Consequently, there is the probability of having partially isomorphic human capital at the unit level. In addition, Sherer's (1995) empirical findings show that business strategy, organizational structure and human resource management issues determine human capital leveraging. This concept also includes how senior employees transfer their human capital to junior employees.

However, Lakshman (2014) argues that leveraging is not explained by the ratio of associates to partners. Rather it is a process of interaction between partners and associates to share their experiences. This is initiated when managers behave in an interactive manner with their subordinates. Consequently, internally developed firm specific human capital is better as it has a high level of human capital leveraging and turns into firm profitability (Kor & Leblebici, 2005). Kor and Leblebici are of the opinion that leveraging will be efficient if partners' human capital is equipped with high level expert knowledge, employing a higher level of associates per partner and if delegation to associates facilitates development of their human capital. In addition, Cabrera & Caberera (2005) also support the idea of interactions and interdependencies when they say that knowledge sharing is a result of social interactions among employees in an organization. They also propose that socio-psychological factors

determine the process of knowledge sharing among employees in an organization. This concept of leveraging also leads us to the previous concept of micro-foundation which includes interactions, relationships and interdependencies among individual knowledge, skills and abilities.

Firms can leverage human capital through human capital deployment and human capital inimitability. Human capital deployment refers to fitting individual human assets with tasks, jobs and processes whereas human capital inimitability refers to making individual human capital uniquely suited to a particular firm (Wang et al., 2012). Wang et al., (2012) also found that human capital leveraging is used for acquiring complementary human capital processes like deployment and inimitability. Further, Lakshman (2014) claims that human capital can be leveraged through managers' interactive behavior and performance enhancement strategies. Consequently, there is a strong relationship between managerial interactive behavior with the subordinates and performance measurement strategies with managerial human capital. Therefore, human capital leveraging can provide a point of entry to the process of human capital development through transferring tacit knowledge and interactive relations among employees.

2.5 Inner contextual factors of human capital

The process of interactions and interdependencies is shaped and constrained by the context in which a firm operates (Kozlowski & Chao, 2012). Hence, human capital in an organization is developed through the interactions and interdependencies among individual KSAOs (Ployhart et al., 2014). Jackson & Schuler (1995) contend that since employees are unable to adopt best practices it is better to take contextual factors as enabling or restraining factors in the process of human capital development. Hence, human capital is embedded in the context in which an organization operates. Pettigrew (1987) classifies contextual factors as inner and outer contexts in which a firm operates. The outer context refers to the economic, social, political and competitive environment in which a firm operates. These aspects are outside the control of the organization. Inner contextual factors refer to the organizational structure, corporate culture, organizational policies and procedures and the organizational political context.

The influence of inner contextual factors on human capital originates in practices within an organization. In most cases, inner contextual factors are interconnected with the organization's

policies and procedures and the organizational and leadership behavior of its employees. As a result, strategic human resource management issues and employees mobility are discussed as inner contextual factor in the process of human capital development. In addition, technology which implies systematic transformation into output, organizational structure and size of the organization are also seen as inner contexts.

2.5.1 Strategic human resource management

Strategic human resource management (SHRM) scholars study human capital as an intermediate concept between human resource practices and a firm's performance. They consider human capital as a "black box" which is influenced by an organization's human resource practices. The main reason why SHRM scholars study the "black box" is because individual knowledge, skills and abilities may be improved when human resource practices are comprehensively developed and implemented (Richard and Johnson, 2001). Human capital theory contends that people with knowledge, skills and abilities deliver economic benefits to an organization (Becker, 1964; Youndt et al., 1996). Consequently, people in an organization can enhance or weaken their knowledge, skills and abilities because of organizational policies and practices (Jiang et al., 2012). This inner organizational context also helps in providing an organizational context for investing in human capital (Bhattacharya et al., 2014).

The concept of strategic human resource management is explained in literature using different perspectives. Mawdsley et al., (2015) review four perspectives used for explaining SHRM. First, the universalistic perspective which states that determining best human resource management practices and implementing them helps in enhancing human capital. Such a linear argument of the SHRM concept is explained by different authors (for example, Becker and Gerhart, 1996). Second, the contingency perspective states that the relationship between strategic human resource management practices and human capital is not stable and varies across factors contingent to another variable like say the business strategy. Third, according to the configurational perspective a multidimensional set of human resource management practices can be combined in different ways to obtain a number of configurations (see, for example, Ketchen et al., 1993). Fourth, the contextual perspective maintains that strategic human resource management is applicable to different environments including the particularities of all political, societal, economic, industrial and technological contexts. Therefore, the application of SHRM to human capital is context dependent (for example,

Brewster, 1999). Finally, Mawdsley et al., (2015) suggest that despite the differences between strategic human resource management perspectives and considering their limitations and contributions, researchers need to consider an integrative and comprehensive model of strategic human resource management and its impact on human capital.

Organizations may implement human resource (HR) practices following different approaches for enhancing their human capital. Organizations have their own policies and procedures in enhancing human capital. The policies and procedures for human capital are context dependent. This indicates that there is no best and universal practice for enhancing human capital through human resource practices. Instead, it is contingent on the strategies implemented by an organization. According to Youndt et al., (1996) an organization's strategy may be classified into cost based strategy, quality based strategy and flexible strategy. Hence, human resource practices implemented for enhancing human capital vary based on the strategy employed by an organization. Their findings also show that quality based competition is highly related to enhancing employee skills and developing a democratic work environment. Administrative human resource practices are also related to the cost based strategy that an organization follows. Becker & Huselid (2006) maintain that human capital's attributes are affected by an organization's human resource architecture when they are contingent on its strategic business practices; they develop their model based on this concept.

Jiang et al., (2012) decompose HR systems into skill enhancing HR practices which include comprehensive recruitment policies, rigorous selection and extensive training. Motivation enhancing HR practices include a performance led management, competitive compensation and job security. Finally, opportunity enhancing HR practices include flexible job designs, work teams, employee involvement and information sharing. Consequently, all three HR dimensions (skill, motivation and opportunity enhancing HR practices) have a significant and positive impact on human capital. Jiang et al.'s (2012) findings specifically show how skill enhancing practices are positively related to human capital and less positively related to employee motivation as compared to motivation enhancing and opportunity enhancing practices. They also found that skill enhancing, motivation enhancing and opportunity enhancing HR practices affect employee motivation.

Banks and Kepes (2015) classify HR systems into: HRM philosophy which shows an organization's belief in human resources. HRM policies provide a framework for the development and application of HRM practices and processes. HRM practices include activities that put HRM policies in place. HRM processes are workers' experience and understanding of HRM practices. Therefore, human capital emerges in organizations if all the systems are internally aligned and implemented. But these do not represent the practices and instead refer to the organization level, unit level and individual level commitments for enhancing human capital by applying integrated HR systems. In addition to this, Snell and Youndt (1996) discuss behavior control which includes performance appraisals and feedback, output control (result appraisals), performance-contingent compensation and input control which includes the most viable (performance) as the base for strategic human resource management.

HR practices are considered value added HR functions because they are focused on aligning strategy and organizational culture. This alignment includes a strong leadership and performance management and identifying the implications of the problems that human capital faces and modifying the HR systems (Becker and Huseid, 1999). Strategic human resource management that focuses on HR practices shows the importance of people through empowerment oriented practices including high involvement, commitment and human capital enhancement practices (Huselid, 1995). Therefore, empowerment oriented HR practices significantly affect a firm's human capital philosophy (Richard & Johnson, 2001; Selvarajan et al., 2007).

Findings on strategic human resource management arrive at different results as per their concerns about the perspectives discussed earlier. For example, Wright et al., (2014) argue that the concept of strategic human capital is a combination of both strategy and human resource management as they see investments in human capital as antecedents of good human capital. Investments in human capital include individual level characteristics like education level and professional experience and firm level HR characteristics like training and development which have an impact and shape the aggregated human capital. Youndt et al., (2004) show how investments in training, supportive and developmental practices, comprehensive selection activities, paying more than the market wages and providing ownership significantly affect human capital. But in some literature (for example, Hansen & Alewell 2013) investments in

human capital are considered as transaction costs of building human capital that are linked to micro level decisions about employment agreements, complementary instruments and individual reactions to incentives, structures and rules. Thus, human capital is directly or indirectly affected by human resource management practices.

All this makes human capital a valuable resource when it is embedded in a firm and in its individual employees (Bowman & Swart, 2007). Such embedded human capital can be developed by putting in place HR practices which are linked to the well-being of individuals. Thus, organizations may use human resource (HR) practices to build and sustain human capital (Jiang et al., 2012). SHRM scholars study human capital enhancing mechanisms such as HR practices for improving firm performance. But I argue that human resource practices are a part of the inner context of a firm which are used to shape the process of human capital development. Because as the process of human capital develops in an organization through the interactions and interdependencies among individual KSAOs is shaped by the context in which the firm operates (Ployhart & Moliterno, 2011). Nyberg et al., (2014) argue that a complex task environment affects the development of individual KSAOs into unit level human capital. HR practices also affect the task environment of an organization. As a result, the interaction between KSAOs and human resource practices also affects the process of human capital development. Consequently, we can consider human capital enhancing mechanisms such as human resource practices as an inner context which shapes the process of human capital development.

2.5.2 Employees mobility

Employees mobility is explained as the inflow and outflow of employees in an organization (Nyberg & Ployhart, 2013). Firms cannot own individual human assets though they can manage their inflow, outflow and development. The management of inflow, outflow and development of employees can also affect human capital. Nyberg et al., (2014) consider employees mobility as an examination of the changes in unit level human capital over time. Managing human capital inflow and outflow is important for understanding employee's mobility. Further, understanding of employee's mobility helps us in understanding the consequences of unit level human capital (Ployhart et al., 2009; Reilly et al., 2014). For example, collective turnover as one aspect of employee's mobility refers to "The quality and quantity of KSAO depletion from the unit" (Nyberg & Ployhart, 2013: 112).

Employees' collective turnover affects the development of human capital by negatively affecting the unit climate and the relationship among individual employees. As a consequence, employee mobility also disrupts location specific and colleague specific human capital which in turn impacts the performance of individuals and the organization (Campbell et al., 2014). This is due to the fact that when employees leave an organization there is the probability of losing their firm specific human capital because their human capital may be socially embedded in the relationships created in the organization. Further, employees' mobility also affects the employees who remain in the organization as they may be disrupted by new employees joining the organization. This is like a football club reducing its team capability when it sells its striker.

The way employees are treated in an organization and their perceptions about the leadership and the benefits offered to them also affect the employee's mobility. This is supported by Wright & McMahan's (2011) empirical findings which show how employees' mobility is linked to ownership capital in which firms may temporarily own the resources, but if employees feel that their firms have not dealt fairly with them it might affect human capital negatively.

Further, firms' investments in human capital have their own impact on employee's mobility. As I describe above employee's mobility is linked to the leadership of an organization. Liu et al., (2014) state that turnover, shareholders' concentration and financial leverage affect employee's mobility and consequently a firm's competitive advantage because if the employees and shareholders feel that they are not benefiting from the organization there is a tendency to look for alternatives like joining another organization. Based on this we can conclude that a feeling of not being treated fairly leads to employee mobility in an organization.

Employees mobility is not only described through the outflow of employees. Movement of employees within an organization may also disrupt employee human capital as losing social connections in their respective unit, starting over on a new task and creating new social employee relationships makes it difficult to build new knowledge, skills and abilities.

Mawdsley & Somaya (2015) maintain that employees' human capital is affected by employee mobility which they conceptualize using a macro perspective. This indicates that employees' mobility and its impact on human capital is determined by two basic issues. First, who moves from the organization or the attributes and strategies of individual employees who leave the

organization. Second, from where and to where do individual employees move which indicates the attributes and strategies of the source organization and the destination organization. Finally, they describe how environmental and institutional factors affect employees' mobility. They conclude that employee mobility will affect the human and relational capital of an organization. This has fundamental implications for the process of human capital these findings show the reasons why employees leave an organization by analyzing inner contexts like the attributes and strategies of the source organization. Second, in addition to analyzing the impact of inner contextual factors on the process of human capital process outer contextual factors like competition, economy, social and political factors may also have an impact on the process of human capital. This is identified by analyzing the context and attributes of employees' destinations. This is also supported by classical literature. Mobley et al., (1979) concluded that turnover is affected by internal factors such as job-related perceptions and expectations in the present job and outer contextual factors such as expectations from the alternative job. Griffeth et al., (2000) in their comprehensive meta-analysis describe the reasons for employees leaving by studying the job search methods employed, role of contingent rewards and social differences among employees. Therefore, the outer context of an organization plays a major role in its employees' mobility.

Employees mobility may be controlled by managing HR policies and practices and the context in which a firm operates (Nyberg et al., 2009) as individual employees are sensitive to HR practices and the context in which a firm operates. For example, if employees feel that they are not benefitting from the firm they work for they will consider leaving. Consequently, firms can manage the employee's mobility through effective selection, development and deployment of human capital (Hatch & Dyer, 2004). Firms can also develop coping mechanisms to overcome organizational threats provided by employees' mobility. Coff (1997) and Coff & Kryscynski (2011) propose retention strategies, rent sharing strategies, organizational design strategies and managing information strategies as coping mechanisms for managing the outflow of human capital. Securing employees' autonomy or their right to take decisions also play a role in stabilizing the outflow of human capital (Gambardella et al., 2015). Firms can also retain their employees by linking them to firm specific human capital (Campbell et al., 2013). Once a firm develops firm specific human capital it needs to manage employees'

outflow through governance mechanisms such as economic and relationship mechanisms (Wang et al., 2009).

I argue that employee's mobility is an inner contextual factor which affects a firm's human capital. However, this can be positively or negatively affected by strategic human resource management practices. If employees feel that the management practices of their firms are treating them in a fair manner they are likely to stay longer.

Jackson & Schuler (1995) discuss inner contextual factors for human capital including technology which is a systematic process for transforming output, organizational structure, size of the organization, life cycle stages of the organization and its business strategies. They show that the work system and size of the organization also affect the process of human capital. Work system, organizational structure and size of the organization can be included in strategic human resource management as policies and procedures implemented for enhancing human capital.

2.6 Outer contextual factors

Human capital is not only impacted by organizational factors. It is also determined by outer contextual factors. Outer contextual factors are contexts which affect human capital though they are beyond the control of an organization. My literature review shows that there is a lacuna in human capital literature on outer contextual factors. Few literatures on social, political, economic and cultural contexts are discussed below. In addition to this, impact of competition on human capital is also discussed as an outer context factor.

2.6.1   Social, political, economic, cultural and competition contexts

Bowman & Swart (2007) show that human capital is not only embedded within an organization but also in the environment in which it operates. Some literature also discusses the macro perspective of human capital outflow by studying the attributes and strategies of destination organizations (Mawdsley & Somaya 2015). This leads us to a study of the environmental factors which affect an organization's human capital. These environmental factors can be studied by analyzing the social, political, economic, cultural and competitive contexts in which a firm operates. Therefore, outer contexts which shape and constrain organizational behavior include its economic, social, political and competitive environment (Pettigrew, 1987). Consequently, this may have an impact on shaping the process of human capital. Nyberg et

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al., (2014) discuss the contexts which affect the development of human capital and maintain that these also include the global context by considering whether human capital is embedded within a given country or in an international organizational setting. This makes the global or country context which includes social, political, economic and cultural factors the main outer contexts that shape and constrain human capital process in an organization.

Human capital is a source of competitive advantage if it is socially complex, causally ambiguous and firm specific. Barney (1991) describes social complexity as the extent to which individual assets are embedded in highly complex social systems. Social complex human capital may also include networks with stakeholders like suppliers or customers, firms' innovations and how they respond to a dynamic environment (Coff, 1997). This like is different from the internal socially complex human capital which includes interpersonal relationships among employees in a firm and a firm's culture (Barney, 1991). Jackson & Schuler (1995) discuss external contexts for human resource management when the knowledge, skills and abilities are embedded in the external environment. This external environment includes legal, social, political, union and labor market conditions, industry characteristics and national culture.

Similarly, Hickman & Olney (2011) also explain the outer contextual factors through the impact of globalization on the process of human capital. Employees in an organization are affected by global competition in the labor market. Therefore, employees' response to globalization and labor market competition has an impact on the process of human capital. This can happen through employees and an organization's decisions on investments in human capital like that on training, retraining and education of employees.

Political, economic, cultural, competitive and socially complex characteristics of human resources lead us to the outer contexts which shape the process of human capital. Therefore, I argue that the outer contexts may constrain and shape the process of human capital development. This can also be explained by the fact that human capital in developed countries is different from that in emerging economies because of distinct social, economic, political, cultural and competitive contexts. As a result, it is important to consider the outer contexts in the process of human capital. I also argue that outer contextual factors also affect the inner contexts. In this context, Wright & McMahan (1992) explain that external factors like political

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or institutional ones are the main determinants of an organization's human resource management practices.

A summary of the literature review is given as a theoretical framework in Figure 1. The figure shows that human capital originates in individual knowledge, skills, abilities and other characteristics. Individuals form the core of human capital's origin. These individuals are joined to their respective organizations. As a result, the interactions and interdependencies among them accelerate the process of human capital. Such a process is discussed in micro-foundation concepts of human capital. The interactions and interdependencies lead to firm specific human capital. Firm specific human capital refers to knowledge, skills and abilities which are pertinent for the tasks of an organization. Finally, this firm specific human capital (which is also called tacit knowledge) is leveraged to other employees of the organization through the interactive behavior of managers and subordinates. Impact of inner and outer contextual factors on the process of human capital is also shown in framework. Inaddition to this, impact of outer contextual factors on inner contexts is also part of the framework. Within inner contextual factors strategic human resource management practices has also crucial impact on employees mobility.

How human capital develops in an organization and the interactions, interdependencies and relationships between people and their impact on the process of human capital is not well articulated in literature on strategy and strategic human resource management. There is also lack of literature which integrates strategy and strategic human resource management perspectives of human capital. In addition, the unique economic, social, political, cultural and organizational contexts of emerging economies may provide an insight into the process of human capital development. Therefore, studying human capital as a process helps in integrating strategy and strategic human resources literature, including contextual factors shaping and constraining the process of human capital and focusing on social dynamics such as interactions, interdependencies and relationships. Social interactions, interdependencies, relationships, mechanisms and events have a big impact on the process of human capital development. The social exchange theory helps us see this process of human capital development through the lens of social interactions, interdependencies, relationships, mechanisms and events. Social exchange theory also helps us see the interactions and interdependencies among employees and between employees and the organization in the

process of human capital development. The next chapter introduces the social exchange theory and its interpretation of the process of human capital development.

Figure 1: A theoretical framework of the process of human capital development

Outer contextual factors: Social, political, cultural, economic and competition

Origin of HC: Individual knowledge, skills, abilities and other characteristics

Micro-foundation and multilevel perspective of HC: Interactions, relationships and interdependencies among individual KSAOs

Generic versus firm specific HC

Leveraging HC

Inner contextual factors:

SHRM practices

Employees mobility

Time

2.7 Summary

Human capital is conceptualized differently by different scholars based on their level of analysis and malleability (Ployhart et al., 2014; Wright & McMahan, 2011; Wright et al., 2014). Broadly, the conceptualization of human capital considers the following. First, the origin or inputs for human capital development which include individual knowledge, skills and abilities. Second, the process by which interactions and interdependencies evolve among individuals with different individual KSAOs. Third, the context that shapes the process of human capital. Finally, the output which is the unit level of human capital linked to the organization's performance.

Based on the literature review, individuals are the locus of knowledge creation and consequently of human capital process rather than the collective (Felin et al., 2009: Foss, 2011: Felin & Hesterly, 2007). Individuals' knowledge, skills, abilities and other characteristics are the origins of the process of human capital. The emergence of enabling processes such as the environment, task complexity, an enabling state, an information processing approach and aligning individual interests with the firm's interests facilitates or hinders interactions and interdependencies among individual KSAOs and moves to unit level human capital. Literature discusses micro-foundation issues such as interdependence and coordination among members, the unit behavioral process and cognitive and affective mechanisms as mechanisms used in the process of human capital development (Nyberg & Ployhart, 2013; Ployhart, 2014; Ployhart & Moliterno, 2011).

Human capital developed through interactions and interdependencies is firm specific (Hatch & Dyer, 2004: Sturman et al., 2008) which are pertinent to the organization. Such human capital is also socially complex and causally ambiguous. Firm specific human capital can also be transferred to other employees of the organization through leveraging which leads to partially isomorphic human capital.

This process of human capital development is also enabled and constrained by the context in which a firm operates. Hence, SHRM practices and employees mobility are considered to be inner contextual factors which enable and constrain the process of human capital development. Further, employees mobility is constrained and shaped by SHRM practices. Outer contexts of political, social, economic cultural and competition aspects may also affect the process of

human capital development. Outer contextual factors have indispensable impact on inner contextual factors.

In general, "the emergence of human capital is considered as a process, rather than examined directly, and it has been measured in a static, rather than dynamic fashion and consequently, the emergent phenomena of human capital have generated much less direct theoretical and research attention" (Kozlowski & Chao, 2012: 336). Hence, my research considers the dynamic nature of human capital which includes social interactions, interdependencies, relationships and dynamics between employees and their impact on the process of human capital.

In existing literature human capital is studied using the human capital theory following a resource based view. But in my thesis understanding the process of human capital is done through the social interactions, interdependencies, relationships and dynamics between employees seen through the lens of the social exchange theory.

Chapter 3: The theoretical/Analytical framework

3.1 Introduction

Human capital has a significant impact on an organization's productivity, performance and competitive advantage (Ployhart et al., 2014; Wright et al., 2014). Studies using the human capital theory as a framework following a resource based view do not cover the process of human capital development or the social interactions and interdependencies among the people in an organization and between employees and the organization. The interactions, interdependencies and relationships between employees and stakeholders have a significant impact on the process of human capital development (Barney & Felin, 2013; Felin et al., 2012; Foss, 2011). Researchers use the multilevel and micro-foundation concepts of human capital (for example, Foss, 2011; Ployhart & Moliterno, 2011) to highlight these aspects. However, they do not study the integration of social interactions, interdependencies and relationships with the process of human capital development. Employees in an organization engage in social exchange relationships in the workplace during interactions with their colleagues, supervisors, employing organizations, customers and stakeholders (Cropanzano & Mitchell, 2005). This social exchange relationship and interaction among employees has implications for the process of human capital. Social exchange theory deals with the exchange of intangible resources and can explain the process of human capital development by emphasizing social interactions, interdependencies and relationships among the parties involved in the process of human capital development.

3.2 Social exchange theory

Social exchange theory originated in the field of sociology of social relationships and social networks, the psychology of interdependencies among socially interacting parties and the anthropology of reciprocity and negotiated exchanges. Homans (1958), Blau (1964), Meeker (1971) and Emerson (1976) laid the foundation of the social exchange theory which deals with a series of interactions among the parties involved in transactions that generate obligations (Emerson, 1976). These interactions are usually seen as mutually contingent and interdependent on the actions (Blau, 1964). Hence, this can be used to explain the process of human capital as it is a process of willingness to support behavior which is a contingent action for seeking supporting behavior from others. Willingness to support behavior includes

exchange of information and advice, experience sharing, knowledge transfer and informal peer support. These contingent actions have elements of human capital. Homans (1958) defines social exchange as an interaction between persons in the exchange of tangible and intangible resources. This process of exchange is influenced by cohesiveness and interaction among the members. According to Meeker (1971) social exchange is a decision-making process in an exchange of values on the basis of contingent actions. Hence, it can be concluded that the social exchange theory has elements of contingent actions, interactions, cohesiveness, decision making and exchange of tangible and intangible resources.

From this discussion we can also conclude that the social exchange theory involves continuous interactions and interdependencies among employees, supervisors, the employing organization, customers and stakeholders which may lead to contingent actions. These contingent actions may have an impact on the process of human capital development. Human capital as an intangible resource is also influenced by the cohesiveness and interactions among the parties involved in human capital process (Ployhart & Moliterno, 2011). Parallel to this Cook (2015) argues that the social exchange theory is a major theory in social science which explains social interactions, interdependencies and relationships. As a result, the social exchange theory can provide insights into the process of human capital by explaining concepts like relationships and social networks. This can help in analyzing the impact of interactions, interdependencies, relationships and social networks on the process of human capital development.

Cook (2015) also argues that the primary focus of the social exchange theory is on analyzing social interactions and social structures. Social interactions explain exchanges in transactions including the exchange of intangible resources like knowledge, advice, information sharing, skills, abilities and experience which are human capital elements. Social structure explains the network of social relationships between individuals and groups including networks created for the process of human capital. These networks include formal and informal social networks which enable or restrain the process of human capital.

This discussion tells us that the central issues in social exchange are the behavior of the parties involved in interactions with one another, mutually contingent actions, exchange of values and interdependent transactions and relationships.

The other main issue discussed in social exchange literature is what exchange is and what is supposed to be exchanged. Most literature on this subject argues that exchange is "*a series of interdependent transactions that can produce some sort of interpersonal attachment*" (Cropanzano & Mitchell, 2005:886). Intangible resources like knowledge, skills, abilities, information, advice and experience are supposed to be exchanged (Homans, 1961) during transactions and interpersonal attachments. Due to the intangible nature of social exchange and consequently of human capital, the focus is on the intangible resources that have to be exchanged as human capital is considered to be an intangible resource (Ployhart et al., 2009). Hence, social exchange involves exchange of intangible resources like love, knowledge, information, friendship, respect and honor (Cropanzano & Mitchell, 2005; Hsin Hsin Chang et al., 2015), practical help, advice, information and prestige (Dijkstra, 2015), psychological contracts and behavior (Birtch et al., 2016) and feelings of obligation (Wayne et al., 1997; Zhe et al., 2010). Consequently, human capital can also be built through social interactions, interdependencies and relationships in an exchange of intangible resources like knowledge, information, practical help, advice, skills, abilities, respect, friendship, experience, feelings of obligation and psychological contracts. Social exchanges also help one see the process of human capital development during the formal and informal interactions, interdependencies and relationships among employees in an organization. An implicit understanding among individuals, groups and networks during the process of human capital development can also be considered a resource to be exchanged (Birtch et al., 2016; Cheshire et al., 2010; Wayne et al., 1997). An implicit understanding among the parties involved also helps in analyzing the mechanisms, events, patterns and processes used in the process of human capital.

Social exchange theory is applicable if the components of social exchange like the persons in the interaction, actions performed and the values exchanged (Meeker, 1971). 'Persons' refer to the parties involved in human capital process, 'actions' refer to the behavior of the persons and 'values' refer to positive or negative values which are used as mechanisms, patterns, activities and events in the process of human capital development. Cropanzano et al., (2015) also maintain that the social exchange theory has at least three parts -- an initiating action, a relationship between parties involved in the interaction and a reciprocal response. This explains the process of human capital through the interactions and interdependencies where the coachee, mentee, trainee, and subordinates initiate (positively or negatively) action for

coaches, mentors, trainers and managers to act positively or negatively. Relationships during the interactions, interdependencies and relationships may affect the process of human capital positively or negatively.

3.3 Mode of social exchange

Social exchange theory also explains the mode of exchange during the interactions, interdependencies and relationships. The exchange process in interactions and interdependencies takes different forms. Most of the literature argues that the form or mode of exchange can be explained as the rules of exchange which include reciprocal, negotiated and generalized or indirect exchanges. But most social exchange theorists focus on reciprocal and negotiated exchanges. Reciprocity is described as actions in an exchange which are separately performed and are non-negotiable (Cheshire et al., 2010). Actors initiate exchanges individually without knowing whether, when or to what extent there will be reciprocity. Reciprocity is also characterized by complementarities, interdependencies and contingent actions (Cheshire et al., 2010). In contrast, a negotiated exchange means that parties in an exchange jointly bargain over the terms of the transactions and these are secured by binding agreements (Cheshire et al., 2010; Cropanzano and Mitchell, 2005; Meeker, 1971; Molm et al., 2012). Reciprocal and negotiated exchanges may occur either sequentially or concurrently (Molm et al., 2012).

Scholars of the social exchange theory categorize reciprocal and negotiated exchanges as direct exchanges because there is a mutual dependency among the parties involved and the social interactions can be direct (A provides value to B, and B to A) (Molm et al., 2012). Generalized or indirect exchange on the other hand is an indirect social exchange (B can reciprocate a benefit received from A by giving it to another member of the social system say C). Wischniewski et al., (2009) call an indirect exchange as one that is not reciprocated directly; instead it may be reciprocated indirectly through gain in reputation or social status. Dijkstra (2015) adds the term 'productive exchange' to this as both actors in the interaction and relationship must contribute for either to benefit. Cheshire et al., (2010) argue that negotiated and reciprocal exchanges differ in the risks of non-reciprocity involved and the salience of the conflict. As a result, a negotiated exchange is characterized by less uncertainty of reciprocity as compared to a reciprocal exchange. Gefen & Ridings (2002) argue that the social exchange theory does not assure reciprocity and there are no rules and regulations during

the interactions, interdependencies and relationships. Therefore, as per the social exchange theory social exchange is determined by employee inherent motivations rather than by rules and regulations.

These modes of exchange are summarized figuratively by Cheshire et al., (2010) (see Figure 2).

Figure 2: Modes of exchange
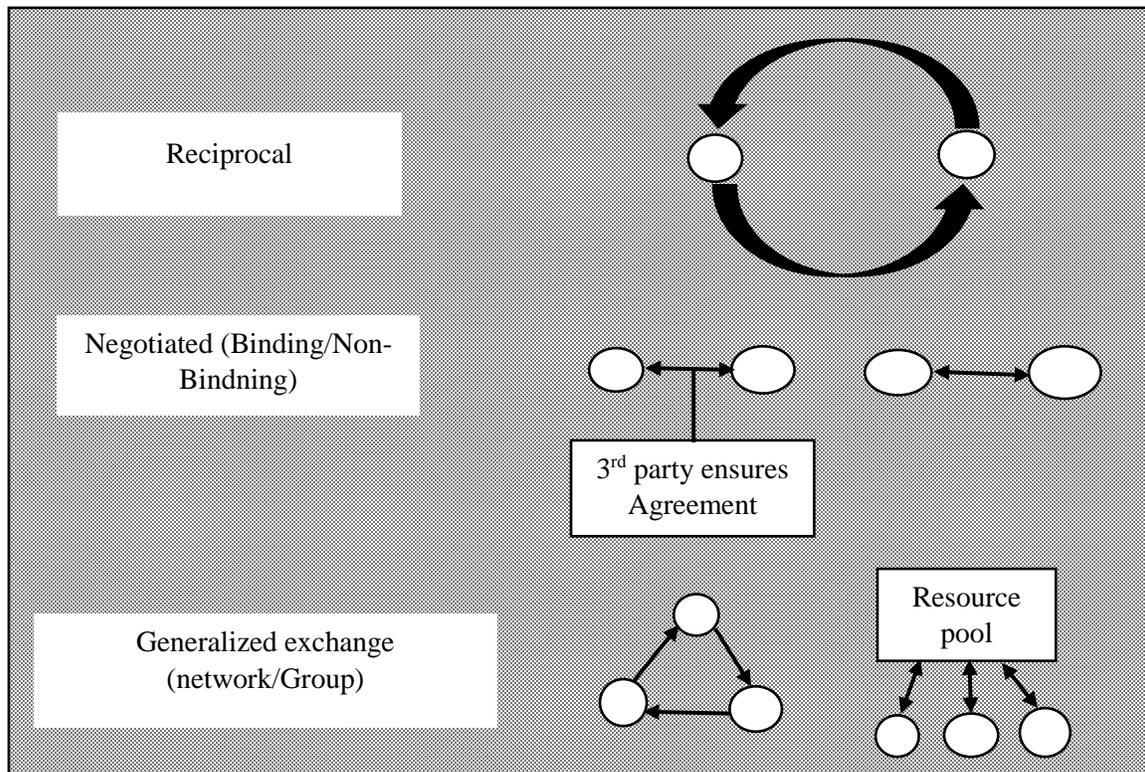
Source: Cheshire et al., (2010: 179).

In addition to reciprocal and negotiated exchanges there are also social exchanges which are beyond reciprocity and negotiations like rationality, altruism, group gain, status consistency and competition (Cropanzano & Mitchell, 2005; Meeker, 1971). Cropanzano & Mitchell (2005:879) define these concepts as:

"Rationality refers to the use of logic to ascertain likely consequences (ends) and how one should achieve those things that are valued (means).

Altruism is a rule whereby we seek to benefit another person even at an absolute cost to ourselves.

In *group gain*, the benefits are put into a single common "pot" (the word can be understood figuratively or literally). Individuals take what they need from this common pool regardless of their particular contribution.

Status consistency or *rank equilibration* is the allocation of benefits based on one's station within a social group. Some people benefit from an attribute that yields standing, such as race, aristocratic status, and so forth.

Competition can be thought of as the diametric opposite of altruism. Where altruism is assisting others even when it potentially hurts oneself, competition is harming others even when it risks one's own earnings."

3.4 Outcomes of a social exchange

Social exchange theory also explains the outcomes of the interactions, interdependencies and relationships. These outcomes are helpful in explaining their positive and negative consequences for the process of human capital and are a result of the structure and process of social exchange (Molm et al., 2012). Cropanzano & Mitchell (2005) summarize the outcomes of an exchange as economic and socioemotional outcomes. Economic outcomes are those which address financial needs and tend to be tangible. Socioemotional outcomes are those that address needs that are social and connected with esteem. Molm et al., (2012) also discuss integrative outcomes which include behavior, cognitions or feelings that are a result of the structure and process of the exchange and which increase bonds of attachment among the parties involved in the exchange. Such outcomes bring people together and provide the foundation for long term relationships and as such provide a base for the process of human capital development. As a result, they discuss trust, affective regard and relational solidarity as the main elements which are integrated in social exchange outcomes.

Collins & Smith (2006) describe outcomes of a social exchange as the social climate of an organization which may enable or restrain the process of human capital development. Such outcomes include trust, cooperation and shared codes. Moreover, Cook (2015) also argues that positive emotions towards the exchange, affective sentiments and feelings of solidarity are outcomes of an exchange. In addition to these studies on emotion and social exchange by Lawler & Thye (1999) argue that outcomes of social exchange are organized under social attributions and social cohesion. Social attributions may have an impact on the order, cohesion and solidarity of the relationship. These outcomes are mainly used to analyze the outcomes of

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the interactions, interdependencies and relationships and their consequence for the process of human capital development. Such integrative and socioemotional outcomes may help in facilitating this process.

However, I argue that social exchange may not only have positive outcomes which facilitate the process of human capital development but also have negative outcomes which negatively affect this process. Negative outcomes of social exchange are not well articulated in literature on social exchange.

Therefore, considering the nature of the process of human capital the interactions among the parties involved in the socioemotional (Cropanzano & Mitchell, 2005) and integrative outcomes (Molm et al., 2012) have a significant impact on the process of human capital development.

There are also studies on perceived organizational support and exchanges between the leader and members of an organization which consider job satisfaction, organizational commitment, job performance and organizational citizenship behavior as outcomes of social exchange (Birtch et al., 2016). Such social exchange outcomes may happen during the interactions and interdependencies among the employees and the organization. Consequently, the interactions and interdependencies among the employees and the organization create a mechanism, pattern and event which constructs the process of human capital.

The concept of social exchange in the workplace is explained through interpersonal connections with supervisors, co-workers, the organization, customers and suppliers (Cropanzano & Mitchell, 2005). These interpersonal connections also happen in the process of human capital development during formal and informal human capital development mechanisms. This association among interconnected parties is explained as a social exchange relationship. I argue that the interactions, interdependencies and relationships among co-workers, with stakeholders and between employees and the organization help the process of human capital development through transfer of knowledge, skills, abilities, information, experience and advice among the parties involved in the process. As a result, I see the dynamism within people, their interactions and interdependencies, relationships and communication between the parties involved in the process of human capital development through the lens of the social exchange theory. The parties involved in human capital process

may include trainers and trainees, coaches and those being coached, managers and subordinates and mentors and mentees, foreign and local experts, senior and junior employees and generally among employees of an organization who engage in transfer of knowledge, skills, abilities, experience, information, practical help and advice.

Based on the previous scholarly work on the social exchange theory, this review is summarized in Figure 3. It shows the interactions and interdependencies among the employees of an organization and also with stakeholders, the outcomes of these interactions and interdependencies and the impact that these have on the process of human capital.

Figure 3: Analytical framework of the social exchange theory
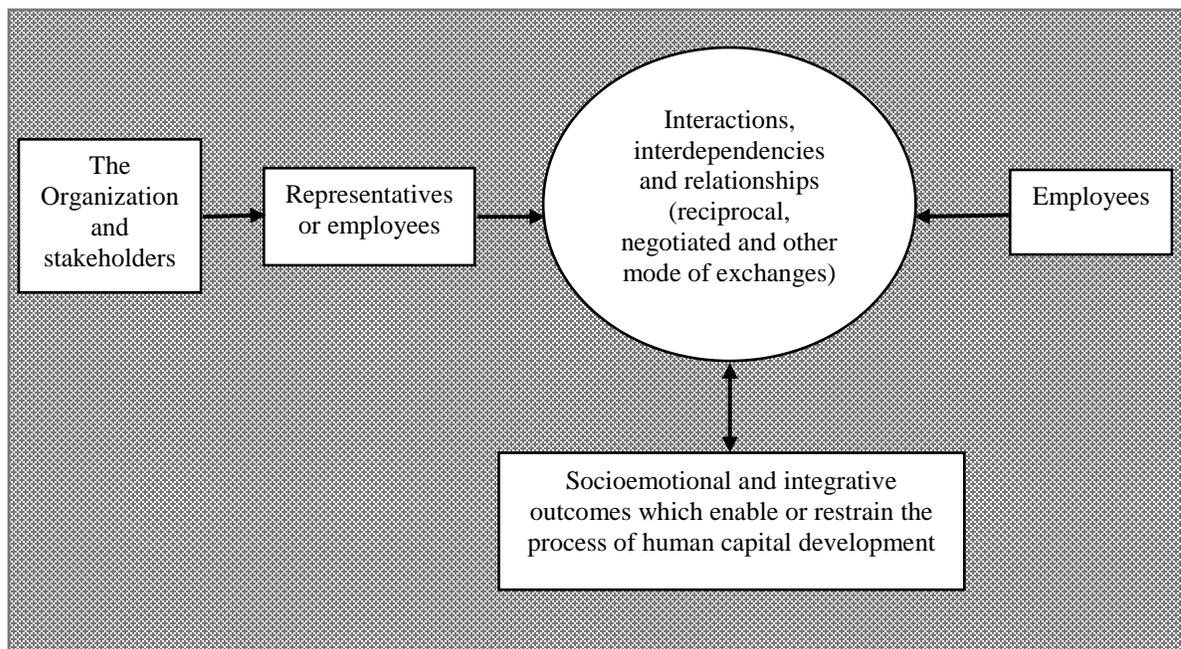
Chapter 4: Methodology

This chapter is divided into two parts which discuss the research approach and research design. Research approach outlines the research paradigm and the knowledge creation process. The research paradigm deals with ontological and epistemological stance of this dissertation. The thesis was influenced by critical realism because the process of human capital is presented authentically through events, mechanisms, interactions, interdependencies and relationships that emerge during the process of human capital development. The thesis used an interpretative approach while exploring how human capital is developed in an organization. For this the thesis followed an inductive approach and also relied on previous theory to match empirical data and theoretical pre-conceptions. Hence, it can be argued that it is also abductive. The second part of the chapter outlines the research design which deals with process research, case selection, participant selection, data collection, access to cases, data analysis, research quality and ethics.

4.1 Research approach

Research paradigm refers to fundamental belief and assumptions about the nature of the world (Gioia & Pitre, 1990; Guba and Lincoln, 1994). This belief is expressed in terms of ontological, epistemological and methodological assumptions which a researcher adopts (Guba & Lincoln, 1994). Alvesson & Sköldberg (2009) explain three commonly used paradigms: positivism, constructivism and critical realism, where this thesis confess to be a critical realist. According to critical realists reality cannot be observed directly but exists independent of human beings and knowledge is produced as a construction between the researcher and the researched.

This thesis explores how human capital develops in an organization. The thesis believe that the process of human capital development exists independent of the researcher's knowledge because the process of human capital development is built on social interactions, interdependencies, relationships, mechanisms, incidents, events and contexts. As a critical realist, this thesis also focused on mechanisms which drive events or power implications like objects or entities, interactions, relationships and contextual and emergent issues in creating the process (cf. Bhaskar, 1978; Easton, 2010 and Steinmetz, 1998). In line with a critical realist's stance, my thesis was focused on the interactions, interdependencies, relationships,

mechanisms and dynamics among people and between employees and the organization which helped in exploring the process of human capital development. Hence, my research work is influenced by critical realism.

The thesis follow a qualitative research approach as it was relevant for a study of how human capital is developed in an organization. This approach is suitable for answering "how" human capital develops so as to conceptualize and to understand the interactions, relationships, mechanisms, events and the dynamics among people in greater detail (Maxwell, 2008).

This research is focused on how human capital develops through social interactions, interdependencies and relationships. Hence, the thesis followed an interpretative approach while revealing the concepts that exist below the surface of the process of human capital development when describing the events, mechanisms, interactions, interdependencies and relationships. Critical realism recognizes social phenomena as intrinsically meaningful (Easton, 2010; Sayer, 2000). Therefore, meanings are interpreted rather than taking measurements. I have also relied on the interpretative approach while abstracting the data into themes on the process of human capital (cf. Brown, 2014). Themes are also interpreted on the process of human capital which exist below the surface by revealing the mechanisms, events, patterns and social dynamics which realized the process of human capital development. This process is termed systematic abstraction (Brown, 2014).

This study was inductive in character and it also relied on previous theory to match empirical data and theoretical pre-conceptions, and therefore it can be argued that it was also abductive. Induction took its point of departure in the empirical data and abduction in the empirical data matched with theoretical pre-conceptions (cf. Alvesson & Sköldberg, 2009).

4.2 Research design

This thesis relied on process research in exploring how human capital develops in an organization. Doing research as a process provided insights into how human capital is developed in an organization. In addition to this, process research was helpful in identifying the social interactions, interdependencies, relationships and dynamics during the process of human capital development (Van de Ven, 2007). Hence, research design of this thesis includes researching as a process, using case study and case selection, participant selection, data collection, data analysis and research quality and ethics.

4.2.1 Process research

The main purpose of my research is studying how human§ capital develops in an organization for which I used a process research approach. Since process studies are centrally concerned with describing, explaining and analyzing how change or development unfolds in the entities or things being studied (Van de Ven, 2007). This approach was helpful in capturing the interactions, interdependencies and social dynamics among people and the events and mechanisms that happened during the process of human capital development (Pettigrew, 1997).

There are two different definitions of process used in literature: First, process as a category of concepts or variables that pertain to actions and activities. This refers to examining a set of independent variables to statistically explain the variations in the outcomes. It also includes formulating priori process theories and testing them. This can be seen as a variance theory studied quantitatively. Second, process as a narrative describes how things develop. This also includes collecting qualitative data and extracting theory and is a process theory that is studied qualitatively (Langley, 1999; Van de Ven, 1992). This thesis relied on the latter definition and was focused on exploring the process of human capital development by collecting qualitative data and conceiving a theory. This thesis also assumed that interactions, interdependencies and relationships happened during the process of human capital development.

Process as a development of events is an approach which studies the sequence of events and activities that describe how things develop over time. My study conceptualized human capital as a process where employees' knowledge, skills and abilities are developed through events, mechanisms, relationships and patterns that emerge during the process of interactions and interdependencies among employees and between employees and the organization. The definition of process research was focused on following a historical development perspective and a sequence of incidents, activities, actions, interactions, interdependencies and relationships which unfolded during different stages. This definition is in line with Pettigrew (1997: 338) who describes process as "a sequence of individual and collective events, actions, and activities unfolding over time in context." Therefore, in this thesis human capital is conceptualized and studied as a process of social interactions, interdependencies, relationships,

events, patterns and mechanisms that happen during the process of human capital development.

4.2.2 Case study and case selection

Since cases are seen to be suitable for in-depth studies (Stake, 1995), this thesis followed this approach by studying two cases. Case study research was more suited to answer "how?" and for studying the cases in depth with the purpose of theory building (Stake, 1995: Easton, 2010). Hence, the researcher selected the cases to build theory rather than testing the theory and representativeness was not an issue (Eisenhardt and Graebner. 2007; Stake, 1995).

The researcher selected two cases: Ethiopian Airlines from the service sector and Bishoftu Automotive Industry (BAI) from the manufacturing sector. The choice to select cases from different circumstance helped in maximizing what could be learnt (cf. Stake, 1995) and for capturing the theoretical concepts and heterogeneity of the sectors (Van de Ven, 2007). Therefore, taking the cases from different sectors increased the probability of more differences in how human capital developed over time. The two cases were also selected due to the two companies' emphasis on the process of human capital development and their experiences with it. This was deemed to provide an insight into the process of human capital (Van de Ven, 2007).

These cases also provided the context of companies' experiences in emerging economies. Access to the cases was challenging as was the field work. The researcher have childhood friends and college classmates working for Ethiopian Airlines and BAI which made it possible for me to approach the companies and they were accommodating of my research. Therefore, access was another selection criteria for this study and the case selection process was also determined by the companies being open to my enquiries (cf. Stake, 1995).

4.2.3 Participant selection

Qualitative research is often focused on persons or a group of persons who might be most knowledgeable and who might have a different point of view as compared to the other members of the field being studied (Flick, 2007). Accordingly, the researcher approached informants who had special knowledge like senior officials to select relevant informants (cf. Blackler and Brown, 1983). In his one-phase approach of screening informants, Yin (2004) recommends first approaching people who are knowledgeable about the informants to select

those who best fit the research design. In line with Eisenhardt and Grabener (2007), the researcher also selected informants from different hierarchical levels, functional areas and groups to capture diversity. Therefore, selection of informants was done after considering suggestions from senior managers in the organizations and ensuring representativeness from each functional area and hierarchical level of the organizations.

The process of human capital development applies to all employees in an organization. But suggestions from senior officials for informants helped me to select informants with good powers of expression and they were also knowledgeable in the study area. Selecting informants from each functional area and hierarchical level also helped in mitigated biases in selecting informants. Senior officials may have suggested informants who were too "positive" and they may have missed critical voices. Due to limited access to select informants the researcher addressed such problems by asking a range of questions. In addition, the prensipal investigator also used access for selecting the interviewees. For example, in Ethiopian Airlines I faced difficulties in finding captains for interviews. I have a childhood friend working for the airline who knew the scheduler coordinating captains and cabin crew. I used this channel to get access to captains for interviews.

4.3 Data collection

One basic assumption for process research is that the world is made up of entities that participate in the creation of events. As a result, the unit of analysis evolves in individual entities who create the event (Van de Ven, 2007). From this it can be concluded that the unit of analysis is individuals who create the process of human capital development. The researcher collected data from different actors who had a direct and indirect impact on the process of human capital development. Further, as human capital is inherent in individual knowledge, skills and abilities developed through interactions, interdependencies and relationships among employees, the researcher also collected data from individual employees and analyzed it at the individual level.

Real time methodology is the preferred methodology for process research but due to the nature of the human capital phenomenon this was difficult as the researche was not an employee in either of the two cases and was not able to get such access over time. An alternative for longitudinal research is taking a retrospective look back at a development or process (cf. Flick,

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2007). The retrospective methodology provides an opportunity to see the 'big picture' of how human capital is developed. Such an approach is also helpful in interpreting how human capital is developed and for constructing the narrative of the process. The main drawback of using the retrospective approach is a prior knowledge bias through censoring minority views. This is especially true if the final assessment looks at the success or failure, effective or ineffective aspects of the human capital process (Van de Ven, 2007: 208). However, human capital is not associated with taking a direct view of success or failure or effective or ineffective results. This shortcoming of the methodology was also mitigated by the data collection approaches that the thesis followed. A key approach which helped was using numerous and highly knowledgeable informants who viewed the focal phenomena from different perspectives, using informants from different functional areas, hierarchical levels, groups and triangulating the data from these different sources (Eisenhardt and Graebner, 2007). The principal investigator used in-depth interviews and triangulation with more informants from different hierarchies and functional areas and also included archival data during the data collection process.

According to process researchers, critical realism is aimed at a reconstruction of events and processes and focuses on structures and patterns that are assumed to exist independent of the researcher (Vaara and Lamberg, 2016). Healy and Perry (2000) argue that theory building under the paradigm of critical realism is methodologically more suitable to in-depth interviewing. Therefore, the researcher collected data through in-depth semi-structured interviews with individual employees from different functional areas and hierarchies in the organization. The researcher also participated in formal meetings, made observations and referred to previous interviews given in different media including radio and TV programs found in YouTube. Data was also collected from published and unpublished archival documents and magazines. In-depth semi-structured interviews was used because of their flexibility (Easton, 2010) and also because they were appropriate as the phenomenon of interest (process of human capital in my case) has different events or episodes (Eisenhardt and Graebner, 2007).

4.3.1   In-depth Interviews

In-depth interviews are found suitable for primary data collection in process research (Pettigrew, 1997). Hence, the principal investigator conducted in-depth semi-structured interviews. In process research, semi-structured interviews are considered suitable for capturing the events, patterns, mechanisms and interactions in the process of human capital development (Patton, 1990); due to its flexibility (Easton, 2010; Eisenhardt and Graebner, 2007). During the interviews, the researcher used broad guidelines which covered the time when the respondent had been hired till to the date when data was collected and asked questions about the level of human capital at each stage and the actions of the organization. During the interview when new ideas emerged the researcher followed these up with questions like: What does this mean? How was the interaction? Guidelines and follow-up questions considered the purpose of the thesis, research questions and literature review.

There is no rule on how many interviews should be conducted. But the researcher stopped the interviews when it seems there was a repetition of information. Therefore, data saturation was used for determining the number of interviews (see, for example, Van Maanen, 2015). For both the cases 50 in-depth semi-structured interviews were conducted which were on average 54 minutes long (ranging from 33 minutes to one hour and 30 minutes). The interviews were audio recorded except for a few where the interviewees did not give permission for the recording. For those that were not recorded I took notes. The number of interviewees and the length of the interviews are given in Table 1.

Since process research requires triangulating the data, interviewees were selected from different managerial hierarchies and functional areas. Further, since my thesis is exploring how human capital developed in an organization, the researcher considered interactions and interdependencies among employees as the main factor shaping the process of human capital. Therefore, it was important to obtain information from the interacting employees. For example, when I got information from a coach, I thought it was also important to approach the persons he/she had coached to understand the interactions and interdependencies during the coaching process. Likewise, when I got information from an assistant technician, I also talked to the chief technician to get the other point of view.

All the interviews were transcribed. Transcribing the interviews helped the researcher to get familiar with the data so as to get a better understanding of the context and to initiate the analysis in the words of the interviewees. It also helped in understanding their emotions and making early interpretations as an entry point for developing the themes. It also helped in taking notes on words, concepts and ideas to initiate the analysis.

Table 1: Interviewees and interview length

Ethiopian Airline			BAI		
No.	Departments	Length	No.	Departments	Length
1	Human Resource Management (HRM)	58:11	1	Chief executive officer	1:23:12
2	Ethiopian Aviation Academy (EAA)	51:22	2	Research and Development	47:37
3	Maintenance, Repair and Overhaul (MRO)	58:23	3	Research and Development	57:35
4	Ethiopian Aviation Academy (EAA)	47:18	4	Research and Development	58:43
5	Ethiopian Aviation Academy (EAA)	55:46	5	Research and Development	45:05
6	commercial and ground operation service	1:11:08	6	Research and Development	39:22
7	Human Resource Management (HRM)	53:41	7	Bus production factory	58:14
8	Flight operation	1:12:11	8	Bus production factory	1:00:33
9	Commercial and ground operation service	53:09	9	Bus production factory	44:33
10	Commercial and ground operation service	47:38	10	Bus production factory	51:31
11	Commercial and ground operation service	59:28	11	Bus production factory	55:02
12	Human Resource Management (HRM)	49:13	12	Bus production factory	47:23
13	Maintenance, Repair and Overhaul (MRO)	1:01:02	13	Light vehicle production factory	59:31
14	Maintenance, Repair and Overhaul (MRO)	1:00:05	14	Light vehicle production factory	51:03
15	Maintenance, Repair and Overhaul (MRO)	53:48	15	Light vehicle production factory	1:15:33
16	Flight operation	54:36	16	Light vehicle production factory	52:09
17	Maintenance, Repair and Overhaul (MRO)	55:34	17	Light vehicle production factory	35:16
18	Flight Operation	1:05	18	Light vehicle production factory	49:16
19	Flight Operation	49:12	19	Human resource management	55:07
20	Human Resource Management (HRM)	1:07	20	Human resource management	49:37
21	Human Resource Management (HRM)	59:33	21	Human resource management	59:54
22	Flight Operation	47:12	22	Marketing and sales department	50:34
23	Commercial and ground operation service	33:03	23	Marketing and sales department	33:29
24	Maintenance, Repair and Overhaul (MRO)	1:30:02	24	Marketing and sales department	51:19
25	Ethiopian Aviation Academy (EAA)	55:27			
26	Ethiopian Aviation Academy (EAA)	54:55			
Total minutes		**1461**		**1262**	
Average length of the interview		**56:19**		**52:58**	

4.3.2   Observations

In addition to the interviews, this thesis used observations as a data collection tool. This helped in understanding the setting of the interactions and relationships during the process of human capital development. The researcher observed the interactions and work setting, corridor discussions, emotions and conversations after the recruitment process while talking with their colleagues. The principal investigator also observed the actual training and demonstrations, the factory, workshop and station settings and the interactions and relationships during assembling and disassembling. The researcher also participated in conference meetings and listened to the CEO and employees' union leaders' speeches and reflections on questions and answers during the meeting. This also helped in understanding the relationships and interactions between the employees and the organization.

4.3.3   Additional data collection

Additional data is also collected from the company's strategy documents, its human capital strategy, reports, rules and procedures related to human capital, magazines published by the organization, website and the interviews that senior officials had given to different media. For example, the CEO of Ethiopian Airlines and an experienced captain had given interviews to both the local and international media. Since the context of these interviews was different the researcher filtered the answers and focused only on those aspects that were relevant for my research.

4.4 Ethiopian Airlines - Access and choice of respondents

Data collection in Ethiopian Airlines was started by reading different documents. The prinicpla investigator searched and read its official website ([www.ethiopianairline.com)](www.ethiopianairline.com). The researche informally interviewed employees about the process of human capital in the organization. As a result, initial understanding of the overall structure and activities of the organization is established. Parallel to this formal and informal communication with the airline's officials is also conducted.

On the first day of contact the Ethiopian Broadcasting Corporation (EBC) was interviewing Mr Tewelde Gebremariam, the Chief Executive Officer (CEO) of Ethiopian Airlines. The interview was done in Addis Ababa University, College of Business and Economics in Eshetu Chole hall. During this interview, the researcher met Mr Tewelde informally and briefed him

and Ms Hana Atinafu, the head of corporate communications about the research. They expressed their willing to do my research in the airline.

After some days, the researcher called Ms Hana Atinafu to give her more details about the research and why the researcher wanted to include Ethiopian Airlines. She asked the researcher to submit my proposal, interview guide, letter of cooperation from the Addis Ababa University, College of Business and Economics, Department of Management and a motivation letter. The researcher submitted these documents through mail and personally in hard copy. The researcher followed up informally through friends and formally through phone calls and mails to Ms Hana. As a result, the letter was passed on to the human resource management office in the airline.

The principal investigatr received a call from Mr Takele, the head of the organization and human resource development department and briefed him about the objectives of the research, the methodology and the interview guide. Since it was difficult to include all the departments in this study, discussed which departments should be included.

When the researcher visited the airline's office he met Mr Mahari who was appointed to assist the researcher. He briefed the researcher about the overall structure and functions of each department. We also discussed the departments to be included in my study. As a result of the readings and the structure of the airline which had analyzed the researcher decided to include commercial and ground services, maintenance, repair and overhaul, flight operations, aviation academy and the human resource management departments in my study (Figure 4).

Figure 4: Departments included in the study
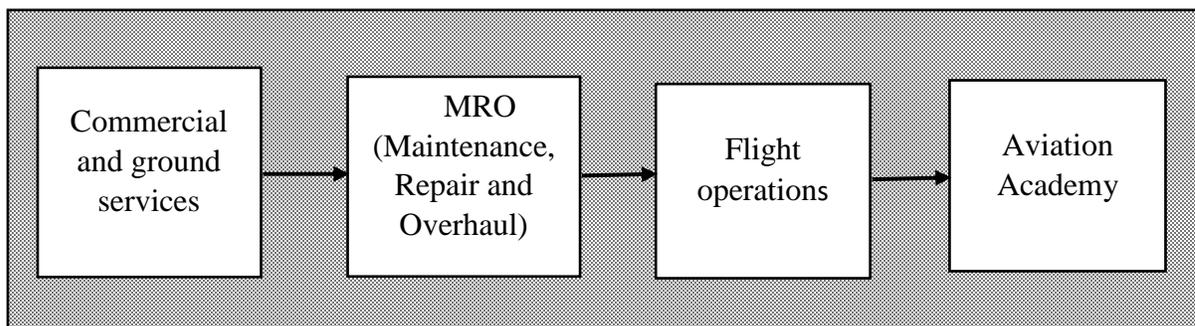
Selection of the departments was determined by: First, the departments included in the study were considered as core processes of the organization because the airline wanted to excel in these departments. Second, human capital development mechanisms were highly practiced in these departments. In addition, the sequential nature of the departments was also used as a selection criteria. The arrow in Figure 4.1 shows the sequential nature of the tasks among the departments. To illustrate, customers or passengers are the main input for the airline. Therefore, the commercial and ground services department is responsible for appealing to the passengers. Passengers also require aircraft which are ready to fly. The MRO (Maintenance, Repair and Overhaul) department makes the aircraft ready for flight. Even if an aircraft is ready to fly it is meaningless without a pilot and cabin crew. Hence, flight operations are responsible for the functioning of the pilots and cabin crew. The aviation academy is a base for the airline which supplies trained manpower to all its departments. The academy provides long and short term training to junior and senior employees of the organization. Therefore, it was reasonable to include these departments in this study on Ethiopian Airlines. Human resource management department is also included to get an overall picture of the process of human capital in the airline. Further, human resource management is also responsible for coordinating the process of human capital development in the airline.

Preliminary interviews were conducted with four employees from the human resource management, aviation academy and the MRO departments which helped in selecting the corporates to be included in the study and also the focus areas in the process of human capital. To get an overall picture of the process of human capital, Interviews were started with people from the human resource management department.

26 interviews in five departments and the average length of the interviews was 56 minutes and 19 seconds was conducted.

4.5 Bishoftu Automotive Industry - Access and choice of respondents

Data collectetion for the second case was started by reading different documents on the industry. The researcher also visited the official website of the company (www.metec.gov.et) and informally communicated with its employees. Doing a preliminary assessment of the industry formal and informal communication with officials of Metal and Engineering Corporation (METEC) and the Bishoftu Automotive Industry (BAI) was conducted.

The researcher informally met Mr Michael, Director of METEC's corporate communications and international relations office to brief on how the researcher could formally communicate with the office and also with BAI. He asked the researcher to bring a formal letter of cooperation from Addis Ababa University's Department of Management which the researcher did. METEC accepted the request to do research on the Bishoftu Automotive Industry. Consequently, METEC[1] wrote a formal acceptance letter to Bishoftu Automotive Industry.

Based on the acceptance letter the researcher started his journey with Bishoftu Automotive Industry. BAI is located in Bishoftu town, 45 km east of Addis Ababa. On the first day the researcher officially met the general manager, Colonel Gebremedhin Zeslassie. We discussed the aim of my dissertation and the contents of the interview guide. The investigator also visited the factories, workshops and saw the products produced by Bishoftu Automotive Industry. This was the first time that the researcher was seeing the automotive production process.

On the next day, the general manager directed a letter to the human resource management department and started a preliminary interview with the head of human resource management department, Lieutenant Colonel Hedo Sheko. We discussed the structure and departments to be included in the study. A preliminary interview was also did with Major Teklu, head of research and development and Major Gebremedhin Haile, deputy general manager and head of the commercial and civil products department. We discussed the departments to be included in this study. During these preliminary interviews the researcher introduced to all the departments along with their duties and responsibilities. Based on these discussions and the documents that received the researcher understood the structure of the industry and got an overview of human capital in the industry.

To make the study manageable and focused on the core businesses of the industry the researcher incorporated research and development, commercial and civil product operations (including the Bus Production Factory and Light Vehicle Production Factory), the marketing and sales department and the human resource management department in my study. The rationale for selecting these departments and factories was: First, they were core businesses/competencies of the organization. Second, their sequential nature -- automotive ideas were generated in the department of research and development, the products were made

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[1] METEC has its headquarters in Addis Ababa and BAI is one of METEC's sister companies.

in the factories and they were marketed by the marketing and sales department. In addition, the researcher also considered the production mass of the factories. Data accessibility was also considered, because data was more accessible in civil production operations than in military production operations and decided to focus on this part. To have an overall picture of the process of human capital development, human resource management department included in this study (Figure 5).

Figure 5: Factories/departments included in the study

```
            ┌─────────────────────────────────┐
            │    Research and Development      │
            └─────────────────────────────────┘
                            │
                            ▼
            ┌─────────────────────────────────┐
            │ Commercial and civil production │
            │           operations            │
            └─────────────────────────────────┘
                            │
            ┌───────────────┴───────────────┐
            ▼                               ▼
  ┌─────────────────────┐       ┌─────────────────────────────┐
  │ Bus production      │       │ Light vehicle production    │
  │ factory             │       │ factory                     │
  └─────────────────────┘       └─────────────────────────────┘
            └───────────────┬───────────────┘
                            ▼
            ┌─────────────────────────────────┐
            │       Marketing and Sales       │
            └─────────────────────────────────┘
```
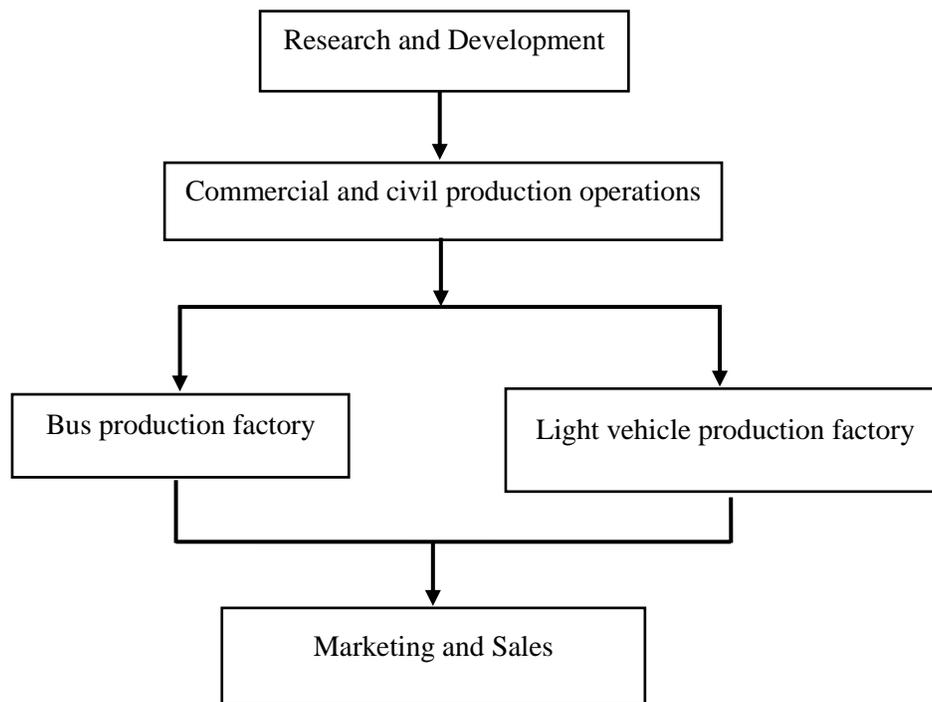
24 interviews with employees from six departments was done. On average, the interviews were 52 minutes and 58 seconds long.

4.6 Analysis of the data

Since this research is intended to present strategic processes and events as accurately as possible and to reveal how human capital is developed the researcher concentrated on identifying incidents, events, patterns and mechanisms in the process of human capital development.

Data analysis was mainly influenced by Langley (1999) in decomposing the data into themes and in identifying concepts below the surface of the process. The analysis consists of five steps: Developing a case description, data preparation, making sense of the process (thematizing the stages of the process), extracting below-the-surface concepts and interpretation and discussion.

Descriptions for the two cases was developed based on the interviews, observations and documents collected. The case descriptions were basically concerned with developing the background which highlighted how human capital was developed. This case description also helped as an introduction to the analysis and it also included the overall framework on the process of human capital development.

During the data preparation stage, all the audio recorded interviews were transcribed. The transcribed texts were repeatedly read and this process continued till the data gave a sense and it "talked to me" (cf. Alvesson and Sköldberg, 2009). As a result of repeatedly reading the transcribed text, the researcher got the whole picture of the process of human capital. Insights and understandings of the process of human capital development emerged which the investigator wrote down in memos. This process is also called data preparation (Elliott and Timulak, 2005).

Responses of the participants were cataegorized into an excel sheet with a time axis. The excel sheet included the interview questions and participant details from their date employment with the organization to the date when data was collected. This helped become aware of key words and phrases that were repeated by the participants and similarities and differences across participants. Finally, the researcher was able to narrow down the events, mechanisms and patterns of the process of human capital. Themes were developed to organize the data into different stages. The themes included interactions,

interdependencies, relationships, patterns, events, mechanisms and processes related to how human capital was developed in an organization. During the third stage of data analysis which involved making sense of the process, the core essence of the data was categorized in a sequential order in the process of human capital starting with employees joining the organization till the interview was conducted. Developing themes or stages in the process of human capital development was determined by the formal and informal actions of the organization and employees taken at different times. This was due to the fact that actions taking during one period can lead to changes in the next period (Langley, 1999).

The process of human capital development was developed chronologically based on the concept that actions in one period led to actions in the next period. For example, human capital mechanisms, events, interactions and relationships in the intake phase led to initial training and continued on to the interactions and interdependencies when starting work. In addition, the contextual factors that had emerged during the data collection process as enablers or restraining factors in the process of human capital development were categorized. Data at this stage was sorted and organized through axial coding (Elliott and Timulak, 2005). As a result, the researcher grouped the data into more abstract themes where human capital had developed. These themes were developed for each case.

In qualitative research creating categories within the themes or stages is an interpretative approach (Hill et al., 1997). Categories are developed by incorporating similar meanings. Open coding was employed while developing the categories. The categories included the mechanisms, events, interactions, interdependencies and relationships which happened at each stage of the process of human capital development. Categories were developed to see and understand similarities in the established themes. Mechanisms were implemented several times in different stages in the process of human capital development.

Themes and categories were interpreted separately for each case. For example, for thematizing intake in Ethiopian Airlines the researcher considered who joined and how do you joined the airline which focuses on educational background, previous experience and relationships of the employees. But intake in BAI was thematized by considering whether an individual was a civil or military employee. While thematized training in the aviation academy as a theme in the Ethiopian Airlines case, to see the dynamics in the process of human capital within the training concepts like interactions and relationships between

trainers and trainees, among trainees and on the job training were categorized. In the same fashion training in BAI was looked at theoretical training in the classroom delivered in the morning session and practical training in workshops delivered in the afternoon session. After this stage, the researcher read the data and interpretations repeatedly.

During the fourth stage of the analysis, the researcher continued abstracting the main findings of the process of human capital. the researcher tried to extract the below-the-surface concepts where human capital had been formed. This was important as below-the-surface concepts can be very effective in process research (Langley, 1999). This also helped me in fully understanding the phenomena (Elliott and Timulak, 2005). This was especially important in exploring the social dynamics in the process of human capital development and in identifying social exchange mechanisms in the process of human capital. Interpreting these concepts of the process of human capital development also helped in considering concepts which have not been emphasized in literature (cf. Gioia et al., 2013). Thus attention was paid to emerging concepts that did not seem to have adequate references in existing literature. For example, emotive factors like tensions, trust and fear.

The final stage of the analysis called for a cross-case analysis (Elliott and Timulak, 2005) and a discussion of the two cases. First, the researcher tried to explore similarities and differences in the findings of the two cases. Second, the analysis at this stage was also subject to back and forth movements from the data collected in each case to previous theory. This helped in identifying differences and similarities across the cases.

4.7 Research quality and ethics

Healy and Perry (2000) have developed validity and reliability criteria for qualitative research within the critical realism paradigm. These criteria include multiple perceptions of participants, methodological trustworthiness and construct validity. Multiple perceptions of participants meant that to triangulate reality with other perceptions including triangulating with different data sources. Methodological trustworthiness includes the extent to which the research can be audited by developing a case study database and by using quotations in the report. Construct validity refers to how well information about the constructs in the theory that is being built are measured in the research using the existing theory.

Reliability in this thesis was assured through relevant data documentation, including developing clear links between stages, incidents and events in developing the process of

human capital development. As a result, events, mechanisms, patterns and interactions in the process of human capital development were documented and their relationships were explicitly described during the analysis. Trustworthiness on the other hand refers to triangulating the data in different ways. In this thesis data was triangulated using different perceptions of different organizational hierarchies, different data sources of individual interviewees and archival documents. To assure trustworthiness the written report also used quotes. Trustworthiness also included being rigorous while conducting the research (Alvesson and Sköldberg, 2009), by being transparent in the step by step design followed throughout the research process and in the description of the data collection and data analysis processes. This included systematic case selection, selecting participants, data collection, conducting interviews and a step by step data analysis.

Chapter 5: Background of the cases

5.1 Background of Ethiopian Airlines

Ethiopian Airlines, which was earlier called Ethiopian Air Lines, was established in 1945 and started operation in 1946 with the support of the US Trans World Airlines (TWA) through a contractual agreement. TWA's support included providing the airline with American pilots, technicians, administrators, accountants and even the general manager. With this support, Ethiopian Air Lines' first flight was from Addis Ababa to Cairo via Asmara on 8 April 1946 using the Douglas C-47 Skytrain. At that time, the company was fully operated by American expatriates. In 1957 the national Airline Training Project was set up in Addis Ababa with the help of the US government. This project helped in building human capital among Ethiopian trainees in the aviation industry in the areas of local pilots, technicians and supervisory personnel. As a result, Ethiopian trainees were hired by the aviation industry for the first time. In 1965, Ethiopian Air Lines changed its legal status from a corporation to a shareholding company. At the same time, its name was changed from Ethiopian Air Lines to Ethiopian Airlines. In this period the process of human capital development started because there were training projects, interactions and interdependencies among employees and the transfer of knowledge, skills and abilities from American expatriates to local employees.

In 1970, as part of developing human capital among local employees the original contract of 1945 was revised to change TWA's role from managerial to advisory. Changing the original contract on its 25th anniversary in 1971, meant that the company was ready to continue without foreign assistance. Consequently, in 1971 Colonel Semret Medhane became the first Ethiopian general manager of the airline. Since then, Ethiopian Airlines has been managed and staffed by Ethiopian personnel. Ethiopian Airlines was managed and operated by American expatriates for about 25 years. This had implications which Ethiopian Airlines continues to face in the process of its human capital development.

Ethiopian Airlines ended its 30 years' relationship with TWA in 1975. To become independent from foreign based training for its pilots, Ethiopian Airlines introduced the Boeing 720B simulator in 1977 and in 1996 the pilot training school was equipped with a state-of-the-art flight simulator, replicating the flight deck of the Boeing 757. The simulator was also used for training crew on the Boeing 757 as its flight deck is similar. Because of this local human capital development, the airline got local employees and it

became a self-sufficient and also started supplying skilled manpower to the aviation industry in the country.

Ethiopian Airlines entered into a code share agreement with Lufthansa in 2008, with Scandinavian Airlines in 2010, with Singapore Airlines and Asiana Airlines in 2011 and subsequently, on December 13, 2011 Ethiopian Airlines joined Star Alliance. Ethiopian Airlines also signed a code share with Japan's leading airlines group ANA, United Airlines and Austrian Airlines in 2014.

In addition, since Ethiopian Airlines' was building its own managerial human capital, in 2009 it signed a management contract with ASKY which enabled it to manage ASKY for a period of five years. In 2012, Ethiopian Airlines became a major shareholder in ASKY and has a management contract to manage and operate its services. By 2013 Ethiopian Airlines had become a strategic partner in Malawian Air with 49 percent of the equity shareholding.

As a recognition of the airline's service to its customers and the growth achieved due to its skilled manpower in the aviation industry Ethiopia Airlines received various awards like those from international companies for being the best African airline. Data for 2015 shows that Ethiopian Airlines received 21 awards and was ranked 6th among the 22 most dependable airlines around the world ([www.Ethiopianairlines.com and Selamta Megazen of the Airline](#)).

Ethiopia as a country has faced many ups and downs starting from the monarchial administration of Emperor Hailesilssie to the socialist Derg regime with an unending civil war. It has also had many oil and financial crises and border conflicts. But Ethiopian Airlines not only survived but also grew in the international aviation market during these periods. Even though many other African airlines failed, Ethiopian Airlines continued its competitiveness in the global aviation market. This may be because of the competitive advantage that it has because of its human capital.

Ethiopian Airlines developed a strategy called 'Vision 2025' which states, "Ethiopian Airlines will be the most competitive and leading aviation group in Africa by providing safe, market driven and customer focused passenger and Cargo Transport, Aviation Training, Flight Catering, Maintenance Repair and Overhaul (MRO), Ground Services, Domestic and Regional Services by 2025." The airline carries the flag of the country with the motto 'The New Spirit of Africa.' To achieve its vision the airline has implemented a

strategy whose organizational goal is becoming a learning organization, encouraging a smooth flow of information, recognizing and rewarding employees, being an equal opportunity employer, acting in an open fashion and being result oriented, creative and innovative. These organizational values help in the process of human capital development.

The strategy has four main pillars -- fleet, infrastructure, human capital development and systems. Therefore, its emphasis is on the process of human capital development. Further, based on its Vision 2025 strategy the airline has also developed its own human capital management strategy. These are aimed at transferring human capital to social capital and ultimately to organizational capital. This strategy may also give direction to creating social interactions, relationships and interdependencies during the process of its human capital formation and development.

Since the process of human capital development is a strategic pillar of the airline, its uses various mechanisms to build the human capital of its employees. The motto for hiring new employees is 'hire for attitude train for skill.' This indicates that since the airline is self-sufficient in supplying a skilled manpower, it lays emphasis on attitude related issues rather than aviation related knowledge, skills and abilities. Acquiring knowledge, skills and abilities related to the aviation industry comes after people are hired and so begins the process of human development at the aviation academy through training in the school of pilot training, the Ethiopian cabin crew training school, maintenance training school, commercial and ground services training school and the leadership and career development training school. Basic knowledge related to the aviation industry is developed at the aviation academy. But this does not mean that full knowledge, skills and abilities are developed here; rather the process of human development continues on-the-job. Employees in their respective departments develop their human capital through different mechanisms including coaching, mentoring, succession programs, refresher or recurrent training, career development training, performance evaluation, briefings and debriefings and interactions and interdependencies created through team spirit, trust and cooperation and communication.

According to the airline's fact sheet document published in April 2016, Ethiopian Airlines owned 76 aircraft and had an order for 42 aircraft (14 - A350-900 from Airbus, 6 - Boeing 787 Dreamliners, 2 - Boeing 787-9s and 20 - 737 MAX 8s). The airline flew to 92

international and 20 domestic destinations -- 51 in Africa, 16 in Europe and the Americas and 25 in the Middle East and Asia.

Ethiopian Airlines is one of the higher recruiter organizations in Ethiopia. In January 2016 it had 11,663 employees (Table 2).

Table 2: number of employees at Ethiopian Airlines

Departments	Number of employees	Percentage
Marketing and Sales	3382	29%
Maintenance & Engineering	3266	28%
Cabin Crew	1399	12%
Cockpit Crew	700	6%
Others	2916	25%
Total No. of Employees	11,663	

5.2 Background of the Bishoftu Automotive Industry

The Bishoftu Automotive Industry's (BAI) origins can be traced back to the military history of the country. Manufacturing modern weapons in Ethiopia started during Emperor Tewodros' reign in 1868. Emperor Tewodros built a huge cannon called Sebastopol. This process continued in 1911 when Emperor Menelik established an ammunition factory. But this was not well organized. Thus, the foundation for the defense industry was laid down during Emperor Haileselassie's time in 1953 when an ammunition factory was formally established with support from Czechoslovakia.

Following the fall of Emperor Haileselassie, the Derg regime came to power and started following a socialist ideology. Because of this ideology, the regime established a strong relationship with the Soviet Union. Consequently, various defense industries were established with support from the Soviet Union. In 1984, Project 40720, which is now called Bishoftu Automotive Industry, was started. Project 40720 was started to repair and maintain armaments, tanks and military vehicles. After the Derg regime, the Federal Democratic Republic of Ethiopia's (FDRE) government continued the project from 1991 to 2008 as repair and maintenance of armaments, tanks and military vehicles. The industry

was also recognized by law and was managed and administered by the defense minister. In 1999 the industry was named the Bishoftu Motorization Engineering Complex.

The Ethiopian economy is led by its agriculture development led industrialization policy. This policy gives priority to the agriculture sector. However, the country is also in the process of shifting from agriculture to industrialization. As part of this shift to industrialization the government established a corporation called the FDRE Metal and Engineering Corporation (METEC). This was established by a council of ministers pursuant to Article 5 of the definition of power and duties of the executive organs of the Federal Democratic Republic of Ethiopia Proclamation No. 471/2005 and Article(1)(a) of the Public Enterprise Proclamation No. 25/1992. The regulation states: "Metal and Engineering Corporation Establishment Council of Ministers Regulation No. 183/2010." Hence, METEC is a public enterprise and the industries administered by the ministry of defense were recombined to form METEC.

METEC has 17 sister companies -- Bishoftu Automotive Industry, Dejen Aviation Engineering Industry, Infrastructure and Engineering Industry, Locomotive Engineering Industry, Ethiopia Power Engineering Industry, Metals and Fabrication Industry, Hibret Manufacturing and Machine Building Industry, Hi Tech Engineering Industry, Fuel and Propellant Manufacturing Industry, Homicho Ammunition Engineering Industry, Gafat Armament Engineering Industry, Corporate Research and Development Center, Corporate Transformation Center, Ethiopian Plastics Industry, Adama Agricultural Engineering Industry, Quality Management Center and the Akaki Basic Metals Industry. Bishoftu Automotive Industry is one of the manufacturing industries managed under METEC.

In 2010 the Bishoftu Motorization Engineering Complex was named the Bishoftu Automotive and Locomotive Industry. In 2011, since the locomotive parts formed an independent industry and moved to Addis Ababa, Bishoftu Automotive and Locomotive Industry became Bishoftu Automotive Industry (BAI). Starting in 2010 BAI became a sister company of METEC and was run as a business under METEC' overall strategy.

METEC's mission is: *"Developing and constructing industrial capability on the one hand and producing capital goods on the other, in favor of the private sector and the public."* The mission is concerned with the development of human capital related to the industries' requirements and the production of capital goods. Based on METEC's mission, BAI also

developed its own mission *"Lead the industrial development of Ethiopia in the automotive sector."* To achieve this mission BAI aims to develop the capabilities of its employees through creating partnerships with international companies. BAI's main task is "assembling public transportation buses, inter-city buses, heavy duty trucks, pick-ups, small vehicles and multi-purpose military vehicles. In addition to producing and supplying automotive products it is also working on the expansion of modern automotive technology as well as related production facilities owned by private enterprises."

For achieving this mission, BAI lays emphasis on developing its human capital and sees it as an engine in the realization of its mission. Human development takes place through different mechanisms. First, civil and military potential joins the industry through different processes. Civil candidates enter the industry on the basis of merit-based competition and military candidates through criteria like military rank and relationships created. The process of human development continues when potentials join the industry through partnerships with international companies. International companies from China have their own stake in developing employees' human capital through knowledge, skill and ability transfer concepts. Human capital in the industry is also developed through training and in interactions and interdependencies among colleagues. Therefore, understanding the process of how human capital is developed in the industry follows both theoretical and practical insights.

BAI's employee strength as per its human resource management document is given in Table 3.

Table 3: Number of employees in Bishoftu Automotive Industry

No.	Industry/corporate	No. of employees	Percentage
1	Bus production factory	845	29.57%
2	Heavy tack production factory	239	8.37%
3	Light vehicle production factory	342	11.97%
4	System production factory	149	5.2%
5	Tank and armored production factory	320	11.2%
6	Power train production factory	122	4.27%
7	Body production factory	180	6.3%
8	Design and development	160	5.6%
9	Other staffs	500	17.5%
	Total	**2857**	

Chapter 6: Findings: Ethiopian Airlines

6.1 An overview of human capital process in Ethiopian Airlines

Ethiopian Airlines is the sole operator in the country. The country also has no institution which delivers aviation related courses and training. Ethiopian Airlines leads its human capital development strategy through the philosophy 'hire for attitude train for skills'. This philosophy does not focus on finding trained manpower that is ready to work in the aviation industry. Instead, it focuses on assessing the behavior and attitudes of its potential human capital. Therefore, it develops aviation related human capital when people join the airline.

Based on the data collected from the airline, I developed a framework for the airline's human capital process following different stages. The first stage is intake to the airline. Intake to the airline is determined by two questions: 'who joins?' and 'how do you join?' the airline. Who joins the airline focuses on candidates' educational background and previous experience. How do you join focuses on assessing candidates' attitude and behavior through a selection process.

Those who successfully answer these two questions join the airline and consequently the aviation academy for training. The second stage in the process of human capital is training in the aviation academy. The airline's aviation academy has a pilot training school, a maintenance training school, a cabin crew training school, a commercial and ground service training school and a leadership and career development training school. All schools have their own curriculum, facilities, classrooms, workshops and experienced trainers. The aviation academy provides both theoretical and practical training related to the aviation industry. Cockpit crew, cabin crew, technicians and customer service agents undergo training in the aviation academy. Basic knowledge, skills and abilities related to the aviation industry are developed in the academy making it the backbone of the airline as it supplies trained manpower that has basic knowledge, skills and abilities on the aviation industry. Interactions and interdependence between the trainees and trainers, interaction and interdependence among trainees and on the job training are mechanisms of the process of human capital development at the aviation academy.

After the employees have successfully completed their training in the aviation academy, they are assigned to different departments. Even though they are trained at the aviation academy, this does not mean that they are fully equipped with the required knowledge,

skills and abilities related to the aviation industry. Hence, their practical knowledge, skills and abilities are developed while they are on the job. Therefore, the third stage of human capital process begins when they join their departments. I call this starting on their jobs. During this stage, human capital process focuses on formal interactions and interdependencies including coaching, performance evaluation, mentoring, succession programs, briefings and debriefings and composition of employees in a team.

After this stage, the employees are ready to promote through their own career. However, to proceed through this career they are given refresher/recurrent and career development training throughout their careers. This fourth stage is called progression or continued training. Refresher/recurrent training is delivered to front employees like pilots, technicians, cabin crew members and customer service agents. Career development training is also given to back office employees like those working in human resources, finance and other administrative departments. The knowledge, skills and abilities accumulated through these stages are pertinent for doing aviation related tasks and this is called aviation related human capital. Firm specific human capital is explained by employees' confidence in their knowledge, skills and abilities. Since Ethiopian Airlines is the only airline in the country, employees with firm specific human capital also develop some fears because of lack of alternative work options and punitive work environment.

The process of human capital development is not a linear process because the context in which the airline operates disrupts the process negatively or positively. Therefore, inner and outer contextual factors are also discussed as positive and negative determinants of the process of human capital. Inner contextual factors include employees mobility, airline's growth, organizational changes and strategic human resource management. Outer contextual factors include regulatory bodies, competition, customers/passengers and political and sociocultural factors.

Figure 6. shows the process of human capital in the airline.

Figure 6: Framework for human capital process in Ethiopian Airlines

Intake

Training in the aviation academy

Job started

Continued Training

Industry related HC

Potential human capital

Theoretical and practical knowledge

1. **Who are you?**
   a. Educational background
   b. Previous experience

2. How do you join?

a. Written exams

b. Interviews

c. Practical tests

d. Presentations

Attitude, information processing skills, communication skills, argumentation skills, problem solving skills, confidence, understanding and expressing skills

Basic aviation related knowledge, skills and abilities (HC) developed at the aviation academy through:

1. Theoretical and practical training
2. Interaction between the trainees and trainers
3. Interaction among trainees (teamwork, communication, demonstrating, flow of information)
4. On the job training (observing, asking, understanding, following directions from seniors)

Practical knowledge, skills and abilities developed through:

1. Formal interactions and interdependencies through:

   Coaching, mentoring, performance evaluation, succession, briefings and debriefings, composition of employees in teams

Updated HC through:

Refresher\ recurrent training, and career development training

Aviation related HC

Contextual factors

Inner contexts: employees mobility, growth, organizational changes and SHRM

Outer contexts: regulatory bodies, competition, customers, political and sociocultural environments

I organize the empirical field data in line with the model given in Figure 6. I start by describing the formal process of human capital with a description of each stage in the process. The second part deals with the informal process of human capital, that is, what goes on below the surface. The discussion that follows provides answers to the research question: How do interactions and interdependencies develop among individuals during the process and what role do they play in the development of human capital?

6.2 The Formal Process of human capital

6.2.1   Intake to Ethiopian Airlines

Ethiopian Airlines finds its potential human capital following a different approach because the airline does not want to find trained and experienced manpower which is ready to work because the aviation industry is unique and Ethiopian Airlines is the only airline in the country. Therefore, all core competencies like cockpit crew, cabin crew, aircraft technicians and customer service agents join the aviation academy for gaining basic knowledge, skills and abilities in aviation. Thus, the airline invests a lot in developing its human capital by training the newly recruited employees.

Ethiopian Airlines is a preferred recruiter for many people in the country because it has a good image and gives better salary packages as compared to other organizations in the country. The process of human capital development at the airline is initially determined by the intake process. As mentioned earlier the airline seeks answers to two questions at this stage: 'Who joins the airline?' and 'How do you join the airline?' To find answers the airline follows the philosophy: 'Hire for attitude and train for skills'. This guiding principle means that future employees are not assessed for their technical skills but for their attitude and behavior.

Finding potential human capital is not easy because there are processes which need the active involvement of the airline as well as its stakeholders. For example, finding potential human capital covers three basic issues. First, the professional market: which includes potential manpower suppliers and stretches from fresh graduates from universities and technical and vocational education and training (TVET) colleges to experienced employees in other organizations. Second, quality: basically determined by the airline's selection process. Third, position requirements: predetermined set of competencies which the applicant should have to compete and register for a vacancy. Considering these three

factors, questions who joined to the airlines and how do you join to the airlines will be answered during the selection process.

In addition to the above back stage considerations, the airline advertises for the vacant positions through posting and broadcasting vacancies in nine states and two city administrations, website advertisements, radio and television and even making announcements in universities and TVETs. Further, the airline has also signed memoranda of understanding with universities for getting potential human capital. Therefore, applicants are registered for the vacant positions advertised in different areas of the country.

> *"……During my graduation, there was an announcement for a vacancy in the university for an aircraft maintenance technician (AMT). The requirement to register for this position was being a first degree graduate in mechanical engineering with Commulative Grade Point Average (CGPA) above 3.0 point," trainee at aviation academy.*

In addition to these university and TVET graduate potentials, there are also potentials from experienced people from different organizations join the airline.

> *"I was a member of the Ethiopian Airforce. I developed my knowledge and skills during Emperor Hailesilassie's regime when I trained in the US. I trained in helicopter flights. Due to the ideological shift during the Derg regime to socialism we had good relations with the Soviet Union. Consequently, I also trained in Soviet Union three times in helicopter flights. As a result, I got flight time in helicopter flights through transporting wounded militants, food aid, and military and political leaders. I also participated in the Ethio-Eritrea war. I retired from the Airforce……then I joined Ethiopian Airlines in 2004," trainer at aviation academy.*

This captain has rich experience of about three decades in the Ethiopian military. This experience helped him join the civil aviation industry. Therefore, previous experience has its own impact on the process of human capital development during the intake stage. This is contrary to the airline's philosophy though because the trainer had knowledge, skills, abilities and experience. Employees, particularly in supporting departments like human resource development and the aviation academy have experience in governmental and non-governmental organizations as heads of finance, supplies and purchasing, auditing

services, HR and finance and university administration. These skills and capabilities help them in joining Ethiopian Airlines.

Therefore, the knowledge, skills and abilities accumulated in previous jobs and the theoretical and practical knowledge in appropriate fields are considered before hiring people. This helps in answering the question 'who joins the airline?' as those who have an appropriate educational background with theoretical and practical knowledge, and those who have previous work experience join the airline.

'How employees join the airline?' can be answered through the selection process employed by the airline as it focuses on assessing candidates' attitude and behavior more than their technical skills. The selection mechanisms used include a written exam, group discussion, topic presentation, multi-step interviews, simulator exam and a medical test. These procedures except the simulator exam and medical test are used for testing language proficiencies, attitudes, behavior, argumentation skills, professional skills, information processing skills, problem solving skills, confidence, communication skills and understanding and expressing skills.

The airline uses a rigorous selection process. Because the airline accustoms a multistep selection process for identifying potential human capital. For example, a pilot trainee has to go through a written exam, four interviews at different times, one simulator exam and a medical test.

> *"I graduated from Hawassa University in economics. I joined Ethiopian Airlines in 2007 for which I had to sit for a written exam. After the written exam, there was an interview which had a group discussion and tested my English language proficiency skills, confidence and participation and information processing skills. After this I had to make a two minute presentation on the topic given to me and the final step was the personal interview. Finally, the airline announced a list of successful applicants,"* HRM.

For critical positions like pilot trainee, managing directors and other managerial posts higher officials like the vice CEO also sit during the interviews.

Since I applied for a managerial position the recruitment was hard and led by a senior management team and the vice CEO. The selection process included an interview which focused on attitude and professional and communication skills," commercial and ground operation service.

6.2.2 Training at the aviation academy

When applicants successfully pass the selection process they join the aviation academy for training. Since there is no aviation related courses and training in Ethiopian universities and colleges, trainees who join the aviation academy are totally raw and have no information about the aviation industry. As a result, basic knowledge, skills and abilities related to the aviation industry are developed at the aviation academy.

The aviation academy has five schools, the pilot training school, maintenance training school which consists of aircraft maintenance training, basic maintenance training, aircraft type training and aircraft component maintenance training, cabin crew training school, commercial and ground services training school which consists of airline sales and customer services, airport customer and baggage services, aircraft weight and balance, cargo, ground support equipment (GSE) and airline's safety and security, leadership and career development training school which trains on corporate governance, decision making and problem solving, transformational leadership, project management, maintenance, planning and management, systems and procedures, supply chain management, financial management, time management, office management, strategic management, executive project management, team building, performance management and balanced scorecard (BSC), effective team leadership and communication skills.

Each school has its own curriculum, facilities, furnished classrooms, workshops, material for demonestration and experienced trainers. Training at the aviation academy is helpful in developing basic knowledge, skills and abilities related to technical aspects (like technicians and piloting), services (like cabin crew and customer service agents) and leadership and management (like training for HR and finance and training for those who are in managerial positions).

The aviation academy gives both theoretical and practical training. Theoretical training is given in classrooms through lectures, presentations and group discussions. Practical training is given through on the job training, workshops, laboratories, simulator training and aircraft flight training. On the job training is actively used for cabin crew, technicians,

pilots and customer service agents. Workshops and laboratories are also used for technicians. Ground class which is simulator training and actual aircraft training form a part of pilot training. Demonstrating or practicing simulation is also done in the cabin crew training. All the theoretical and practical training is aviation related. Therefore, the aviation academy is the backbone of the airline as it supplies it with manpower which has basic knowledge, skills and abilities in the aviation industry.

> *"I joined the school of marketing and finance which is now called the aviation academy in Ethiopian Airlines in 1989. The training was for six months and included airline finance and marketing training for three months of classroom training and three months of on job training in cargo, reservations, airport, finance and ticketing. The training also included, reservations, airport handling, language skills, communication skills and customer services,"* commercial and ground operation service.

Human capital at this stage is basically determined by interaction and interdependence between trainees and trainers, interaction and interdependence among trainees and through on the job training.

Interactions and interdependencies between trainees and trainers

Human capital development during training at the aviation academy is done using different mechanisms. Interactions and interdependencies between the trainees and trainers form a part of this process. During this stage, trainees have interactions, interdependencies and relationships with their trainers. Interactions and interdependencies between the trainers and trainees and their impact on the process of human capital is determined by the level to which these are developed between them. Interactions and interdependencies between the trainers and trainees happen during the practical training when a level of closeness develops between them. This also determines the level of experience, knowledge, skills and abilities that are transferred from the trainers to the trainees.

Closeness also depends on the strength of the team that is created between the trainer and trainee. In most practical training like actual aircraft training, MRO workshops and cabin crew demonstrations a trainer sits beside the trainee. This makes it easier to identify the strengths and weaknesses of the trainee. This helps trainers in giving information, advice and support. For example, in the pilot training school during the actual aircraft training, there is interaction between the trainer and trainee when they sit side by side. This close

interaction makes them the only two teammates in the aircraft. This closeness facilitates experience, knowledge, skill and ability transfers. During an assisted flight, there are two captains who assist the trainee, the trainee is in the front and the two senior captains assist the trainee in every procedure and identify the gaps and make comments and recommendations. This may help in developing human capital of the trainee.

The aviation academy has experienced and professional trainers. Hence, knowledge transfer from the trainers has an impact on the trainees' basic human capital. Most trainers in the aviation academy have worked in the airline in different positions. For example, pilot trainers have worked in the airline as pilots and cabin crew trainers have earlier worked as a cabin crew and commercial and ground service trainers have worked in the airline as sales or marketing agents. Therefore, trainers have practical experience in the industry and they know the values, culture and philosophy of the airline. This also helps in transferring their lived knowledge, skills, abilities and experiences to the trainees.

Interactions and interdependencies between the trainers and trainees are also helpful in transferring technical knowledge to the trainees. But the transfer of knowledge, skills and abilities is determined by the time length of the actual flight, assessments and the cooperative behavior and experience of the trainers.

> *"My trainer had rich experience and was capable and smart. He served the airline as a pilot. He told me about every technical aspect, starting from how to sit and fastening your seat belt,"* pilot trainee at aviation academy.

However, many of the trainees fail to pass their solo flight tests because a solo flight requires self-skills and interaction with the trainer. For example, pilot trainees have to fly for 20 to 25 hours with their trainers on different days. During this time, the trainee is expected to takeoff independently. Accordingly, the trainer should have enough confidence in his/her trainee that she/he can takeoff independently within this limited time. Since this is the first time that a trainee is flying solo she/he can be disturbed by back communication and the noise of the engine. Therefore, the interaction between the trainee and the trainer has an impact on proceeding to the next step as well as building human capital of the trainee. When a pilot on a solo flight experiences stress his capacity to fly independently decreases. Due to this the trainer may not trust the trainee to takeoff independent of the trainer. Hence, a trainee learns a lot during these 20 to 25 hours of actual flying. This training, however, also leads to stress and frustration among the trainees.

> *"…… I have automobile driving license. To prepare for the final examination for automobile driving license you have to drive for 25 days but here for piloting it is only six days training for a solo flight. Therefore, this makes the training program very intense for trainees……. I had no experience of being in an actual aircraft even as a passenger. A solo flight has its own impact on a trainee as all his/her strengths and weakness are identified by the trainer. As a result, recommendations are given accordingly," flight operation.*

Some trainers also have experience in the Ethiopian Airforce and want the training in the aviation academy to be of military standards. They consider discipline as the most important criterion for human capital development. They share their experiences, knowledge, skills and abilities and expect the trainees to be disciplined. Stress emerged as a main determinant of the process of human capital process because the training in the aviation academy is aggressive and there is a high rate of failure.

> *"Only six trainees graduated from the academy. The remaining ten trainees failed because of poor judgement on their solo flights. A solo flight requires developing self-skills and interacting with the trainer…." Captain at flight operation.*

From this analysis we can conclude that interactions and interdependencies between the trainee and the trainer have a big impact on the process of human capital development. Trainers with previous experience in different positions in the airline understand the culture and values of the industry. This facilitates knowledge, skill and ability transfers to the trainees. Further, the trainer's trust in the trainee is also determined by his/her performance and discipline of the trainee. This also affects information flow and knowledge transfer among the trainers and trainees. Stress and confidence emerged as the main determinants of the process of human capital development during the interactions and interdependencies between the trainer and the trainee. Stress arises as a result of aggressive evaluations, first time impressions and a short training time. This affects the process of human capital formation negatively. Discipline among the trainees also emerged as a determinant factor in the process of human capital.

Interactions and interdependencies during the training are not limited to the pilot training school. They are also widely used in the maintenance training school, cabin crew training school, commercial and ground service training school and leadership and career

development training school. Therefore, the process of human capital development during the interactions and relationships between the trainer and trainee is determined by trust, assisting behavior, kindness and experience of the trainer and stress, confidence and discipline of the trainee.

Interactions and interdependencies among trainees

The process of human capital during interactions and interdependencies among trainees is basically determined by the directions given by the trainers or the curriculum, relationships among trainees through teamwork, communication, presentation and demonstrating, corridor discussions and the nature of the task to be performed. This is also helpful in facilitating knowledge, skill and ability transfers among the trainees.

Hence, one value of the airline is teamwork and trainees learn and study as teams. This facilitates knowledge transfer among the trainees. One trainee cannot do everything. The weakness of one trainee may be another trainee's strength. Therefore, doing a task as a team makes a pool of all the knowledge, skills and abilities. For example, during practical training, trainees practice in teams. Further, after on the job training every trainee presents for the class what he/she has learnt from the theoretical, practical and on the job training. This learning process helps trainees build their human capital and improves interactions with each other.

> *"We trainees do our practical assignments in teams of five members. Every component of the aircraft is given to every member. For example, there is a turbo compressor which is a super charger and has different parts. Every member read and practically understood their assigned parts. A discussion was held among the team members to share their knowledge of each component. Working principles, mechanisms and material components were discussed in a group. Finally, the team assembled the different parts as a team. There is also health competition among the trainees and this is done in a good sprit; they are also very cooperative with each other," trainee at aviation academy.*

Teamwork in the aviation academy is practiced in the maintenance training school and also in the cabin crew training school, commercial and ground service training school and leadership and career development training school. This teamwork also helps trainees discuss issues facilitating communication and information flows. Consequently, there is a transfer of knowledge, skills and abilities among the trainees.

Since the trainees are from different parts of the country there is diversity in their cultures, religions and ethnic backgrounds. This diversity makes the trainees share their experiences and culture with each other. Therefore, along with aviation related knowledge sharing, the trainees also share their backgrounds and cultures. This is helpful in developing a sense of family spirit among the trainees.

> *"During the night we also share our background and culture……., this makes us foster a feeling of family spirit among the trainees," MRO.*

During my observations in the aviation academy I saw that the trainees had informal discussions in the corridors. These helped them in sharing information and consequently led to knowledge transfer thus facilitating knowledge, skill and ability transfers among them.

Training in the aviation academy provides knowledge, skills and abilities for specific aircraft types. For example, in the aircraft maintenance school, technicians train for 24 months. What makes the academy different is that it provides more practical training. They also learn theory but the practical workshops and demonstrations are more important. Therefore, it is a practical training oriented academy. At the same time, there is also on the job training. There are old and used aircraft which they practice on. Then there are also workshops. Everything in the academy is done in teams of five or six members. Every assignment is done as a team. This gives the trainees an opportunity to communicate with each other. This is important because if you don't communicate in a team then there will be safety and security issues. The aviation industry in itself demands teamwork and communication. Even the benches in the laboratory are made for groups of five. This also helps us in transferring knowledge, skill and ability among trainees. Therefore, trainees learn teamwork in the aviation academy.

On the job training

Schools like the maintenance training school, pilot training school, cabin crew training school and ground and commercial services training school also provide on the job training at the airline's head office as well as at airports and ticket offices in the country. On the job training has two basic objectives: first, to equip the trainees with practical knowledge, skills and abilities and second, to build their confidence by introducing them to customers and employees. The process of human capital development during on the job training

proceeds through two basic mechanisms. First, through getting informal support from senior employees. This happens through observing, asking questions, understanding and following the directions of the senior employees. Second, human capital development is not limited to the airline as customers to have an invaluable influence in the human capital of the trainees as they give advice and pose challenges for the trainees.

> *".... During on the job training I sit next to a senior employee (ticket agent) and I observe all his activities, how he interacts with customers, I also observe the activities in the reservation office and observe how they serve customers through phone calls and I also practically observe the airport checking time. During checking-in I serve the passenger and observe all the processes. I also observe the cargo officers like measuring the cargo. During on the job training we interact with real customers," commercial and ground operation service.*

During on the job training, the process of human capital development is basically determined by seeking for support behavior of the trainees. Seeking for support behavior of the trainee is expressed through their dedication in acquiring knowledge, observing, asking questions, understanding and following the directives of senior employees. As a result of seeking for support behavior of the trainees, willingness to support from senior employees is enhanced. This affects the process of human capital development positively. Therefore, basic knowledge, skills and abilities related to the aviation industry are developed in the aviation academy through theoretical and practical training, interactions and relationships among trainees and with trainers and through on the job training.

> *"One of basic training that we got was manual and automatic reservation training, the tasks during my stay in the reservation office is not new. Therefore, the tasks I experienced in reservation office is what I trained in the aviation academy and from on the job training. After I had learnt these, I joined the office with the basic knowledge that I had gained from the training," commercial and ground operation service.*

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6.2.3 Starting the job

Basic knowledge, skill and ability related to the aviation industry is developed during the training in the aviation academy. But this does not mean that employees are fully equipped with the required human capital. Therefore, practical knowledge, skills and abilities are also developed when the trainees join different departments.

> *"...... I developed basic knowledge in the aviation academy, but this did not make me a full technician, as most of the practical knowledge, skills and abilities are developed when we start working,"* MRO.

After graduating from the aviation academy, trainees are placed in their respective departments. When new employees join these departments they develop their human capital through different mechanisms like continuous interactions and interdependencies with colleagues. These mechanisms are addressed under formal interactions and interdependencies.

Formal interactions and interdependencies

Mechanisms for the formal development of human capital are processes which the airline implements formally to develop human capital through rules and regulations and institutionalized mechanisms. These include coaching, mentoring, succession programs, performance evaluations, briefings and debriefings and the composition of a team.

Coaching

Before coaching starts, there is an induction and socialization program which helps equip junior employees with information about the airline and in building their confidence. This program is helpful in informing junior employees about the values, policies, activities and procedures of the airline. The airline also introduces new employees to its expectations, safety and security issues, benefits, duties and responsibilities and introducing with their respective departments, workshops and key persons. This helps junior employees gain knowledge on what is going on in the organization and to get information about its policies, rules and regulations, values, safety and security, duties and responsibilities and benefit packages.

"…. Seventeen days of training for induction and socialization program which includes introducing the airline's values, policies, activities and procedures. This helps in introducing the employees to the airline and key persons of the organization," HRM.

After the induction and socialization program, starts the initial coaching. Coaching is the process of building junior employees' human capital through knowledge, skill and ability transfers from senior and experienced employees to junior and newly recruited employees. When a new employee is appointed in a new position, he/she is given the tasks and job description. There is also a practical log book which gives the list of tasks with expected competency levels. A coach is assigned to the newly recruited employee (coachee) based on the experience and performance.

The coaching program starts by the coach giving briefings about procedures, processes and activities and standard operating procedures (SOPs) which show where processes begin and end, the practical log book and follow-ups in each activity. This coaching process is mostly for addressing problem solving issues. Hence, when a coachee faces difficulties the coach solves the problem and directs him/her to proceed. During the coaching program, the coachee is not responsible for the tasks performed by them. Rather he/she is responsible to see, observe, ask, understand and take lessons from the coach. During this process, there is knowledge, skill and ability development.

"…. The coach shows me the safe ways to perform the tasks, maintenance procedures and manuals, how to use different manuals in the portal, practical procedures in the manuals and also shares his experiences. Then I do all the procedures in the manuals practically, …my coach follows and supervises me and assesses me and based on the assessment he identifies the gaps in my learning and recommends possible interventions," MRO.

The coaching process has continuous through interactions and interdependencies between the coach and coachee which determine the coaching process and consequently the process of human capital development of the coachee. Therefore, coaching determinant factors are exist in the coach and coachee sideways. From the coach's point of view, the coaching process is determined by his responsibility and his/her friendly and cooperative behavior, commitment and motivation.

Therefore, being friendly and having being cooperative along with commitment and motivation also affect the process of human capital development. These factors are also determined by the interactive behavior of the coachee. For example, if the coachee is performing well and showing his/her willingness and dedication in following the directives given by the coach, the friendly relationship, cooperativeness, motivation and commitment for knowledge, skill and ability transfers from the coach are positively affected.

> *"My coach is the most knowledgeable person in Maintenance and Repair Overhaul (MRO) and he is also experienced. His coaching system is sociable, friendly and he also joins us for lunch. He is like a friend and a brother. He is not a fault finder but he teaches us how we can do our job. I am lucky to be coached by him," MRO.*

A coachee also affects the coaching process by being inquisitive (support seeking behavior), self-effort, dedication and performing. These factors are mainly determined by the coachee's behavior and they also have an impact on motivation, commitment and the supportive behavior of the coach. Therefore, to have smooth transfer of knowledge, skills and abilities the coachee should show dedication in acquiring knowledge through reading manuals, SOPs and other international rules and regulations, asking questions and performing well. All these activities have an impact on the coach in transferring his/her lived experiences to the coachee.

> *"In the beginning there is a coaching program lead by senior employees. Since my coach is beside me all the time I ask him about the problems I face while reading the SOPs and also other practical issues. He is also willing to help me. This coaching program introduces me to my job, activities and procedures. For example, every task of the airline is system oriented. If I fail in performing the system operation, the system blocks me. Therefore, I ask my coach how I can proceed," commercial and ground operation service.*

There is a checklist which the coach and the coachee agree to and sign for the activities to be performed. At the end of the coaching, the coach lists all the activities shown to him. The coachee also agrees with the activities and the things he learned from the coach. The coach may agree or disagree that the coachee performed independently (in a period of six months).

Coaching in the airline is an endless activity. It happens when technology is introduced and through career development and restructuring. This coaching is helpful in acquiring new knowledge, skills and abilities. For example, the cabin maintenance and inflight entertainment systems (IFE) were earlier different departments but have now been merged. Employees of the two departments have coached each other to familiarize them with the various tasks.

Mentoring, succession programs, performance evaluation, briefings and debriefings and composition of employees in a team

Performance evaluation is done as per the BSC monthly and semi-annual targets. It is based on the targets under themes like human capital development (learning and growing), internal business processes, customers and finance and cost minimization or revenue generation. While evaluating the targets there are discussions with the team leader. During these discussions gaps are identified and possible suggestions made. The recommended training is delivered for filling knowledge, skill and ability gaps. There are also knowledge, skill and ability transfers during the discussions with the evaluators. This capital may help employees fill the gaps identified in their learning during the evaluation.

> *"Everybody has targets based on the Balanced Score Card (BSC) for finance, customer satisfaction, internal processes and human capital development perspectives. Based on these, every employee is evaluated every month and every six months. Discussions are held during meetings and the evaluation process.... According to this evaluation, the gaps are identified and possible training and interventions are recommended,"* aviation academy.

The evaluation program continues throughout the training and the tasks performed. There is an evaluation of every training that the employees go through in the aviation academy. This helps employees be up to date in their knowledge, skill and ability acquisition programs. Such programs are held in the MRO, flight operations, commercial and ground services and administrative departments and are called ratings. For every training, there is rating. After the evaluation, a certificate and certificate allowance are given. For example, when the airline purchased the Boeing 787 aircraft the ground technicians were trained on this aircraft. During this training, rating/evaluation for specific skills on the Boeing 787

were done. After the evaluation, they were given certificates for maintaining the Boeing 787s. Consequently, they were also given a certificate allowance.

> *"After two years' work experience, you are evaluated for rating during the training. After the exam and evaluation, you get a stamped B787 rated license. Therefore, I have the privilege to supervise AMT or coach junior staff members," MRO.*

To support the coaching program the airline also has a mentoring program. While the coaching program is focused on developing technical skill of the coachees, the mentoring program is focused on behavioral issues like developing leadership and decision-making skills. The mentoring program goes like this: an employee selects one voluntary role model from a management position. The two interact with each other and develop an action plan for developing leadership, decision making skills and other behavior related skills. Based on the action plan the mentor directs the mentee in developing his/her leadership skills, decision making skills and other behavioral related skills. The mentor also shares his/her experiences with the mentee. This program is a voluntary experience sharing program.

After following different human capital development mechanisms, employees become competent and reach a potential level or senior level. Consequently, they may join the succession program. In addition, fast learners are also included in the succession program and are selected as candidates for management positions. This program is for the managers' level. For each management position there are two successors or first and second choices. Those who join the succession program as immediate supervisors to chief managers take leadership training like first level, middle level and executive level training. In addition to this regular training there is also performance and development based training prepared by the HR department. Managers need to identify the intervention development programs (IDPs). Based on the IDPs, training is given to the successors. IDPs may be technical, managerial or behavioral skill training. Further, managers also ask their successors to participate in different projects and they also delegate their successors to these positions.

> *"In key positions (positions which are affected when a manager leaves the organization) a manager chooses two successors…… first choice and second choice successors. The manager has a plan called the development plan to build his successors' human capital. The manager coaches them, continuously assesses them and recommends them for training, delegates them and assigns them to projects…. Criteria for selection as a successor are experience of more than a year in the same position and an evaluation of more than three point," HRM.*

Knowledge, skill and ability acquisition in the airline is not limited to these mechanisms. Discussions are also used as a mechanism for human capital development. Such discussions are called briefings and debriefings. Briefings are discussions in the morning before a task is started. These discussions are basically concerned with what to do? How to do it? And how to coordinate the task? Debriefings are focused on identifying the weaknesses and strengths in performing a task and how the task was performed. These discussions help employees in developing their human capital through sharing experiences and recommendations gained based on the respective strengths and weaknesses that they have. For example, there is a briefing and debriefing session among cabin crew which goes like this:

> *"…. There are also briefings and debriefings for the cabin crew. There is on the spot correcting of manners when the cabin crew do not behave appropriately during a flight. The briefing means that all the cabin crew discuss everything before the flight about customer issues, destination conditions, and activities to be performed. Debriefing is discussion after the flight at the destination about the strengths and weaknesses of each cabin crew. Accordingly, recommendations and interventions on knowledge, skill and ability development. This is a learning process during briefing and debriefing…… The more you stay as part of the cabin crew the more soft skills you get. These are also developed through discussions," cabin crew at flight operation.*

The other issue raised during the formal interactions and interdependencies is the composition of employees in task groups or projects. Composition of employees with profession skills and work experience help employees in interactions and

interdependencies among them. This affects the sharing of knowledge among them. Having senior and junior employees' in a group or for a project and having a different professional composition in a team or in a project makes smooth acquisition of knowledge, skills and abilities from one profession to the other. The complementary nature of the team has an impact in forming interdependencies among the members and consequently effects human capital formation.

> *"Between 4 to 12 people are assigned as cabin crew with a combination of seniors and juniors," cabin crew at flight operation.*

6.2.4   Progression schemes/ continued training

The airline's organizational structure leads to task flows and the positions allocated within this structure. There is a progression scheme for each position. This progression scheme varies from department to department and from position to position. To proceed through a progression scheme, it is mandatory to take part in refresher\recurrent and career development training. This training has a big impact on the employees' human capital because it brings employees' knowledge, skills and abilities up to date with new technology or systems that have been introduced and the national and international aviation related rules and regulations that have been implemented. Refresher\recurrent training is delivered to front employees like pilots, technicians, cabin crew and customer service agents. Career development training is also given to those working in back offices like HR, finance and other administration related departments. To proceed through the career it is mandatory to take predefined training organized by the aviation academy. The human resource development and talent management team have the responsibility to coordinate this training.

> *"There are regulatory bodies which ask the airline to refresh its employees' knowledge, skills and abilities through training. Refresher courses are held every two years. Taking refresher course is a mandatory. Those working in the maintenance department have to take part in this course, otherwise they cannot work in the department. This is one audit because if the airline says I have skilled manpower, the airline must provide refresher courses to its employees," MRO.*

As a result of this training the employees forget very little because all technical activities are rehearsed during the refresher and career development courses. Considering the career development, the aviation academy coordinates the human capital development program

through intensive training. For example, leadership training covers related training like a supervisor development course, manager development course and a business executive course at the academy's school of leadership and career development.

Refresher and career development training also has an exam. Based on the results of the exam the organization decides on how the employees will proceed through their careers. Therefore, promotion is based on the training received and exams passed. Because of this progression scheme there are also salary increments and certificate allowances for each rated training. In each progression scheme, there is a practical log book and a coaching program which one has to clear before proceeding to the next scheme. Ethiopian Airlines attaches human capital development with benefits like salary increments and certificate allowances. Because of these benefits, employees are motivated to learn more and develop their skills and abilities and go for refresher and career development training.

Since there is dynamism in aviation related rules and regulations like aviation laws, air laws, national and international aviation laws, company manuals, navigation, airplane manuals and airplane performance, the employees have to keep updating their knowledge, skills and abilities through refresher and career development training. This is done through refresher training, career development training, reading different manuals and gathering information and guidance from the seniors.

6.2.5 Aviation related Human Capital

The airline has a strategy called 'Vision 2025' based on which it has formulated its human capital development strategy. This strategy has been developed by analyzing the vision and the airline's current human capital. As a result, it has identified what it calls the 'talent gap'. Based on this gap, it analyzes and develops the requirements for human capital development before implementing its strategies. This is helpful in developing aviation related human capital through intensive training in the aviation academy, coaching, developing interactions and interdependencies, refresher/recurrent training and career development training. The human capital developed through such a process is pertinent to the tasks of the aviation industry. Hence, such human capital is called industry specific human capital.

Therefore, employees in the airline builds their human capital through basic aviation industry trainings, refresher or recurrent trainings, career development trainings, coaching, mentoring, succession program, performance evaluation, briefings and debriefings. In

addition to this, aviation related human capital is also developed through the interactive behavior of the employees by creating informal interactions and interdependencies with senior employees. This is important to get informal peer support which is helped by experience sharing, communication, teamwork, cooperation and trust.

> *"The airline helps me in developing my knowledge, skills and abilities through training. When I see my training certificates, I feel that I will be competent enough even if I leave Ethiopian Airlines. The training package makes me 100 percent capable,"* commercial and ground operation service.

The above quote shows that employees developed aviation related human capital feel that they will compete in other airlines. Aviation related human capital is developed through a process and it is expressed by the confidence in which they build.

> *"During the flight cabin crew is a mother, a nurse, and a security. Therefore, I consider myself I am fit. The more you stay in cabin crew the more you have soft skill. This soft skill is also developed through recurrent trainings and from senior's experience. Therefore, we are already updated."* Cabin crew at flight operation

The soft skill developed through trainings and interaction with colleagues makes to think fitness of her knowledge, skill and ability with the tasks they have.

Aviation related human capital in the airline is also affected by international regulatory bodies like the Federal Aviation Administration (FAA) in the US and the European Agency Safety Administration (EASA) in Europe. Regulatory bodies expect aviation academies to train their employees. Since Ethiopian Airlines has a long-term relationship with Boeing, the aviation academy is recognized by FAA to give training to its employees. This gives employees Boeing related knowledge, skills and abilities. This is explained as: Normally, there is an opportunity to work in other MRO hubs, but the problem is that they are licensed by FAA. Since Boeing and Airbus are competitors in the aircraft manufacturing industry, Boeing has its own rules and regulations, manuals and procedures for giving a license through FAA. Airbus has its own rules and regulations, manuals and procedures for giving licenses through EASA. Because Ethiopian Airlines has a long-term relation with Boeing the academy and MRO licenses are from FAA. Even if there is an opportunity to work in Gulf countries for airlines like Emirates, Etihad, Qatar and the Adat MRO hubs there have EASA licenses, they required to have EASA certificate.

Hence these regulatory bodies have a big impact in developing not only firm specific human capital but also specific aircraft related human capital. This restricts employees' mobility across airlines.

Employees also know the effort that the airline in making their knowledge, skills and abilities related to aviation industry. But, since Ethiopian Airlines is the only operator in the country, there is a fear of being fired. This fear exists because the employees only have aviation related knowledge, skills and abilities without alternative aviation industry.

> *"In my understanding, Ethiopian Airlines' in improving my knowledge, skills and abilities specific to the aviation industry is expected and is also mandatory. But if you need additional knowledge outside the aviation industry you have to make an individual effort. The airline does not restrict such individual efforts in developing knowledge outside the aviation industry. But the airline puts all its effort in coaching, training and follow up efforts for aviation related knowledge, skills and abilities. As an employee you also have to respect the interests of the company. You must work for what the company pays you. But we have no alternative if we lose our jobs here,"* flight operation.

The discussion so far shows that human capital process is emotive and based on the relationships and favoritism, and perceptions of the employees which act as restraining or encouraging mechanisms in the process of human capital development. This process is seldom made clear and visible in human capital literature and can be best captured through a qualitative process approach. As a result, the next section focuses on concepts that exist below the surface.

6.3 Informal Human Capital Process: Below the surface activities in Ethiopian airlines

The informal process of human capital development is aimed at showing the concepts which exist below the surface. Emotive, relationships and favoritism, and perceptions of employees are identified as its aspects which are discussed as emerging concepts in the process of human capital development.

The process of human capital development is determined by the interactions and interdependencies happened among employees of the organization. Interactions and

interdependencies happen during the intake stage and continued during the training in aviation academy between trainers and trainees, and among trainees. In addition to this, interactions and interdependencies continued while on the job between the coach and coachee, senior and junior employees, evaluator (manager) and evaluatee (subordinate) and mentor and mentee. As a result of interactions and interdependencies certain aspects emerge including emotive, relationships, favoritism and perceptions of employees as main enabling and restraining mechanisms in the process of human capital development.

Trainees, coachees, mentees and subordinates or junior employees join the interactions and interdependencies with a perception of perceived similarity or homosociality. On the other hand, trainers, coaches, mentors and managers or senior employees join the interactions and interdependencies with conceptions of perceived risk behavior (on safety and security and customer services) and achieving the organizational mission. As a result, emotive, relationship and favoritism factors emerge as enabling and restraining factors in the process of human capital development. Employees' perceptions about the organization are both enabling and restraining factors in the process of human capital development during interactions between employees and the organization.

Figure 7. gives the framework for the interactions and interdependencies and its interpretation.

Figure 7: Framework for interactions and interdependencies

Perceived risk behavior (on safety and security, customer service), organizational mission

Perceived similarity (similar previous experience and same ethnic background and family network) i.e. Homosociality

Representative of the organization (Ethiopian Airlines)

Trainer, coach, mentor, evaluator (manager)

Interactions and interdependencies

Trainee, coachee, mentee, evaluatee (subordinate)

Employees

Propensity of the trainer, coach, mentor and evaluator like:

- Cooperative behavior
- Social friendly behavior
- Willingness to support
- Commitment
- Perceptions about employees' capabilities
- Leadership style of managers
- Assessment behavior of the manager

Trust/Distrust

Relationship

favoritism

Fear

Stress

- Ability/performance
- Discipline
- Confidence
- Inquisitiveness/seeking support
- Self-effort or dedication
- Following directives from trainer, coach, mentor and manager

Trust and relationships create an enabling environment for smooth knowledge, skill and ability transfers

Distrust, favoritism, fear and stress create barriers in knowledge, skill and ability transfers

As a consequence of the interactions and interdependencies between the two groups, emotive factors such as trust/distrust, fear, and stress, and relationships and favoritism because of ethnicity and family background also emerge as themes. These also affect the process of human capital development.

6.3.1   Emotive factors

Emotive factors such as trust/distrust, fear and stress are a result of the interactions and interdependencies among the parties. As a nucleus if emotive factors, trust is the main determinant in creating a smooth process of human capital development because trust makes interactions and interdependencies more effective. In contrast, distrust, stress and fear are barriers in the process of human capital development.

Trust

Trust surfaces when the trustor and trustee co-exist during the interactions and interdependencies. In this case the trustors are the trainer, coach, mentor and evaluator (manager) and trustees are the trainee, coachee, mentee and evaluatee (subordinates). During the interactions and interdependencies the trustee needs to show trustworthiness. As a result, the trustor decides the willingness to trust them. This happens when the two parties start interacting with each other. If such trust conditions are fulfilled there will be smooth interactions and interdependencies among the parties. Consequently, there will be smooth flow of information, open discussions and readiness to support and seek support. This affects the process of human capital development positively. Therefore, trust determines the interactions and interdependencies among the parties and consequently their role in the process of human capital development.

In contrast, if the conditions for trust are not satisfied between the parties it leads to distrust, fear and stress which negatively affect the flow of information, open discussions, seeking support and readiness to support and become a barrier in the process of human capital.

This can be illustrated through some examples. During the training at the aviation academy there are interactions and interdependencies among the trainees and trainers. During this interactions and interdependencies to get support from trainers, trainees will show their trustworthiness in their trainers. Trainees show their trustworthiness by demonstrating their technical skills, discipline, confidence and understanding of what his/her trainer says and accepting all the orders from his/her trainer. For example, during the solo flight in the pilot training school the decision to takeoff independently is up to the trainer's willingness to

accept the trustworthiness of the trainee. Therefore, the trainer (trustor) should trust the trainee (trustee) to allow him to continue to the next step. If the trainer trusts his/her trainee, there will be smooth flow of information and support to complement the trainee's weaknesses and strengths and reading the trainee's feelings. In the same fashion when the trainees demonstrate their dedication and effort, trainers' motivation and commitment to support them also increases. As a result, there is transfer of knowledge, skills and abilities from the trainer (trustor) to the trainee (trustee).

> *"..... Accordingly, the trainer should have confidence in his/her trainee to takeoff independently within the limited time. If not, you will not proceed to the next step of training. For example, during 20 hours of actual flight the interaction between the trainee and trainer has an important role in proceeding to the next training because during the solo flight training, the trainee and trainer are the only two people in the aircraft. As a result, closeness among me and my trainer is determined by my technical capacity, discipline, confidence and stability. This is why when the time for a solo flight is approaching stress becomes common affecting your capabilities and the trainer may not trust the trainee during a solo flight...... Because, technical capacity of the trainee is also important for successful accomplishment of the solo flight. Most of the trainers were employees of the Ethiopian Airforce so they want it to be a military standard training. Therefore, discipline is the most important criterion during the training. Of course, this discipline also helps us in the solo flight,"* Captain at flight operation.

Hence, we can understand that trustworthiness of the trainee is determined by his/her technical skills, ability to handle stress, confidence and discipline. Therefore, when the trainee demonstrates his/her technical skill, confidence and discipline there will be readiness for support from trainers which is helpful in knowledge, skill and ability acquisitions.

There is also a coaching program when the trainees join their departments. The main aim of the coaching program is equipping the coachees with technical knowledge, skills and abilities to perform specific tasks. Senior, experienced and high performing employees are assigned as coaches to junior employees (coachees). The interactions and interdependencies between them determine the process of human capital development.

Trust emerges between the two and becomes a determining factor in the process of human capital development. To have smooth interactions and interdependencies the trustee in this case the coachee shows his/her trustworthiness in the trustor by showing inquisitiveness or seeking support, performing well, self-effort and showing his/her motivation. The trustor (coach) also shows his willingness to trust the coachee through his/her responsible behavior, being friendly and cooperative and through commitment and motivation to support the coachee. As a result, the process of human capital development is smooth.

> *".... During the coaching program, I understand that inquisitiveness and self-effort are the main determinants for successful coaching. Inquisitiveness means you must ask for your coach how activities are to be performed, systems to operate and other unclear issues. Self-effort is another determinant of a successful coaching system. This happens through showing your interest in the job, reading manuals, rules and regulations and asking what you want to know. I was lucky during my coaching program because my coach was very smart and knew how to coach employees. Tasks were assigned to me and I performed them. My coach checked every task and identified the gaps and recommended possible interventions," HRM.*

During the coaching program seeking support, being inquisitive, putting in self-effort/motivation and performing well by the trustee and willingness of the coach/trustor affect trust between them. Trust also affects interactions and interdependencies and consequently the process of human capital development. The performance of the coachees and following the coach's directions also affect the interactions and consequently the process of human capital development.

> *"The interaction with my coach is interesting because if you are doing well based on what he showed me it makes my coach proud. Therefore, the relationship between me and my coach is based on my performance," MRO.*

The trustor's (manager) perceptions about subordinates' capabilities also affects the trust level during the interactions and interdependencies. For example, if the managers doubt the knowledge, skills and abilities of their subordinates this will affect the level of trust and thus the delegation of responsibilities. This may negatively affect the subordinates' human capital. In Ethiopian Airlines, the willingness of the trustor (manger) to trust the trustee (subordinate) is backed by organizational values and beliefs. The trainers, coaches

and managers interact with their trainees, coachees and subordinates as representatives of the organization. The organization also asks them to follow aspects like safety and security and customer satisfaction. Therefore, ensuring safety and security and fulfilling customers' needs influence the trustor in trusting his/her trustee. For example, managers do not delegate responsibilities to their subordinates' when they fear safety and security lapses or losing customer loyalty. Therefore, organizational values and beliefs affect the trustors' willingness to trust the trustees. As delegating responsibility is a mechanism for human capital development, managers' perceptions of their subordinates' capabilities have an impact on the process of human capital development.

> *"It is better to build a family spirit among the employees by delegating responsibility and trusting the employees… Since most of the employees are new, there is also the probability of their missing customers' needs, safety and security. Therefore, issues of customer needs and wants, and ensuring safety and security affect the delegation of responsibility and trust in employees. But over time and doing daily follow ups, trusting and delegating responsibilities help the process. This also affects teamwork. Such skills are developed over time,"* commercial and ground operation service.

Fear and stress

Fear and stress emerge during interactions and interdependencies among employees due to various reasons. First, Ethiopian Airlines is the only airline in the country. So employees with aviation specific human capital feel that they do not have an alternative employer. Second, an unstable environment is a result of autonomous and autocratic managers in the decision making process which leads to fear of punishments, salary deductions and being asked to leave the organization. An aggressive evaluation system and first experience of an actual flight also lead to fear and stress among employees.

> *"In the actual aircraft training there is motion, high disturbance by the engine's sound and hearing back communications. During my fist actual aircraft flight, I was very busy and very afraid. Even I don't know how my first flight ended. After the second and third actual flights, everything improved and I had free time….. After six days of flights on the seventh day there is an assessment by the trainer on whether I can takeoff independently*

or not. If the trainer does not believe in my capability I do not proceed to the next step. This condition makes the training process aggressive," trainee at aviation academy.

Interactions and interdependencies among managers (evaluators) and subordinates (evaluatees) have an impact on the process of human capital development. These happen formally between managers and subordinates when the managers recommend subordinates for training, projects, giving responsibilities and delegating and they happen informally while they ask for informal peer support or in giving information and advice. This helps in building employees' human capital. But, human capital is positively or negatively determined by the level of interactions and interdependencies that happen between them. For example, managers in Ethiopian Airlines are autocratic in their leadership style. Your immediate manager decides salary punishments, awarding you for career progress, giving benefits like allowances and writing termination letters. Therefore, employees have fear and stress while interacting with their managers. Moreover, employees are fearful of having firm specific human capital. Since there is no other airline in the country, this fear manifests itself during interactions with their managers. Then there is also the fear of having to leave the organization because of disciplinary reasons. Hence, fear and stress affect interactions and interdependencies among managers and subordinates and consequently affect the process of human capital development.

> *"Aviation industry cannot create a punitive environment for employees because if there is such an environment there will be safety and security problems. But in Ethiopian Airlines there is a high level of punishments because the managers are autocrats and no one can question them. Since our knowledge is only related to the aviation industry and there is no other operator in the country we do have no any alternative, therefore employees also fear their managers. And if you leave the organization after a disciple problem you have no other alternative,"* MRO.

Stress also emerges during the evaluation process. Employees are evaluated every month and every six months. Further, every training has to be certified after an evaluation. Every recurrent and career development training is also evaluated. This continuous and tight evaluation system creates stress among the employees affecting the process of human capital development in two ways. First, the evaluation system may force employees to opt

for programs all the time and second it may lead to stress while interacting with their managers and trainers.

6.3.2 Relationships and Favoritism

Frequent interactions and interdependencies among trainers, coaches, mentors and managers, and trainees, coaches, mentees and subordinates may help in building strong relationships between them. These relationships can have a positive impact on the process of human capital development by creating a smooth flow of information, building a family spirit and cooperativeness. Relationships in the airline are not limited to the parties involved in the interactions and interdependencies but also exist among trainees when they are in the aviation academy as classmates. These relationships continue during their work. These relationships help in facilitating peer support among colleagues through information, experience, knowledge, skill and ability sharing thus affecting the process of human capital development.

Personal relationships are also created in the aviation academy which continue when the employees start working. These relationships are basically determined by who you are and who you know. Most of the relationships are developed during the training in the aviation academy and mature while working. Such relationships facilitate communication, information flow and cooperation among employees and help in facilitating interactions and interdependencies and consequently the acquisition of knowledge, skills and abilities among employees.

> *"…….. for example,* there *were 25 graduates in the aviation academy, five of them were assigned to the ticket office, five to cargo, five to reservations, five to airports and five to the head office. Therefore, if we faced problems in these offices we could simply call them to arrange everything because we know each other due to personal relations created during the training at the aviation academy. But know the airline is going through rapid growth and expanding its structure and such cooperation may be challenged,"* commercial and ground operation service.*

Homosociality emerges because employees' perceptions are similar in their attribute with others. Homosociality may also arise due to perceived similarities because of experience, ethnicity, sex and age. For example, most trainers in the aviation academy have worked in the airline as pilots, cabin crew, technicians and customer service agents. Trainers also

share their lived experiences with the trainees. Trainees are happy with this because there is a feeling of perceived similarities among the trainers and trainees. Trainees are also motivated to develop their human capital like their trainers.

Different departments and jobs in the airline seem to be gendered. Flight attendants, for example, seem to need mother-like attitudes and orientation and 'soft skills' so there are more females in this department while most of the pilots and MRO employees are male.

Therefore, homosociality or perceived similarities strengthen relationships between the trainers and trainees. This feeling of perceived similarities becomes a motivation for the trainees and has a positive impact on the process of human capital development.

> *".... Since our trainers in the aviation academy were previously cabin crew in the airline, our language in the training was similar. And the interactions with our trainer were excellent. They have rich knowledge because they were cabin crew and trained both in and outside Ethiopia,"* cabin crew at flight operation.

For the last three decades, Ethiopian Airlines has been the most preferred company for employment in Ethiopia because the airline has built its brand and provides higher benefits relative to other public service organizations in Ethiopia. Therefore, for every vacant position there are thousands of applicants. In intake stage there are accusations of nepotism and social networks. For example, during the intake process senior employees in the airline provide information about the selection process to their networked applicants through family, friendship and ethnicities. Information received from the network may help a candidate to join the airline. Favoritism for a similar ethnicity also exists in the network which can impact the intake to the organization. This network affects the process of human capital development by building confidence and relationships in the network. Such networks may also be built during a job.

After starting work employees are networked whether in terms of blood relationships (family), marriage or ethnic groups. For example, cabin crew members are married to pilots. Because of such a social network created among the employees, there is nepotism in human capital development programs as the most connected to the network are the most favored for human capital development programs. Therefore, interactions and interdependencies and hence the process of human capital development are affected by the networks established through family, marriage and ethnicity.

Favoritism based on a network and relationships of ethnicity, religion and family background affect the process of human capital directly by favoring members belonging to the network. For example, favoritism happens during the intake stage by favoring those who have the same ethnic background and belong to the family network. Favoritism also happens in skill development programs as those who are in the circle of family and ethnic networks are favored.

> *"My father has been working in Ethiopian Airlines for several years now and has moved from being a customer agent to area manager. I grew up seeing his airlines dressing style. I was really motivated by that. My young brother is also a captain in Ethiopian Airlines. I am also really motivated by my brother. I have full information about the airline which I got from my father and brother. Consequently, I developed an interest in airline and I joined the airline,"* Captain at flight operation.

Thus, three members of this family are employees of the airline which shows that a network created through family relationships has an impact on joining the airline and consequently on the process of human capital development.

Relationships are developed because of being a member of an ethnic group or a family group which has same members who are part of the selection process. In one incident one applicant failed in the selection process for cabin crew and the reason for this was that she was not a member of the same ethnic group as the person who was part of the selection process.

> *"The recruiter changed his facial expression when he found out my ethnic background from my name,"* applicant.

Consequently, in addition to educational background and previous experience explained the answer to the question: Who joins the airline also has another answer – someone who is part of the network and is related to a senior employee through family or ethnic networks.

Further, favoritism for family and ethnic networks also continues while delivering skill development programs. For example, Ethiopian Airlines has been a preferred recruiter for a long period of time. As a result, its employees are networked whether in terms of blood relations (family), marriage or ethnic background because of which a social network is

created among the employees and someone who belongs to the network is favored for skill development training over others.

> *"Every employee in the airline is socially networked. Which means that the employees are networked with each other whether through blood (family) or through marriage relationships. Therefore, the more the close the family becomes the more favored its members are for skill development training. Even they hired to their close family." Captain at flight operation.*

This may affect individuals' process of human capital development in different ways. For example, the one who is favored for skill development programs gains an advantage for the process of human capital development. In contrast, the one who is discriminated against is demotivated for the process of human capital development. Therefore, favoritism emerged through the network of family and ethnic background has positive and negative impact on human capital process.

6.3.3 Employees' perceptions about the organization

Social interactions and interdependencies in the airline are not limited to emotive factors, relationships and favoritism. Perceptions about the organization are also important determinants of the process of human capital development. Employees' perceptions of the organization emerge during refresher/recurrent training and career development training when they are given promotions, training certificates and certificate allowances and when implementing benefit packages.

Ethiopian Airlines gives refresher/recurrent training to frontline employees such as pilots, technicians, cabin crew and customer service agents. This training is meant to update employees' knowledge, skills and abilities. Refresher/recurrent training is also audited by regulatory bodies like FAA and EASA. The audit is reciprocated by giving certificate to MRO to maintain their aircrafts and aviation academy to give trainings. Because of which the airline has to provide the training. Employees take part refresher/recurrent training and leadership and career development training because they get promotions, certificates and certificate allowances. The organization also gives them salary increments and allowance certificates for each skill development training. The same is true for back office employees as they are trained in leadership and career development and given promotions. Therefore, perception of employees on human capital development mechanisms is increased due to the exchange nature of career development, training allowance and training certificate.

Dynamism in aviation related rules and regulations like aviation laws, air laws, national and international aviation laws, company manuals, weather, navigation, airplane manuals, and dynamism in technology is captured through refresher/recurrent and career development training.

> *"In the airline, there is a progression scheme where you move from being a Junior Agent, Senior Agent and Senior I and Senior II agent. To proceed through this progression, it is mandatory to take recurrent training or mandatory courses in systems and services......" MRO.*

Due to the dynamic nature of the employees, human capital is not an asset that a firm owns permanently. This dynamism is explained through employee turnover. To manage this dynamism, Ethiopian Airlines has introduced a concept called strategic human resource management which is designed to retain the human capital which has aviation related knowledge, skills and abilities. This also has an impact on the process of human capital development because if employees perceive that there are enough benefits in the organization, there is a probability that they will stay with it. Consequently, there will be a motivation for developing their knowledge, skills and abilities. Otherwise, if employees perceive that the benefits are not enough there will be high turnovers as a result of which employees lose interest and become negligent in developing their knowledge, skills and abilities.

> *"Since other airlines pays better salary than Ethiopian Airline, they did not allow conducive movement of captains. This is performing not by law rather you did not get resignation easily." Captain at flight operation.*

Figure 8. shows the impact of perceived benefits on employees' motivation in participating in knowledge, skill and ability development programs.

Figure 8: Impact of perceptions about benefits of participating in human capital development programs
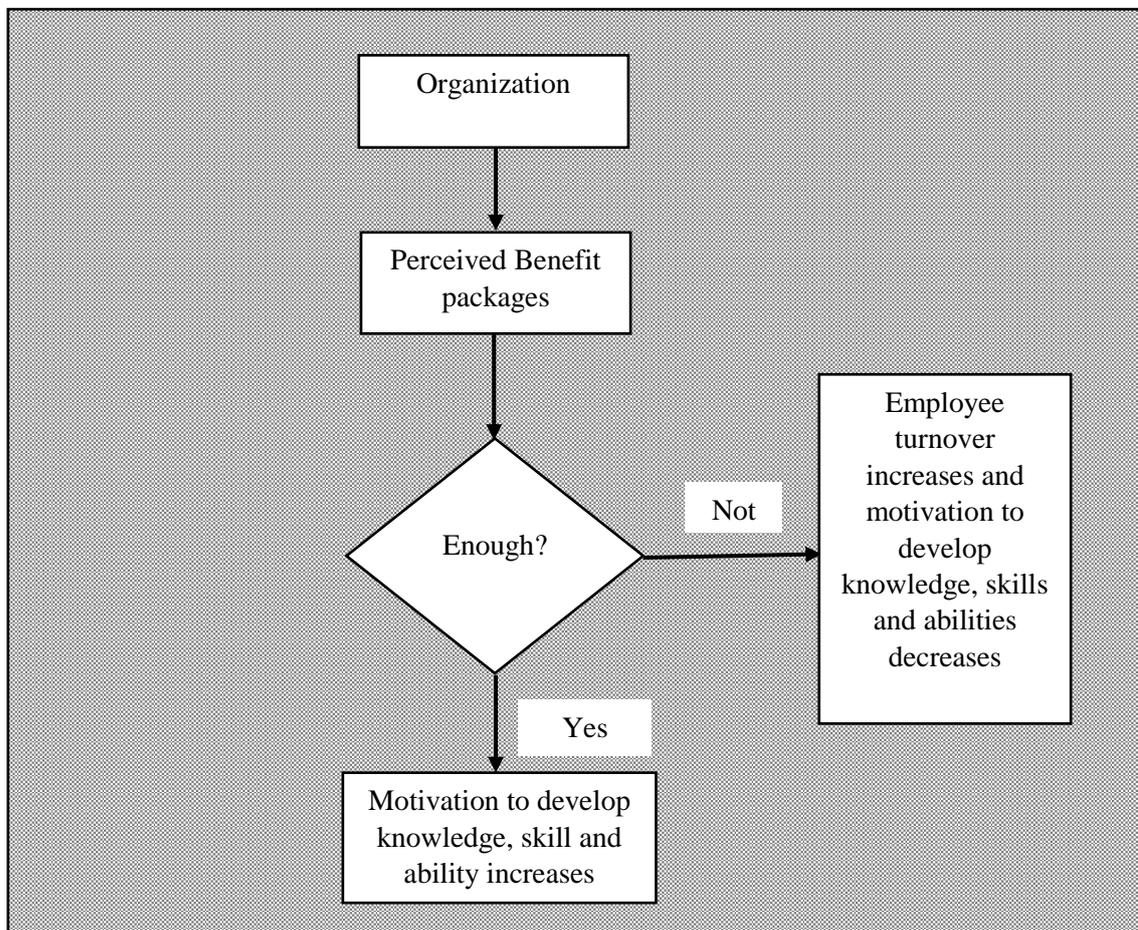
6.4 Indication of the empirical analysis

Interactions and interdependencies among employees and between employees and the organization are the main driving force in the process of human capital development. These take place among trainees, coaches, mentees and subordinates, and trainers, coaches, mentors and managers, and even with the organization. Three main determining factors in the process of human capital can be seen during the interactions and interdependencies. First, emotive factors which include trust, fear and stress. Second, relationships and favoritism through networks of family, religion and ethnicity. Third, perceptions about the organization as a result of refresher and recurrent training, career development training and implementation of benefit packages.

Emotive factors like trust, fear and stress emerge as a result of the interactions and interdependencies among trainees, coaches, mentees and subordinates, and trainers,

coaches, mentors and managers. Trust as a core determinant factor in the process of human capital emerges as a result of social exchanges between the parties involved in the interactions and interdependencies. For example, a trainer or coach initiates his/her willingness to support the trainee, share information, knowledge and experience, being cooperative, adopting a friendly behavior and showing commitment when the trainee and coachee demonstrate trustworthiness. Trustworthiness of the trainee or coachee is demonstrated through abilities, dedication, discipline, confidence, seeking support, self-effort and following directives given by the trainers and coaches. This can be explained through social exchange behavior.

Fear and stress are socially exchanged as a result of the reaction to lack of alternative employers, autocratic leadership style, an aggressive evaluation system and first impressions of an actual flight. Therefore, fear and stress affect the process of human capital development negatively. Further, relationships and favoritism are a result of networks of classmates, perceived similarities, friendship, ethnicity, religion and family. As a result, benefits like favoring network members for training and delegating responsibilities affects the process of human capital formation of an individual. This is a social exchange because individuals are given benefits for being in the same social network.

Employees' perceptions about the benefits from the organization like refresher and recurrent training and career development training are also reciprocated with certificates, certificate allowances and salary increments. Human capital is also affected by to the training given by the organization. In addition, benefit packages are socially exchanged with motivation for developing knowledge, skills and abilities. Therefore, the empirical analysis shows the existence of the social exchange theory.

Chapter 7: Contextual factors and the process of human capital in Ethiopian Airlines

The process of human capital development is positively or negatively determined by the context in which a firm operates. Contextual factors are surrounding factors which affect the process of human capital and they arise from the organization's inner and outer contexts. Inner contexts are contextual factors which affect the process of human capital within the organization. Outer contextual factors affect this process from outside and are beyond the control of the organization.

7.1 Inner contextual factors

The process of human capital in the airline is enabled and restrained by inner contextual factors like employees mobility, the airline's growth, organizational change and strategic human resource management.

7.1.1 Employees mobility

Employees mobility in the airline is explained by the movement of employees across departments and outflow of employees from the organization. Employees mobility in the airline is explained by using three basic features. First, the airline follows the concept of a 'boundary-less airline' to indicate free movement of employees across departments. Second, employees' turnover, to indicate outflow of employees from the organization. Third, intention for turnover. These three indicators of employees mobility disrupt the process of human capital development.

Ethiopian Airlines is a boundary-less airline showing that there is free movement of employees/talent across the departments. Such movement is happening because the airline believes in the fitness of a job position and the required human capital is determined by the level of training.

> *".... even if I am from the aviation academy I will be in Ethiopia Cargo if I do training related to cargo services," aviation academy.*

Such movement considers willingness, capability and performance corresponding to the requirements of a position. For example, in the IT department someone working on the database may be assigned as a programmer. This movement happens if he/she has programing talent and fulfills the requirements of being a programmer. After the

movement to other departments there is training and socialization programs. For example, the airline transfers employees from the business process intelligence department to project management after they have completed their training on project management. This mobility of employees within the organization is based on internal vacancies and internal transfer. Such mobility affects the human capital process.

The concept of a boundary-less airline is explained by the employees as:

> *"Today I am in HR corporate, but my tendency or potential may be in commercial and ground services. There is also an opportunity to build my knowledge, skills and abilities through self-sponsored education or through airline sponsored long and short-term training related to commercial and ground services. There is also a talent management program in the airline which delivers short and long-term training which helps employees to shift their departments easily. According to internal vacancies, internal transfers are done," HRM.*

The second contextual factor in employees mobility is employee turnover. This a big challenge in the process of human capital development. This is especially serious when senior experienced employees with rich knowledge, skills and abilities leave the airline. Technicians and pilots are leaving the airline. Employee turnover happens because there is demand from other organizations and low salaries given by Ethiopian Airlines as compared to other airlines. For example, pilots and technicians are in demand across the world and HR and finance experts are in demand in NGOs in Ethiopia. Therefore, this is a major challenge for the airline. To handle such problems the airline forces its employees to sign an agreement for each training to serve the airline or to pay the cost for each training.

> *"...But there is a silent movement or turnover of captains without fulfilling the legal procedures. I consider this silent turnover a legal decision because every employee has a right to do his job in every organization…… Otherwise the airline should change its retention policy," Captain at flight operation.*

This shows that the reason for employee turnover is economic because other airlines pay more than Ethiopian Airlines. Even if there is a bureaucracy which an employee has to deal with when resigning from the airline, there is a silent outflow of employees. All this adversely affects the human capital process.

Similarly, due to economic benefits there is high turnover among senior MRO staff. In MRO employees move to the US and to Gulf countries like Emirates and other MRO hubs for better salaries. This high turnover is because the management in Ethiopian Airlines is task oriented rather than being employee oriented. For example, technicians complain about overtime: "We have enough manpower to perform the tasks on time." This seems to be true because if you have enough manpower it is costly for the airline to pay overtime. But on ground there is overtime task which is not paid for technicians. This complain is not solved by the management. This makes the employees dissatisfied. I did six interviews with MRO employees three of whom intend to leave their jobs and move to Gulf countries. One has started the recruitment process with Etihad but he is really unhappy with the agent's commission and the cut he will have to take in his expected salary.

Therefore, leaving and intending to leave influence the process of human capital development negatively. If such mismanagement continues there will be a gap in knowledge, skill and ability transfers.

"It is easy to see that there is high senior employees' turnover," MRO.

Employees mobility is a result of employee movement across departments, turnover and intention to leave which has an impact on the interactions and interdependencies between them. Interactions and interdependencies at this level are affected through losing social relationships in the network and losing experienced employees who have the potential to transfer their knowledge, skills and abilities to the advantage of the airline.

7.1.2 Growth of the airline

Ethiopian Airlines is the largest civil aviation company in Africa. It is also the fastest growing airline in Africa. This growth affects the process of human capital formation in different ways. Because of this rapid growth, the airline requires parallel developments in human capital which fulfil the requirements of this growth. For example, demand for skilled manpower comes in two ways: first, the airline has a 15-year strategic plan based on which there are annul plans which consider the operational dynamism (growth) of the airline. There are core positions like pilots, cabin crew, customer service agents and technicians. For core positions, there is a demand for skilled manpower and this is based on operational growth. Second, for supportive staff (other than core positions), demand for skilled manpower is based on free positions in the structure. Operational growth in Ethiopian Airlines is defined by a revenue increase and leads to the expansion of

destinations, buying new aircraft and increasing the number of employees. This leads to implementing new human capital development programs which fit the airline's growth level.

However, growth may also affect the process of human capital negatively. Growth in Ethiopian Airlines can also be explained in terms of its intake capacity. The number of employees joining the airline has been increasing every year. This also means that all the employees may not know each other creating difficulties in building relationships, interactions and interdependencies. This will also affect informal communication and cooperation among employees. Consequently, it will constrain a smooth transfer of knowledge, skills and abilities among the employees.

7.1.3 Organizational/structural changes

Changes have happened in the airline at different times and in different aspects though most of the major changes are related to human capital in technological and structural changes. These changes have an impact on the process of human capital development.

Structural changes in the airline include changes in its organizational structure from being a flat structure to a hierarchical one. Various departments have also been merged. During such changes, human capital development mechanisms are implemented. For example, the recruitment and placement office has been restructured. Recruitment is a sensitive issue because the recruited employees can be an asset or a liability. Therefore, the airline follows a rigid process for recruitments and placements. Changing the airline's flat work structure into a hierarchical one was helpful in developing cooperation and trust among employees within the hierarchy. The restructuring meant that the organization changed to a hierarchical structure: manager/officer was earlier an unstructured work procedure which changed to VP-manager-team leader-officer. The manager controls the team leaders in basic school recruitments, direct external recruitments, outsourcing and contract administration and placements. During this restructuring the airline considered benchmarks from the world's best airlines like Singapore and Qatar Airlines in its customer services and recruitment styles. Ethiopian customized these benchmarks because its market and culture are different.

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> *".... This restructuring happened in 2013. It clarified that having full knowledge, skills and abilities in each activity (to understand processes from the beginning to end) as well as specializing in their respective positions was important. It also helped employees master the basic tasks in each position, rather than doing clerical tasks," HRM.*

Structural changes have also taken place through merging of departments. The MRO, cabin maintenance and inflight entertainment system (IFE) were merged into one department. This merging process led to smooth transfer of knowledge, skills and abilities among the employees in these departments through coaching, training and experience sharing.

> *"Cabin maintenance and IFE were in different department but now the two departments have been merged because of which I am ready to be coached in the IFE tasks and I will also coach IFE staff members. This coaching continues till the employees of the two departments are familiar with the tasks and skills of the department. I have already taken the courses for IFE. But the IFE staff members have not taken cabin maintenance courses as they graduated in avionics. Therefore, IFE staffs should take the courses of cabin maintenance in the aviation academy," MRO.*

Technology in the aviation industry changes rapidly which forces Ethiopian Airlines to update its systems and tasks regularly. For this it is also mandatory to upgrade employees' knowledge, skills and abilities through self-efforts like readings and continuous training. For example, Ethiopian Airlines bought Airbus A350 aircraft which were new to the airline. For this Airbus' local operators and trainers from the aviation academy were trained in France. The training in France was like training of trainers. Later these trainers trained employees in the aviation academy. Skill and knowledge development training also has to be provided for new software and systems in the airline. Therefore, change in technology demands changed human capital to work with the new technology.

7.1.4 Strategic Human Resource Management (SHRM)

Employees' firm specific human capital is developed through the process described earlier. However, because employees may leave the airline or there might be mismanagement of human capital, the airline needs to develop its own strategic human capital management practices to retain firm specific human capital.

> *"……During our time, Ethiopian Airlines was the best organization and we had no alternatives. My entire life experience is in Ethiopian Airlines. It is also an organization worth working for. I learnt more from my organization. For example, when Ethiopian Airlines made me the Area Manager I was a CEO, finance manager, legal representative, coordinator and negotiator. Therefore, you can have all round capabilities in the airline. With such capabilities and the good brand name of the airline, loyalty among the employees was developed. Hence, the best mechanism for retaining employees is loyalty. But, for the young generation it is quite different. Because the airline needs to retain experienced and capable employees it needs retention mechanisms like education support, housing and promotion schemes, salary schemes and recognition. The airline has started using these retention mechanisms in the recent past,"* commercial and ground operation service.

Hence, strategic human resource management includes strategies which an organization implements to retain firm specific human capital. Once the employees develop their firm specific human capital there are still no guarantees that they will continue working for the organization. There will be dynamism like outflow of skilled manpower from the organization.

Ethiopian practices three retention mechanisms. First, a benefit package which includes different benefits to retain skilled manpower. These include promotions, regular salary increments, career development, transport allowance, subsidized cheap meals, position allowance, certificate allowance and free air tickets. But, employees have problems with these benefits as they say that other airlines give better benefits.

Second, firm specific human capital can be retained by developing loyalty and a sense of belonging among the employees. This is not an easy task. It is time taking and is developed through a process. During my interviews, I noticed loyalty and belonging among the senior employees. They also commonly use the words "we" and "my company" and had a sense of ownership and pride.

> *"We are not doing our job by looking at our salary or other benefits, rather we are doing it because it interests us,"* commercial and ground operation service.

The third mechanism is by getting into long term agreements with employees. Long term training agreements force employees to sign commitment letters to serve the airline to compensate for the training costs. For each training which the airline delivers there is an agreement with the trainees that they will serve the airline.

> *".... The airline gives full training to a captain. To compensate this the captain has to serve the airline for three years or to pay ETB 900, 000,"* Captain at flight operation.

7.2 Outer contexts

The process of human capital development is both positively or negatively affected by outer contextual factors including regulatory bodies, technology, competition, customers/passengers and political and sociocultural issues.

7.2.1   Regulatory bodies

The aviation industry is not an independent industry with a single airline. It has many national and international stakeholders like regulatory bodies which have their own stake in the human capital process. Some of the stakeholders who have an impact on human capital process are aircraft manufacturers like Boeing and Airbus, the Federal Aviation Administration (FAA), the European Aviation Safety Agency (EASA), Ethiopian civil aviation, the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA).

> *"Human capital development in Ethiopian Airlines is not a choice but an obligation because there are regulatory bodies which audit human capital and human capital's work. The audit is done by the Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA). Hence, every employee should have knowledge, skills and abilities suitable to his/her job,"* aviation academy.

These regulatory bodies force the airline to refresh its employees' knowledge, skills and abilities through recurrent/refresher training. Refresher/recurrent training is delivered to update employees on the aviation industry's rules, regulations and technologies. Refresher courses are valid for two years. Therefore, taking refresher courses is mandatory for those working as pilots, cabin crew, customer service agents and maintenance workers. This training is regularly audited by the regulatory bodies.

The regulatory bodies are also responsible for certifying the airline for maintaining its aircraft and its operations at different destinations. Therefore, they check if the airline has a skilled manpower, has all facilities in the hangar like ground services and if the airline has and follows the required manuals and procedures. Based on the audit the airline is certified for maintaining the aircraft and managing its operations. If the airline does not fulfill these requirements, the regulatory bodies suspend the airline's license for performing different tasks. For example, if Ethiopian Airlines needs to certify activities like maintaining the body of an aircraft, the regulatory bodies audit if it has the capabilities to do this work like skilled manpower and hangar facilities. Therefore, due to the audit and the need for certification it is mandatory for the airline to build the human capital of its employees.

After the supervision of a senior employee, supervisors are assigned to evaluate junior employees in the airline. The Ethiopian civil aviation delegates senior staff members of the airline to rate junior employees. Based on this evaluation the employees are given certificates. Ethiopian civil aviation is delegated by FAA to do this task. FAA also gives certificates to the aviation academy and the MRO for performing their tasks. The certificates are given based on the skilled manpower and facilities that they have. If these two do not meet the rules and regulations, the MRO and aviation academy's licenses are suspended.

Competition among aircraft manufacturers like Boeing and Airbus also affects human capital process. Boeing is regulated by FAA and Airbus is regulated by EASA and they both compete to win in the market. This competition among the two manufacturers also has an impact on the process of human capital development. If Ethiopian Airlines wants to fly to a new destination in Europe, the country must accept this. The country approves whether the aircraft are safe to operate as per EASA requirements. All this is checked by EASA. In this regard, Ethiopian Airlines faces difficulties in operating to European destinations as countries raise minor safety issues and ask Ethiopian Airlines to have EASA certification. These minor restrictions in Europe happen if the aircraft are from Boeing. This prevents Ethiopian Airlines from flying to the European market. To address this issue and other technical issues in Europe, Ethiopian Airlines has ordered 14 Airbus A350 of which two have already been delivered. Thus, Ethiopian Airlines is in the process of being certified by EASA in aircraft maintenance. For this, every technician, the aviation academy and the MRO department need to be trained in EASA requirements. But FAA is

not happy with this decision. It investigates Ethiopian Airlines through tight auditing to show its disappointment with the airline's decision. Because of the competition among the aircraft manufacturers, aircraft based knowledge, skills and abilities are impacted. Both the aircraft manufacturers also train the airline's employees.

7.2.2 Competition

Ethiopian Airlines faces stiff competition which requires a good strategy and skilled manpower to deal with it. Therefore, the human capital of the employees must fit with time and competition dependent technologies and customer requirements. Thus, human capital is also positively affected by the competition in the aviation industry.

> *"Even if the ticket prices on Ethiopian Airlines are high it is a preferable airline due to its customer care, safety and security, discipline among employees and having modern aircraft. For example, Ethiopia Airlines is the only owner of Airbus 350 and Dreamliner Boeing 787 aircraft in Africa, and most of its aircraft are new; Ethiopian Airlines is also a member of Star Alliance," commercial and ground operation service.*

Competition also affects the process of human capital formation negatively. For example, Ethiopian Airlines pays the least to its pilots and technicians as compared to other airlines. Because of this, many pilots leave the airline and join its competitors. Such turnover of skilled manpower happens because of stiff competition among the airlines. The other negative impact of competition on the process of human capital is manpower planning. Since a lot of skilled manpower leaves the airline it is difficult for it to have monthly or quarterly plans. This makes the process of human capital development unpredictable.

7.2.3 Customers/passengers

Ethiopian Airlines has national and international customers who have a huge impact on the process of human capital development. But this does not mean that all the customers have the same stake in the process of human capital development. According to my interviews frequent fliers have an impact on the process of human capital development. Frequent flight records among customers are determined based on membership of ShebaMiles. There are stages in ShebaMiles' membership including Blue ShebaMiles, Silver ShebaMiles, Gold ShebaMiles and Platinum ShebaMiles. In each stage, there is a mile's qualification of requirement. Accordingly, frequent flight record customers passed through these stages. Those who have Gold and Platinum membership cards may have an input in

the human capital development process because frequent fliers have enough opportunities to observe different airlines and share their experiences with Ethiopian Airlines employees'. Such inputs are obtained through comments and recommendations. International customers/passengers also provide value adding inputs for human capital process. They share their experiences related to customer services in other airlines.

> *"……there was a delay in the flight due to weather conditions. But we did not make any announcement. One passenger asked the reason for the postponement. I told her that it was because of unfavorable weather conditions. She asked me why we had not made an announcement and we were supposed to inform passengers every 15 minutes according to aviation rules. I accepted the comment from the passenger and worked accordingly,"* commercial and ground operation service.

Cultural differences also creep in during interactions with customers. For example, Indian and Ethiopian customers have different ways of saying yes. what is "yes" by Indian in nodding head is different from what is "Yes" by Ethiopian in nodding head. It is also different when a Nigerian calls and when an Ethiopian calls you. There are also passengers who get irritated by simple things and others who are pleased by simple things. Understanding passengers' behavior and their cultures is a skill which can be learnt during interaction with customers. Therefore, customers have a big impact on employees' human capital.

> *"There are cultural differences among passengers and destinations. Therefore, every cabin crew member should understand the culture, and language and accent in different countries. There is also a possibility that they will be harassed. But we deal with these problems with a smile and following the local saying 'ከፍትፍቱ ፊቱ' (it is better to deliver a smiling face than the best food',"* cabin crew at flight operation.*

The airline does regular customer surveys on its employees to get customer feedback.

7.2.4 Political

The aviation industry is sensitive and is affected by slight changes in national and international politics. Nationally when there is a minor political disorder in Ethiopia, the domestic flights are crowded. For example, in the last week of September and the first week of October (2017) there was political instability in Ethiopia. At that time, the office was very busy and crowded. Domestic sales increased. No employee took a tea break; most of them did not even have time for lunch. This is due the fact that road transport in most parts of the country was blocked because of demonstrations on the main roads. Many international flights were also cancelled. The airline had to refund its passengers with the result that it lost revenue on its international flights. This affected the process of human capital development in two ways. First, the national political disorder led to stress and lack of confidence among employees. Second, when international flights are cancelled it leads to a decrease in sales and consequently the employees get no salary increments. This leads to employees losing motivation in building their human capital.

The other political issue raised during the interviews was the educational policy in the country. Since the airline is a business company most of its employees have to be business graduates. But the education policy of the country makes it difficult for the airline to achieve this. The Ministry of Education follows a 70/30 policy which means that among the country level graduates, 70 percent are from technology and natural sciences and the remaining 30 percent are social science graduates. Therefore, the airline faces difficulties in getting competent business graduates. To deal with this problem the airline extensively trains its employees in the aviation academy.

Since most of Ethiopian Airlines' flights are in Africa, any political change on the continent affects the airline and consequently the process of human capital development. For example, if there are elections in a destination city there are chances that flights to this city will be cancelled. If there is other political instability somewhere then flights are cancelled. This political instability on the continent indirectly affects the process of human capital development. It is obvious that when there are cancelations sales decrease. As the company has motivational factors like salary increments and bonuses which are determined by sales, a decline in sales leads to a decline in this motivation factor. This decline consequently affects knowledge, skill and ability development programs.

"I remember when I was in Cairo (Area Manager) the Great Renaissance Dam was an issue. There were demonstrations against the construction of the dam in front of Ethiopian Airlines. It was my first experience of such a demonstration in front of my office. If you develop human relations' skills you have the strength to solve such problems. I was also in Cairo during the Egypt revolution. At that time, I was responsible for analyzing the condition and deciding whether the flight should come to Egypt or not, analyzing the uprising and how I could get customers to the airport. On behalf of Ethiopian Airlines, I was the responsible for taking all decisions. Therefore, as the Area Manager requires human relationship skills especially relations with politicians, travel agencies and ambassadors," commercial and ground operation service.

7.2.5 Sociocultural

Ethiopian Airlines works at building its brand. Due to this, employees of Ethiopian Airlines are seen as being ethical and well-disciplined. Employees are proud of being part of the airline. This may lead to motivation among them leading them to build their human capital related to the aviation industry. Cultural changes in the country may negatively affects employees' code of conduct. For example, current fashions in society in terms of dressing influence the dressing style of the employees as they try and do what is going on in the city. This may also affect the airline's international code of conduct for the behavior of its employees.

Another sociocultural factor which affects the process of human capital development happens during interactions with customers and international employees. Interaction with international customers/passengers leads to social and cultural differences. This is especially true for differences in gestures and behavior. This motivates employees to develop skills so that they can understand different cultures. Employees also interact with international employees. During such interactions, there are sociocultural differences which help in human capital development. For example, one of my interviewee talked about his time in Nigeria as Area Manager saying that it was a serious challenge as it was the first time that he had such responsibility and second, it was a different country with a different culture where even the accent was different. Further, the Nigerians was aggressive as compared to Ethiopians which led to problems in socialization. Therefore, his task was socializing with people as well as with employees and visiting the airport and training in

finance, cargo and administration through observations. The first year was very challenging in understanding the culture, society and environment. This also had an impact on his tasks through influencing his knowledge, skills and abilities. He performed his tasks by referring to SOPs, manuals and other procedures. It took him time to perform the new tasks especially in the first year. "You also have to show your subordinates your confidence." This was major challenge for him. Since the Nigerians who worked with him had a challenging and a '*I know'* attitude he had to prepare, read and know everything before they did. This helped build his human capital. Therefore, challenges of social and cultural differences motivated him to search for new knowledge, skills and abilities.

Chapter 8: Findings: Bishoftu Automotive Industry

8.1 An overview of human capital process in the Bishoftu Automotive Industry

The Metal and Engineering Corporation (METEC) was established by the Council of Ministers for the implementation of the Growth and Transformation Plan (GTP) by leading the industrialization policy in the country. Bishoftu Automotive Industry (BAI) as one of METEC sister companies is aimed at leading the automotive industry in the country by producing civil and military vehicles. To achieve this mission, BAI works on its human capital as an engine for industrialization. The industry also prioritizes knowledge, skills and abilities in the sector and transferring this capital to others through human capital development mechanisms. Therefore, human capital in the industry is emphasized on for achieving its mission.

Based on the data collected from the industry, I developed a framework for the process of human capital which proceeds through different interconnected stages. BAI's process of human capital development starts with the intake of employees. This is determined by 'who joins' and 'how you join'. Based on the leading question civil and military employee are joined to the industry. Civil employees come from universities, technical and vocational education training colleges and other industries. Military employees come from the National Defense Ministry. To select civil employees, BAI uses a written exam, a practical exam and an interview as selection mechanisms. These mechanisms help the industry to assess candidates' technical/professional skills, confidence, attitudes and language proficiencies. Military employees join through relationships and other appointment criteria like commitment, personal networks and military hierarchy. Answering the two intake questions mentioned earlier helps in determining the potential human capital for developing automotive related human capital.

Candidates selected during the intake process join the industry for training. Therefore, the second stage in human capital process which is training in the industry is started. Before training starts, there is an induction and socialization program aimed at building the confidence of the potential employees and equipping them with required information about the industry. The training is coordinated by the research and development and human

resource management (HRM) departments. Training includes both theoretical and practical training. Theoretical training is delivered in morning sessions through lectures, discussions and teamwork. Practical training is given in afternoon sessions in workshops. Practical training is delivered in the workshops by senior employees. During the training, human capital process is determined by the relationship between the trainee and senior technicians in the workshop. During the initial training, trainees develop basic knowledge, skills and abilities related to the automotive industry.

After the training, trainees are assigned to their respective factories and workshops and finally to their respective stations. Hence, the third stage of the process of human capital development is when the employees start working. There are two mechanisms for human capital development during this stage. First, interactions and interdependencies with Chinese experts which facilitate the process of human capital development through seeing, observing, understanding, asking and receiving comments and suggestions. Interactions and interdependencies with Chinese experts are constrained by language problems, cultural differences and willingness to support and are enabled by creating social relationships. The second human capital development mechanism at this stage is interactions and interdependencies among Ethiopian colleagues. This happens when chief or senior technicians assist junior technicians, in briefings and debriefings, teamwork and the composition of the employees in a team. On the other hand, informal interactions and interdependencies happen through seeing, observing, asking and practicing and communicating leading to social relationships and self-effort. Therefore, knowledge, skills and abilities accumulated through such processes are pertinent for doing automotive related tasks and this is called firm specific human capital.

Automotive related human capital comes at stage four in the process of human capital development. Automotive human capital in BAI is seen in employees' confidence in their knowledge, skills and abilities. Employees with automotive related human capital are also confident in the work that they do. BAI employees show their automotive related knowledge, skills and abilities when replacing Chinese workers and in managing their work independently.

The process of human capital development is not a linear process because the context in which the industry operates may disrupt the process negatively or positively. Therefore, inner and outer contextual factors are also discussed as enabling and restraining factors in

the process of human capital. Inner contextual factors include the structure and infrastructure, organizational culture, strategic human resource management (SHRM) and employees mobility. Political and economic factors are outer contextual factors of the industry.

Figure 9. shows process human capital in BAI.

Figure 9: Framework for human capital process in BAI

Intake

Potential human capital

1. **Who are you?**
   a. Civil employees
      a. Educational background
      b. Experience
   b. Military
      a. Educational background
      b. Previous experience
      c. High rank officers
      d. Officers without any related experience
2. **How they join**
   a. Civil employees
      a. Written exam
      b. Practical exam
      c. Interview
   b. Military employees
      a. Appointing: commitment and relationship
      b. Military hierarchy

Training

Basic theoretical and practical human capital related to the automotive industry

1. Induction and socialization at industry, workshop and station levels
2. Theoretical and practical training related to the automotive industry
   a. Theoretical training (classroom based training)
      i. Lectures, presentations and discussions
      ii. Interaction with trainers and among trainees
   b. Practical training
      i. Delivered in workshops
      ii. Senior technicians assisting the trainees
      iii. Seeing, observing, understanding, following directives from senior technicians

Job startad

Task related practical knowledge, skill and ability is developed through

1. **Interactions and interdependencies with Chinese**
   a. Agreement on importing component parts, collaboration tasks like co-design and knowledge transfer
   b. Seeing, observing, asking, understanding, inspection and comments and suggestions
      i. Barriers during knowledge, skill and ability transfers from Chinese to local experts
      ii. Enabling factor during knowledge, skill and ability transfers from Chinese to local experts
2. **Interactions and interdependencies among Ethiopian colleagues**
   A. Formal interactions and interdependencies
      i. Assisting
      ii. Teamwork
      iii. Team composition
      iv. Briefings and debriefings
   B. Informal interactions and interdependencies
      i. Communication
      ii. Seeing, observing, asking about the center of gravity
      iii. Informal relationships
      iv. Self-effort

Industry related HC

Automotive related HC

Inner context: Structure and infrastructure, organizational culture, strategic human resource management and employees mobility

Outer context: Political and economic factors are the main outer contexts which affect the process of human capital development

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The empirical field data is organized in line with this model and each stage is now described. First, I provide an account of the formal process of human capital development and second I discuss the informal process of human capital, that is, what is going on below the surface. Hence, the discussion provides answers to the research question: how do interactions and interdependencies develop among individuals during the process and what role do they play in the development of human capital?

8.2 The Formal Process of human capital

8.2.1 Intake to Bishoftu Automotive industry

FDRE Metal and Engineering Corporation (METEC) was established by the Council of Ministers pursuant to Article 5 of the definition of power and duties of the executive organs of the Federal Democratic Republic of Ethiopia Proclamation No. 471/2005 and Article(1)(a) of the Public Enterprise Proclamation No. 25/1992. This regulation is: "Metal and Engineering Corporation Establishment Council of Ministers Regulation No. 183/2010." As a result of this proclamation METEC was established as a public enterprise.

METEC is a state-owned corporation in Ethiopia. It has 17 sister companies. Bishoftu Automotive Industry is one of METEC's sister companies which is found in Oromia region, Bishoftu town. Demand for potential human capital is initiated from BAI when it sends a request for manpower to METEC. METEC is responsible for recruitments to all sister companies. Based on the demand, METEC sends successful applicants to the sister industries. Based on the request Bishoftu Automotive Industry receives new employees from METEC.

BAI's employees are a mix of civil and military employees who are selected following two different processes.

Civil employees

BAI hires civil employees from universities, TVETs and other experienced workers from industries. Vacancies are announced in nine regional states and two city administrations, universities and TVETs, and on METEC's website and television and radio. Registrations are done in different places. After the registrations on behalf of all the sister companies, METEC conducts the recruitment process. A written exam, practical exam and interview are the main mechanism used. The selection process measures technical/professional skills, confidence, attitudes, language proficiencies, ethics/discipline and other behavioral issues.

METEC assigns successful applicants to its sister companies including BAI. Most employees who join BAI are from technical and vocational colleges. They are young and they do not have any experience.

> *"I saw METEC's vacancies on a vacancy board and I registered for it. After the registration, there was a written exam which tested my auto mechanic related, English language and mathematics related abilities. After I passed the written exam there was an interview which was very detailed and examined my technical skills specifically related to be an auto mechanic. After I passed the interview along with around 500 candidates we met at METEC headquarters in Addis Ababa. After this meeting METEC assigned us to different factories like the Homicho Ammunition Industry, Adama Garment, Hibret manufacturing and machine building industry, Gafat Armament, Dejen Aviation Industry and Bishoftu Automotive Industry. I was assigned to Bishoftu Automotive Industry,"* light vehicle production factory.

Military employees

Selection of military employees has two sub-processes. First, students may join Defense Engineering College[2] based on their results in the Ethiopian School Leaving Examination Certificate (ESLC).[3] After qualifying in this college they become members of the Ethiopian Defense Ministry and take basic military training there. Then they join the Defense Engineering College and finally move to different departments. After their graduation, the ministry in collaboration with METEC assigns them to one of METEC's sister companies including in Bishoftu Automotive Industry. Most employees who join BAI through such process have experience in military industries owned by the Defense Ministry because before METEC was established, all METEC sister companies were owned by the Ministry of Defense. Later these companies were moved to METEC based on the proclamation mentioned earlier. As a result of employees transfer from one sister company to other sister company, most of the employees joined through such process has previous experience. Since these employees have industrial experience and they also have theoretical and practical knowledge, skills and abilities thanks to their educational backgrounds they join BAI with potential human capital.

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[2] Defense Engineering College is an academic institution owned by the Defense Ministry.
[3] ESLC is the Ethiopian national exam taken after finishing the high school program.

"I joined the Defense Engineering College after high school with 4.00 in the Ethiopian 12 grade leaving examination in 2000. In 2004, I graduated in manufacturing of machine tools. Since then, I have been a member of the Ethiopian military. After my graduation, I served in the Gafat Armament Industry for four years. Then I did my masters in automotive engineering in India. In between I worked in different positions. In 2012, I joined BAI. During may stay in India I got theoretical and practical training. Therefore, I am not new to such an industry and I have knowledge of the automotive industry. I am familiar with the work because of previous experience and educational background," research and development.

Employees with an academic background and experience facilitate the process of acquiring knowledge, skills and abilities. This also helps employees build their confidence and transfer their lived experiences, knowledge, skills and abilities to others.

Second, managers, technicians and administrative experts from the military are also assigned to BAI. These employees have three main attributes. First, managers with higher military ranks who are assigned to managerial positions. For example, the METEC Chief Executive Officer is a Brigadier General, the CEO of Bishoftu Automotive Industry is a Colonel. Managers in all the factories and corporates like human resource management and research and development have Major and Captain military ranks. These employees are appointed following invisible criteria like commitment and relationships. Second, BAI also has employees from the military who have automotive related experience like working in garages and other defense industries. Third, there are also military employees who have no managerial, educational background or automotive related experience. They are assigned from the field. Most of them are women military persons and the rationale for their appointment is that they are members of the Ethiopian military and so have a responsibility to work where the Defense Ministry assigns them.

"I have been a member of the Ethiopian Defense Ministry since 2005. I did my military course at the Birsheleko Military Training Center and served in the military for four years. In 2008 the Defense Ministry prepared a package for women to join industries owned by the Defense Ministry. As a result, I was assigned to Bishoftu Automotive Industry," marketing and sales.

Both the civil and military wings at BAI join the industry with different characteristics and cultures. Military employees have a military culture, which is more autocratic and civil employees are young with a civilian culture which is more democratic.

8.2.2 Training in Bishoftu Automotive Industry

Once employees join BAI they go through an induction and socialization program. This prepares them for their work as employees in the industry, factories and workshops and for the values and beliefs of the industry. New employees are also trained. The main aim of the induction and socialization program and the training is to build their confidence and to equip them with basic theoretical and practical knowledge, skills and abilities as junior employees.

> *"We observe and visit the compound, all the factories, activities performed in each workshop, products and processes in the workshops in the induction and socialization process. I was really surprised by the workshops and processes on how vehicles are made and assembled," bus production factory.*

BAI has a research and development department which was previously called the learning and training section which is responsible for induction and socialization and training. This department has three main sections: Design and development, capacity building and quality management. The capacity building section is responsible for training in the industry. BAI's mission is leading the automotive industry in the country by producing civil and military vehicles. Therefore, this department works at gaining knowledge, skills and abilities in the industry and transferring this capital to others through capacity building programs like training, upgrading existing automotive technologies based on demand and producing Ethiopian brand vehicles. The department is doing in localizing, upgrading and transferring knowledge and technology in the automotive industry. As a result, this department is the human capital development center for all factories in BAI.

The capacity building section is responsible for all training in the industry. The basic activities of this section are internal capacity building which is building the capabilities of employees based on identified skill gaps. Delivering training to junior employees and providing on the job training for senior employees. It also does external capacity building by delivering training in coordination with other industries and stakeholders in BAI communities. It also does gives sales training to customers about auto electric, auto mechanic and driving aspects.

All training is done based on assessments done by the HR department. HR assesses knowledge, skill and ability gaps which it shares with the research and development department. Based on the assessment HR announces the knowledge, skill and ability gap to Research and Development department. The capacity building section of the Research and Development (R&D) department prepares theoretical and practical training to fill the gaps identified by the HR department. The R&D department does not have a formal curriculum for the training but every training is delivered based on the gaps in the knowledge, skill and ability assessments. The department draws up a yearly plan which is broken down into quarterly plans. Different types of training are given by the R&D department. This includes training in auto electric, auto mechanic, power train, engine service, welding, body, driving, auto tank, industrial electricity and other automotive related aspects.

Basically, two kinds of training are given in BAI. First, there is training for the new employees. This is aimed at equipping them with basic practical and theoretical knowledge, skills and abilities related to the automotive industry. Second, there is on the job training for senior employees which is given both in the country and outside. On the job training is aimed at refreshing and upgrading employees' knowledge, skills and abilities.

Inside the training

Before training formally starts in the classroom, there is an induction and socialization program held by the R&D department when trainees are introduced to the industry compound, factories and workshops, processes and activities performed during the production process, the values and beliefs, policies and procedures of the organization as well as the products produced by the industry. This program is basically undertaken for building the confidence of the trainees and equipping them with information about the industry. Therefore, induction and socialization is a mechanism for human capital development. As the trainees get to know the industry they are inspired as this is their first exposure to the automotive industry. This motivates them in developing their human capital by acquiring knowledge, skills and abilities in the automotive industry.

> *".....I saw the automotive industry for the first time and I was really surprised and was proud to see such an industry in my country," bus production factory.*

Formal training starts after induction and socialization. The training undertaken by Research and Development department is automotive industry related. The training time is between 45 and 60 days.

Training in BAI is conducted following two processes. First, theoretical training is delivered in the classroom through lectures, presentations and discussions. Theoretical knowledge, skills and abilities related to the automotive industry are acquired through questioning and answering programs and demonstrating while interacting with the trainers. Trainees can also gain this knowledge through interactions with each other during group discussions and presentations. During the classroom training trainers are expected to equip trainees with basic theoretical knowledge about the automotive industry. This training is delivered in morning sessions. Self-effort has a big role in improving trainees' theoretical knowledge. Trainees develop this by being dedicated in the classroom training and reading different manuals related to the automotive industry.

> *"..... I remain busy reading different company manuals and I also read from different on the internet," light vehicle production factory.*

Trainees read different manuals related to the automotive industry to develop their theoretical knowledge related to the automotive industry.

Second, practical training is given in the afternoon sessions in workshops. This is like practicing as trainees are assigned to different workshops. During practical training trainees are assisted by senior technicians and chief technicians. Trainees are supposed to see, observe, ask, understand and follow the directives of senior technicians or chief technicians. This helps in transferring knowledge, skills and abilities from the chief technicians to the trainees. The technicians and chief technicians also guide the trainees by giving suggestions and comments based on the trainees' strengths and weaknesses as seen during practicing. Since tasks and procedures in the automotive industry are performed in an open environment, knowledge, skill and ability acquisition is also as simple as seeing, observing, understanding and following the directives of the technicians and chief technicians.

> *"It is difficult to develop technical knowledge during the afternoon sessions because you have to ask for support from the senior employees and you have to concentrate on seeing, observing and listening while vehicles are being assembled and disassembled," bus production factory.*

During the practical training there is an interaction with senior employees when trainees gain support from the senior employees by asking about unclear procedures and seeing and observing the activities that they perform. The mechanisms that emerge during interactions with chief technicians can be both enabling and restraining factors in the process of human capital.

> *"…… the theoretical part of the training was delivered in the mornings in a classroom and in the afternoons we trained in the practical part in workshops. The practical part of the training was similar to on the job training because we were working with senior employees of the organization. Therefore, we also learnt from them," light vehicle production factory.*

Most of the trainers in BAI are from the military wing. Their dressing system, discipline and way of commanding is also military. Such behavior confuses the trainees in the early period of the training. After some time, they get familiar with it though. Trainers in BAI have rich practical experience. They have done training and gained experience in international companies. They are certified for pedagogical courses. Most of the trainers are graduates from Defense Engineering College and they have masters' degrees in the automotive industry. They also have practical experience in the sector and also in other manufacturing industries owned by METEC. Therefore, such rich theoretical and practical knowledge may help in building the human capital of the trainees. Trainers in BAI are employees of the industry and work in different factories and departments. They have lived experience in the automotive industry.

> *"Training is not only subject oriented and it also includes sharing experiences of international training. The training is delivered based on the plan and need assessment done by the HR department. The training is based on our specialization and the identified skill gaps. There is also training based on our training as training of trainers, benchmarks, training in abroad and visiting different plants in and outside the country," research and development.*

The training ends with a practical exam. Based on the results trainees are assigned to different factories. Top scorers are assigned critical positions which require technical skills. During this training trainees are equipped with basic theoretical and practical knowledge, skill and ability related to the automotive industry.

> *"I did not have any knowledge about the automotive industry. But through this training I developed basic knowledge, skills and abilities related to the industry as we trained in every aspect related to the industry. When we train on auto electric we train on every aspect of the automotive electrical parts and when we train on engines we train on every part of the engine," light vehicle production factory.*

Employees who have no training also join BAI. Since employees have no information about the industry they initially feel frustrated as everything is new for them. They develop their knowledge, skills and abilities related to the automotive industry through informal peer support and social relationships with their colleagues. This indicates that training in BAI lacks consistency as some employees are not trained.

> *"At that time, I was really frustrated. But BAI by itself is a college and the industry too forced me to learn more about the industry. Since the position I was assigned was not based on my profession I had to learn everything through experience sharing with my colleagues. I also got support from senior experts. Assembling was not too difficult since our seniors showed us how things had to be performed, I learnt all the steps on how to assemble and disassemble parts. After that I learnt more about what the component parts were, their uses and how I can produce them locally. Senior employees were willing to teach us," bus production factory.*

Employees who join BAI without training develop stress because of their frustrations. However, this makes them look at alternative mechanisms like informal peer support and creating social relationships.

After finishing their training, employees are sent to different factories, workshops and stations. The induction and socialization program thus continues in the factories, workshops and stations and introduces the employees to industry values, beliefs, rules and regulations and also to their respective factories, key leaders, products and processes. Finally, junior employees are assigned their final positions called stations. At this level, junior employees are introduced to specific tasks, activities and processes in the station in which products are assembled and disassembled; they are also introduced to employees working in the stations. This final induction and socialization program helps junior

employees get more information, builds their confidence, they develop relationships with senior employees and are introduced to the tasks and processes in the stations.

8.2.3 Job started

The process of human capital development during starting the job is accelerated through interactions and interdependencies among Chinese and Ethiopians experts, and among Ethiopian colleagues.

Interactions and interdependencies among Chinese and Ethiopian experts

For the last two decades, the Government of Ethiopia has been emphasizing on an agriculture led industrialization policy. This policy is agriculture led as 85 percent of the Ethiopian population depends on agriculture. The second Growth and Transformation Plan (GTP II) emphasizes industrialization. To support the implementation of this plan the government has prioritized investments in mega projects and for establishing state owned enterprises. Among these state-owned enterprises, METEC is one of the largest enterprises which aims to lead the industrialization process in the country. BAI as one of METEC's sister companies is aimed at becoming the leading automotive industry in the country. To do this, it emphasizes on human capital development through technology adoption and technology transfers from international companies. Technology adoption and technology transfers include knowledge transfer and experience sharing with international companies like companies from China. This is one component of the human capital development mechanism used by the industry.

> *"Even if international companies have their own interests, creating and developing international linkages with international automotive companies help us in developing internal human capital through technology adoption and technology transfer," CEO.*

BAI has international connections with companies in different countries. There are relations with German, South Korean and Chinese companies. But the most visible and established agreements and relationships are with Chinese companies. The agreements with Chinese companies are based on some considerations.

BAI's main mission is filling the market gap in the automotive industry through local Ethiopian vehicles. It has entered into agreements with Chinese companies for achieving this. The agreements with China companies include importing components and technology transfer from Chinese experts to Ethiopian experts. Therefore, local human capital

development is also part of the agreement on technology transfers. These agreements have their own impact on the process of human capital. Based on these agreements Chinese companies send groups of experts with component parts to BAI.

Chinese experts come to BAI to show their prototypes to key station and factory managers. Initially, the Chinese experts contact quality control, adjustment and testing and design, and engineering stations. During the prototype assembling process the main tasks of the local experts are observing, asking and understanding every assembling procedure done by Chinese experts. The quality control, adjustment and testing and design and engineering stations provide feedback to factory managers who discuss this with the management. The industry management discusses the feedback and takes a decision to continue the assembling process and consequently the knowledge, skill and ability development programs.

Chinese experts start the normal assembling process by showing each step to the local experts. The process of human capital development happens as follows: When a new product arrives, training is finalized in China and in BAI for local experts. This training is basically concerned with the specific product to be produce, assembled and disassembled. Since stations in the workshop are arranged sequentially, pictures and designs of the assembling process are posted in each station. For example, in station one which is the frame and axle (chassis) station pictures and designs are posted on the wall which show how the assembling process is performed.

The Chinese experts start the assembling process in each station. Initially, they show local experts all the components and their functions. Component parts are distributed to the respective stations. Chinese experts start their assembling process of the first vehicle when local experts see, observe, ask, and understand what is being done. It is possible for local experts to also observe what is happening in the other stations. The Chinese experts assemble the second vehicle too. After acquiring knowledge, skills and abilities from the Chinese experts, local experts start assembling the third and fourth vehicles. The Chinese experts inspect local experts during the assembly of the third and fourth vehicles and give comments and suggestions. This leads to local experts acquiring knowledge, skills and abilities.

> *"Chinese experts begin the assembling process of two or three vehicles. We observe every activity with respect to our station. We ask them to clarify steps which are not clear and discuss these with them. After this learning process we start the assembling process on the third or fourth vehicle. The Chinese experts observe us and gives comments and suggestions. Through their support we start the assembling process independently. Finally, the Chinese experts withdraw from the organization,"* light vehicle production factory.

BAI also has agreements for co-designing with Chinese companies. This is a collaborative task between Chinese experts and BAI employees for designing automotive sketches suitable for the Ethiopian topography. During the co-designing the process of human capital development takes place because this is a collaboration and there are close interactions and interdependencies among Ethiopian and Chinese experts. There are a lot of discussions and brainstorming between them. These close interactions and interdependencies help in transferring knowledge, skills and abilities. As a result, BAI is changing from importing component parts to co-designing with Chinese experts. Co-designing is the main emphasis area in the industry. The industry gives different training in different countries for co-designing.

> *"I was in China for two months for co-designing and my friend was in Italy for a similar purpose. This helped us in developing and implementing automotive designs. I also trained my colleagues on what I had learnt and seen in China,"* research and development.

The process of human capital during the interactions and interdependencies among Chinese and Ethiopian experts is challenged by different problems. These challenges may or may not be deliberately created during the process of human capital development. To have an overview of the challenges I discuss a specific situation.

The R&D department had a co-designing task with Chinse experts. The design was for a mid-bus for the parliament. Since Ethiopian experts are new to the automotive industry they signed an agreement with the Chinese company YOUTONG for a co-design. The company sent two experts from China. But during the co-designing there was a difference of opinion with the Chinese experts because they wanted to develop their existing design. However, BAI needed a new design which was suitable for the Ethiopian environment and topography. However, Chinese experts want to decor their existing design. Finally, BAI

told the Chinese experts to meet in the next phase. But it was assumed that BAI would quit the agreement due to this misbehaving of Chinese experts in ornamenting their existing design. However, BAI employees acquired rough knowledge of the design from the Chinese. During the co-design task, Ethiopian experts learnt how to design and during the requirement phase they also learnt how requirement data is collected. Finally, the Ethiopian experts developed the design and have a prototype of the mid-bus. Therefore, due to misbehaving of Chinese experts in decorating the existing design rather than producing new design the agreement is quitted. This situation also created an opportunity for BAI to see other local alternatives. As a result, this mid-bus was made in collaboration with other enterprises in Ethiopia. Different Ethiopian companies participated in the production of this mid-bus.

From this it can be seen that there are knowledge, skill and ability transfers from Chinese experts to local experts. But this is not without challenges because BAI employees perceive that the Chinese experts do not voluntarily put in an effort in sharing their knowledge and skills. Such situations give BAI an opportunity to search for and collaborate with local private enterprises. They also make employees confident of their capabilities to do independent tasks.

> *"Even though acquiring knowledge, skills and abilities vary from person to person, Chinese experts in general are cagey in transferring their knowledge and experience to us," research and development.*

No organization is keen on transferring full knowledge to local experts. They do not share all their knowledge, skills and abilities and only transfer rough knowledge, skills and abilities. This problem gets aggravated because of language barriers and cultural differences. Even if the Chinese know English they hide their language skills. Even if they believe that a technology is important they will restrict the technology to show for the local experts. This is because they believe that:

> *"If local experts develop full knowledge, skills and abilities in the area of design and automotive industry they will lose our market," research and development.*

Some feeling of competition among Ethiopian and Chinese experts also exists which may restrain the process of human capital development. Because if employees feel that there is competition there are no free discussions, information sharing and knowledge, skill and ability transfers.

> *".....if we perform well in our tasks they feel uncomfortable with our capabilities," bus production factory.*

There is also the problem of language. Chinese experts speak only Chinese. They do not want to communicate in English. Further, the manuals and software are also in Chinese, so this is another barrier in the process of human capital development. They translate only if the management believes it is critical for the company.

> *"The Chinese experts did not know English and we communicated through signs. This makes knowledge, skill and ability transfers difficult. During the assembly process if there are some problems the Chinese experts communicate with their company on the internet," light vehicle production factory.*

The other challenge which limits interactions with Chinse experts is cultural differences. Local experts do not know the Chinese culture and Chinese experts do not know Ethiopian culture. In the initial interactions, this can lead to misunderstandings. Local experts also face cultural shocks about Chinese experts' eating habits as they eat things that Ethiopians do not. Due to these cultural differences, local experts face difficulties in socially interacting with the Chinese experts. All this makes it difficult to have interactions and interdependencies with Chinese experts. This constrains the process of human capital development. Through time and processes, local experts adopt the behavior and culture of Chinese experts. This culture understanding happens when Chinese experts repeatedly visits BAI. Chinese companies send a mix of new and old experts to Ethiopia. There are also many local experts who train in China and know the Chinese culture. This makes the interaction with Chinese experts a little smoother.

Therefore, even if there is knowledge transfer from Chinese experts to local experts, this process is constrained as the Chinese are not forthcoming in sharing their knowledge, skills and abilities and put in less effort because of cultural barriers, language barriers and some feeling of competition. To get full knowledge from them it is better to make individual efforts like making them friends which is an informal way of sharing knowledge.

> *"....They do not transfer the knowledge they have rather they transfer rough knowledge. But you can learn more by making them your friends and creating close relationships with them," HRM.*

Due to frequent interactions among Chinese and Ethiopian experts they become socially integrated. This social integration is developed over time through frequent visits to China and to Ethiopia. This makes the process of human capital development smoother.

This also helps local experts develop confidence in their technical skills in the automotive industry. These skills are developed with the help of Chinese experts. During interactions between Chinese and local experts observing, questioning and answering are the main methods for human capital development of local experts.

Since experts from both the countries visit each other's countries, they also develop an understanding of their cultures leading to a smoother flow of knowledge and skills.

> *".... finally, after they repeatedly visit BAI we become like a family,"* bus production factory.

Interactions and interdependencies among Ethiopian colleagues

The interactions and interdependencies among BAI employees happen in two ways. First, formally through assisting which is assigning a chief technician or technician to a junior technician (assistant technician) to assist him/her. There are regular discussions like briefings and debriefings, teamwork developed because the sequential followed by pooled work system and composition of employees in a station/team or projects. Second, informal interactions and interdependencies on the center of gravity which is the design to be sketched and the vehicle and component parts to be made, assembled and disassembled. This happens through seeing, observing, asking, practicing, communicating, brainstorming and showing openness in sharing knowledge skills and abilities. Social relationships with other employees and showing motivation (self-effort) are other informal mechanisms in the process of human capital development.

Formal interactions and interdependencies are institutionalized ways of creating relationships among colleagues which help employees in developing their human capital. The work structure in BAI is organized as follows: within the industry there are seven factories -- bus production factory, heavy duty track production factory, light vehicle production factory, body frame production factory, tank and armed vehicle production factory, power train production factory and system vehicle production factory. The light vehicle production factory and the bus production factory which I focus on have workshops (research and development, marketing and human resource management too are a part of my research). In the workshops there are stations. Stations are work teams which perform

their tasks pooled in an open environment around the product to be assembled or disassembled.

After the training, junior employees are assigned to stations as assistant technicians. When an assistant technician joins a station he/she gets the job description which gives a list of duties and responsibilities for the position assigned. Senior technicians or chief technicians are also assigned to assist the assistant technicians. During the assisting period, the assistant technician is required to read manuals, get to know and understand all the tools like starting from the smallest key numbers 8 and 10 to the largest key number 32, supporting and understanding the orders of the chief technicians, accepting and following the orders of the chief technician, seeing and observing all the techniques which the chief technician uses. During this time, a chief technician provides guidance which directs the assistant technician in how to perform the tasks. Assistant technicians are also responsible for doing the tasks given by the chief technician. If they face difficulties the chief technician provides support to help address them. The support from the chief technician is determined by the motivation and support seeking behavior of the assistant technician and willingness to support of the chief technician.

> *"... I put the tool set in nearby and I delivered every tool like grease, keys and oil to the chief technician as he ordered. I observed every activity done by the chief technician. If the chief technician opened the gear box I observed which one was opened first and which one came next. I observed everything. If the chief technician stopped working I too stopped doing my task. You are not expected to do other tasks because of safety concerns. During this assistance from the chief technician I received all the orders from him because all this was new for me. Every task was performed by the chief technician. My task was to learn from him. He showed every technique and procedure for doing things," light vehicle production factory.*

A chief technician is not only responsible for directing and sharing his/her experiences with the assistant technician, but he/she is also responsible for determining the assistant technician's strengths and weaknesses based on which he/she recommends intervention mechanisms in building the assistant technician's human capital. Therefore, based on the gap identified there is practical support from chief technician. During this assisting time, assistant technician is responsible to seeing, observing, understanding and following the

directives of the chief technician and the chief technician is also responsible to give directives, show every steps and procedure, give suggestions and comments based on the strengths and weakness. During these interactions and interdependencies between the chief technician and the assistant technician there is human capital process through knowledge transfer from the chief technician to the assistant technician.

> *"During this time our responsibility was seeing, observing, understanding and following the directives of the chief technician. The chief technician gave us guidance, suggestions and comments based on our strengths and weaknesses," light vehicle production factory.*

The chief technician guides the assistant technician till he/she adopts the task and builds his/her knowledge, skills and abilities. After this assisting period, assistant technicians are examined for one or two vehicles. They are also given training and theoretical and practical evaluations. Based on the evaluations for the vehicles and training they approve their promotions from assistant technicians to technicians. This promotion from assistant technician to technician includes a salary increment and professional allowance. After this promotion, they can assemble and disassemble vehicles independently without assistance from the chief technician. It takes one and a half years to two years to move from an assistant technician to a technician.

In the stations, there are two basic mechanisms for human capital development -- teamwork and composition of employees in terms of professions and experience. Depending on the complexity of the task one station is composed of 15 to 20 employees. This team is formed based on the nature of the structure institutionalized in the industry. Team members work around the design or the machine to be made, assembled or disassembled. There are no individual tasks and everything is done in a team. What an individual knows, his/her other colleagues also know. Nothing is a mystery among colleagues because everything is done in an open environment around the machine to be made or the design to be sketched. For example, when they work on a motor, or an electric harness or a radiator they work around the machine. Therefore, knowledge, skill and ability acquisition is facilitated as a result of teamwork and the setup used to do their task which is round the machine. The work setup is clear and open for everyone. Thus, the mechanisms used for human capital development are the work setup which is around the machine, interactions with senior and experienced employees and their cooperative behavior.

"In the auto engine station which is station three, we do our tasks in a team around the engine to be made, assembled or disassembled. Therefore, the activities performed by an individual are open to all employees because tasks are done openly. Thus, the work setup by itself facilitates knowledge, skill and ability transfers among the team members. Everyone in our team is cooperative," light vehicle production factory.

BAI follows the Japanese philosophy Kaizen which mainly focuses on waste minimization and teamwork. Hence, BAI first considers team spirit and team harmony. Even evaluations are done based on the team or the station. For example, if five chassis are assigned to station one, it has to assemble five engines, five bodies and finally five vehicles. The evaluation is done for the team and whether it made five vehicles or not. Team based tasks and evaluations help in having team spirit and consequently knowledge, skill and ability transfers among team members.

Human capital is also determined by the composition of the team members in terms of professions and experience. Stations are formed by different professionals and different employees who have different work experience. If the task is a machining task there is machinist, if the task is mechanic task there is general mechanic and if the task is welding and fabrication then there is an individual who is responsible for this. There is also a movement of professionals from one team to another for support because there is a shortage of professionals in the industry.

Further, teams or stations are composed of different professionals like electricians, mechanical and industrial workers. As a result, there is knowledge transfer from one profession to another. Most interviewees wanted to gain knowledge, skills and abilities from mechanical professionals. Stations/teams in BAI are composed of junior and senior employees. Therefore, there is experience sharing by the senior employees with junior employees. These experience, knowledge, skill and ability transfers are basically determined by the willingness of the employees to share and support seeking behavior among the juniors.

"I transfer what I have openly to my colleagues. I receive mechanical knowledge from my colleagues. I learn the mechanical aspects also by reading manuals, watching videos and observing how the mechanical process is done in the station. Our colleagues are also interested in showing you when they complete their tasks and how they performed them," bus production factory.

Briefing and debriefing sessions are also held which too help in facilitating the process of human capital development. Briefings and debriefings are communication tools which help in developing knowledge, skills and abilities. During briefings and debriefings there is daily experience sharing among employees. In the morning before they start a task there is a briefings for 15-20 minutes on '*who can do this?*', '*how they can do this?*'. In the afternoon, there are debriefings about what tasks have been accomplished and not accomplished and what are the strengths and weaknesses of the day. During debriefings, they also discuss who performed the best and the best performer also shares his/her experiences. The discussions are done around the machine in the stations. Therefore, during this task communication tool there will be knowledge, skill and ability transfer among employees of the station.

Informal interactions and interdependencies

Informal interactions and interdependencies are a mechanism of human capital development in which employees informally create relationships among themselves. BAI has tangible and intangible products. On one side, there is a design which is produced by the R&D department. On the other side, vehicles are produced in the factories. Therefore, the center of gravity for the process of human capital development is the machine to be assembled and disassembled and the design to be sketched. Human capital process takes place through seeing, observing, asking, understanding, communicating, brainstorming and teamwork. These mechanisms effectively emerge when employees create social relationships among themselves. If social relationships are established among the employees then there is cooperative behavior, open discussions, information sharing, psychological attachment and peer support. This positively affects the process of human capital.

"Since I have a good relationship with my colleagues, I am free to ask them when I face problems in doing my task. I am from the chassis station. Those who are working in the body station are my friends. I can go to that station to see, observe, and ask what is being done there……." bus production factory.

Every automotive design originates in an idea or concept design which comes from different directions. But every idea cannot be implemented so there is brainstorming among the team members because it may not be possible to implement all the prototypes. Therefore, brainstorming, briefings and debriefing and corridor discussions are performed. For example, every engineer sketches on a blackboard or flipchart and there are discussions on the sketches. Based on the discussions the most logical and acceptable sketch is implemented. As a result, there is human capital development through experience sharing and knowledge transfer among the colleagues. The center of gravity for knowledge, skill and ability sharing is the design. Discussions, brainstorming, briefings and debriefings are done on the design to be sketched and on the vehicle to be assembled or disassembled.

The same is true in the factories. For example, there is a team 'station three' which is responsible for assembling and disassembling engines. This team performs its tasks around the engine in an open environment. What is done by every individual is visible to all members of the station/team. Discussions, briefings and debriefings, seeing, observing and asking and giving suggestions are all done around the engine. Therefore, the engine by itself is the center of gravity in the process of human capital development. Informal communication, seeing, observing, asking and understanding the center of gravity are mechanisms of informal interactions and interdependencies which add to the process of human capital development.

Informal relationships created among colleagues also have their own impact during interactions and interdependencies among colleagues. Informal relationships are determined by the interactive behavior of the employees. Some employees are socially active while there are also others who face difficulties in forging relationships with colleagues. Informal relationships may also help in creating new networks or employees joining existing networks. The social networks created and joined help employees get informal peer support. This helps in smooth interactions and interdependencies contributing to the process of human capital.

The process of human capital development during the informal relationships is determined by the support seeking behavior of junior employees and willingness to support among senior employees.

> *"I did not have a problem in forging relationships with my colleagues, I think this could be because I was from the university. I learnt more about creating relationship with others during my stay in the university. Then senior employees in BAI were willing to transfer their knowledge to others. Therefore, I also acquired knowledge, skills and abilities related to the automotive industry by creating relationships with senior employees. Every senior employee was cooperative in transferring his/her knowledge, skills and abilities," light vehicle production factory.*

Since the industry has many inexperienced employees they have to understand their problems and devote time and energy in digging out the knowledge, skills and abilities from others. This also motivates employees to put in an extra effort in developing their human capital.

> *"I was first assigned to block 5 which is responsible assembling and reassembling Ural engines. I was there for two to three months. We did this with old Ural engines. These old Urals came from the battlefield and were not working. Since this was my first task in this industry it was challenging in terms of education and experience. At that time I did not have any idea about how even the keys are used in the workshop. When the technicians asked me about the key number I was confused. But if you are interested in the profession nothing will remain difficult. I educated myself by writing the names of the keys and studying and observing them. After two days, I knew the keys and their functions," bus production factory.*

8.2.4 Automotive related human capital

Automotive related human capital is the knowledge, skills and abilities which are relevant to the tasks to be performed in an organization. BAI employees develop their industry specific human capital which is relevant for the automotive industry using the different mechanisms discussed earlier.

Employees with automotive related human capital are confident of their work and with the knowledge, skills and abilities that they have developed.

> *"From my daily tasks and daily interactions with colleagues and the experience I gained I shaped my knowledge, skills and abilities. I performed many successful tasks and you can also ask my bosses about my capabilities,"* marketing and sales.

Since the work system in the factories is organized into workshops and stations each station is organized in a team. Tasks are performed as teamwork around a machine or the material to be made and assembled or disassembled. Therefore, this pooled work system makes transfer of knowledge, skills and abilities easy. Since the team has different professionals, acquiring different knowledge, skills and abilities from these professionals is also easy. Because of this, employees in BAI have general knowledge of the automotive industry. For example, if one is a graduate in electrical engineering he/she develops mechanical knowledge, skills and abilities through experience. From my interviews, I understand that most of the employees developed mechanical related knowledge. Employees working in the electrical field also develop mechanical knowledge through interactions with colleagues and through training. Even those who join BAI without educational qualifications and experience develop automotive related knowledge, skills and abilities. They also express their interest in improving their skills through learning via automotive or mechanical related courses.

> *"I am an electrician by profession but I developed the knowledge, skills and abilities of mechanical through experience. I can also operate a welding machine and do welding activities. I can also work as an auto electrician. I have developed these skills because of my interest,"* light vehicle production factory.

Automootive related human capital of BAI employees is also explained through the knowledge, skills and abilities that they gain from Chinese experts and the need to replace them. During the interviews, I found that BAI employees were confident about doing their tasks independently. They felt that they had full knowledge, skills and abilities in the automotive industry. This confidence of having automotive related human capital also provided them an opportunity to replace Chinese experts and manufacturing Ethiopian vehicles suitable for the environment and topography of the country.

"……The first time, there were 30-40 Chinese experts. But now the number of Chinese experts has decreased to 2-3 because local capabilities have been developed. We know that Chinese experts come to our industry to guide us and not for doing everything with our employees," bus production factory.

Such confidence is developed because of human capital which is relevant to the automotive industry is developed.

"To tell you frankly I learnt more from them (Chinese). Now I have automotive related capabilities. I have no difficulty in the automotive industry I have been with BAI for 6 years. Now I can cover the tasks done by Chinese experts," light vehicle production factory.

In this process of human capital development there are relationships, emotive factors and perceptions of employees which enable or restrain the process. This process is seldom clear in human capital literature and it is possible to capture it through a qualitative, process approach. As a result, the next section focuses on concepts that exist below the surface.

8.3 Informal human capital process: Below the surface activities in the Bishoftu Automotive Industry

The informal human capital process shows the concepts that exist below the surface of human capital process discussed in the formal one.

Process of human capital development in BAI is basically determined by the employee intake process, training in the industry and interactions and interdependencies with Chinese experts and among Ethiopian experts. There are hidden concepts which proceed through this process. As interactions and interdependencies are the main driving force in the process of human capital this section focuses on social interactions and interdependencies between Chinese and Ethiopian experts in which relationships are built, social interactions and interdependencies among Ethiopian experts in which emotive factors are emerged and interactions and interdependencies between employees and the organization in which perceptions emerge as important factors for the process of human capital development.

Initially, the interactions and interdependencies between Chinese and Ethiopian experts are determined by the negotiated agreements among Chinese companies and BAI. The agreements are constrained by language differences, cultural differences and market assumptions, and are enabled by social relationships. These factors consequently affect

human capital process negatively or positively. There are also interactions and interdependencies among Ethiopian experts between trainees and trainers, trainees and senior employees, chief technicians and assistant technicians, senior and junior employees, civil and military employees and among trainees. As a result of these trust and group gains are the enablers in the process of human capital and tensions and frustrations are the restraining factors.

Further, positive employee perceptions about the organization during the induction and socialization programs and their perceptions about access to resources motivates them to acquire knowledge, skills and abilities. Poor perceptions about the benefit packages decrease motivation for gaining knowledge, skills and abilities. Therefore, the three main concepts discussed in this chapter are relationships emerged since the journey from negotiated to informal social friend relationship, emotive factors and perceptions.

Figure 10. gives the framework for studying interactions and interdependencies between Chinese and Ethiopian experts (the journey from a negotiated agreement to a social relationship).

Figure 10: A framework for social interactions and interdependencies between Chinese and Ethiopian experts
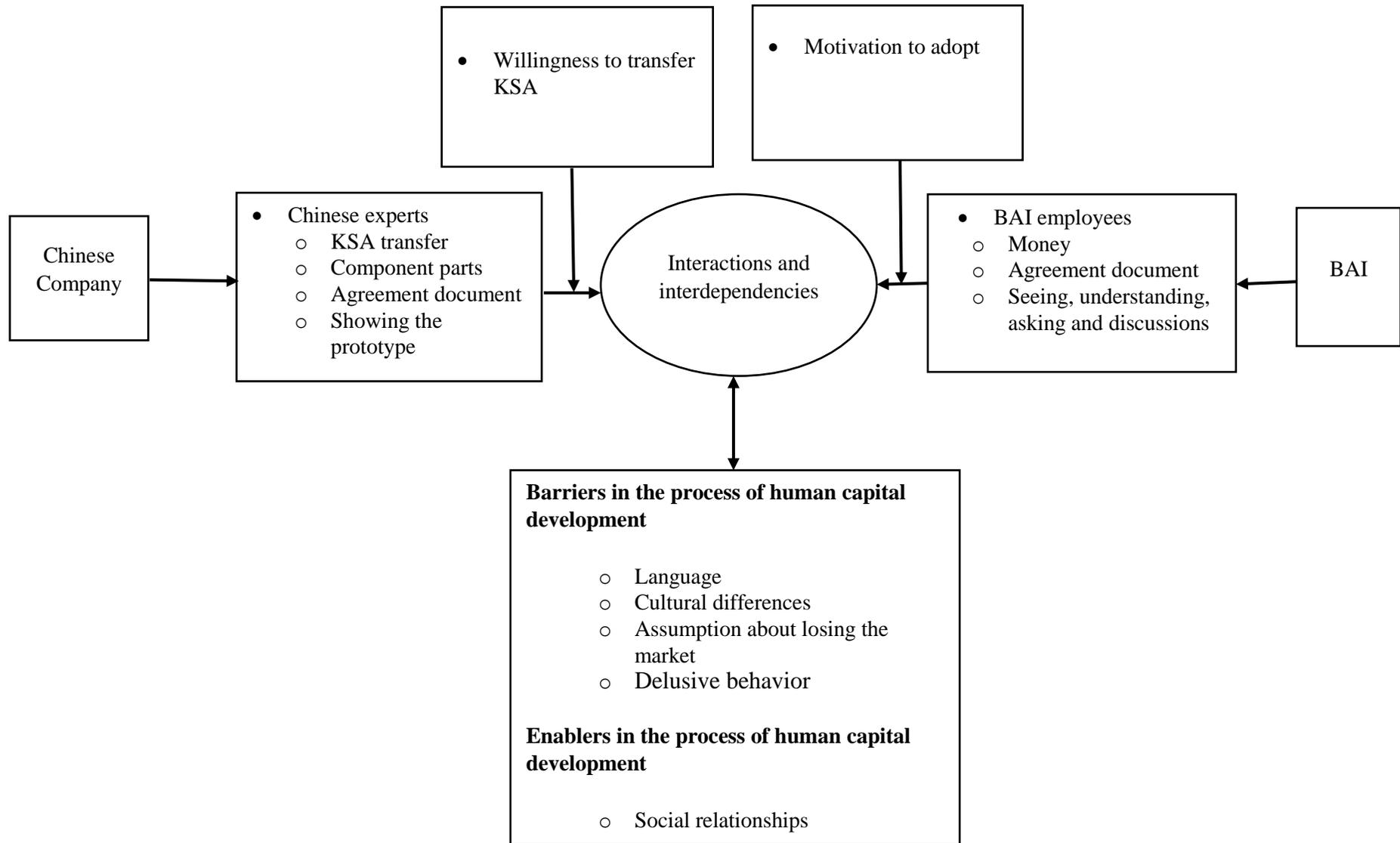
8.3.1 Journey from negotiation to relationship

Agreements are signed between BAI and Chinese companies which include exchanging money for technology transfer and component parts. The agreements explicitly state that Chinese companies will deliver component parts and transfer automotive technology to Ethiopian experts. Technology transfers include human capital through knowledge, skill and ability acquisition from Chinese experts. The agreements include two main aspects. On the one hand, there is an economic exchange of component parts with money and on the other hand there is social exchange which includes acquisition of knowledge, skills and abilities. This binding agreement includes both economic and social exchanges.

We can make binding agreements for economic exchanges as there is exchange of money with component parts. This is practical as it is known when, what and the extent to be exchanged. But it is difficult to make practical binding agreements for human capital process because we do not know when, how and to what extent this will be exchanged. Human capital process happens during acquisition of knowledge, skills and abilities and it is determined by social interactions and interdependencies among the parties involved rather than by the agreements. Thus, social exchange relationships are embedded in economic transactions. Acquisition of knowledge, skills and abilities from Chinese experts is expected to be happen based on the agreements signed by the two companies.

As a result, human capital process during the interaction and interdependence between Chinese and Ethiopian experts has two contrasting ideas. First, there is a binding agreement for technology transfer through the means of acquiring knowledge, skill and ability from Chinese experts. Second, practically, human capital process is determined by the level of interaction and interdependence among the parties involved in social exchange process rather by the binding agreement. Therefore, the below discussion shows how the above two contrasting ideas proceeds during the interaction and interdependence among the two parties while human capital process is their agenda.

Practically, the process of human capital development during the interactions and interdependencies between Chinese and Ethiopian experts happens through the following process. First, Chinese experts assemble two vehicles. During this time, pictures of how the assembling is to be done are posted in each station. Each component's parts are introduced to Ethiopians experts. After that, the Chinese experts assemble the parts. Ethiopian experts see, observe, understand, ask and participate in the discussions. During

this process, there is continuous interaction among Chinese and Ethiopian experts. Ethiopian experts assemble the third and fourth vehicles while the Chinese experts observe, inspect, give comments and help in solving the problems. As a result of these interactions and interdependencies, there is human capital transfer from Chinese to Ethiopian experts.

> *"..... There is also a process of acquiring knowledge, skills and abilities when we are working with Chinse experts especially when new vehicles are delivered and assembled. For example, when a new product comes from China, Chinese experts come with the product. They show us all the component parts and how it will be assembled. We also work with them. They assemble the first vehicle and we observe what they are doing. We also observe everything in the second assembling process. In the third and fourth assembly, we start assembling ourselves. Chinese experts inspect us during this process. They also comment on our work during the assembly process. They tell us if there is a problem,"* light vehicle production factory.

The agreements include both economic and social exchanges. social exchange and consequently human capital process is embedded in economic transactions. Because, according the agreement BAI is obligated to reciprocate money against to the component parts and knowledge transfer. Knowledge transfer and consequently human capital process is determined by social interaction and interdependence. Knowledge transfer is not an economic exchange rather it is happened through social interaction and interdependence created among Chinese and Ethiopian experts. However, since the concept of social exchange is embedded in the economic exchange different perceptions are observed in the actual process of human capital development. For example, the Chinese want to maximize their profits by staying in the market. On the other hand, BAI employees are eager to develop their human capital by gaining experience from Chinese experts and then doing things independently. Since these two contrasting perceptions are not part of the negotiations and they are difficult to solve using the agreement that has been signed, they need to come near the equilibrium through informal interactions and interdependencies. This leads to challenges for human capital process during the interaction and interdependence among them.

The negotiated agreement too is not free from challenges during human capital process because no company wants to transfer its knowledge freely. This is evidenced by the fact

that Chinese experts are not willing in transfer their knowledge, skills and abilities to Ethiopian experts according to the agreement for various reasons. First, market assumption: Chinese companies who enter into agreements with BAI are profit oriented organizations who want profits through these agreements. Therefore, they are protective about transferring their knowledge, skills and abilities to Ethiopian experts as they assume that when Ethiopians build their capabilities, Chinese companies will lose their market in Ethiopia. Because of this market assumption Chinese experts are cagey in transferring their knowledge, skills and abilities to Ethiopian experts. Second, acquiring knowledge, skill and ability is also constrained by creating the language barrier. Most Chinese experts speak only Chinese. Even the documents and software are in Chinese. They also deliberately hide their English language skills. This restricts information flow and consequently affects acquiring knowledge, skills and abilities from Chinese experts.

> *"To tell you frankly, there is no any organization which is open in transferring full knowledge to us. No one transfers his/her knowledge, skills and abilities in full to us if he/she believes the importance of the technology. For example, during may stay in China and also working here with Chinese experts I have seen that they hide their knowledge, skills and abilities by creating language problems. Even if they know English they hide their language skills. Because they feel that if we develop full knowledge, skills and abilities in design they will lose this relationship and consequently their market,"* research and development.

Third, human capital process during the interaction and interdependence with Chinese experts is also constrained by cultural differences. For example, Chinese eating habits are completely different from Ethiopians. This may create a barrier and they may not interact and relate with each other socially. As a result, the process of human capital development is affected negatively.

> *"During my first interaction with the Chinse experts there was a cultural problem. They did not know our culture. At that time, there was a misunderstanding. Even we face cultural shocks when we see their eating habits. All this makes it difficult for us to interact with them,"* light vehicle production factory.

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Hence, we can see that process of human capital development cannot be fully facilitated based on an agreement because the agreement is breached.

> *"In our department, there was a co-design task with Chinse experts. The co-design was for producing a mid-bus. ... Since, Ethiopian experts are new to the automotive industry we had an agreement with YOUTONG company for a co-design. The company sent two experts from China. We started the co-design with them……. but during the design we had a difference with them because they wanted to implement the existing design but we needed a new design which was suitable with the Ethiopian environment and topography. They want also to decor their existing design. Finally, due to misbehaving is BAI quit the arrangement,"* research and development.

BAI employees believe that Chinese experts mislead Ethiopian experts by decorating existing designs rather than producing new designs which are compatible with Ethiopian topography and environment. Due to this, Chinese experts are committed to the fourth reason called delusive behavior. Because of the above reasons negotiated exchange process is not a full mechanism to achieve its objective of technology transfer which is human capital process.

These restraining factors during the interaction with Chinese experts can be addressed by creating informal social interactions and relationships. Frequent interactions and frequent visits to Ethiopia and China can help enhance relationships between the experts. This helps in learning their culture and behavior. Creating social relationships with Chinese experts also happens when the two sides become social friends. They also create social relations outside the workplace. They participate in different social events. This social relationship facilitates acquisition of knowledge, skills and abilities from Chinese experts and the willingness to transfer and the motivation to learn are enhanced. After social interactions and relationships are established, the process of human capital development is determined by the support seeking behavior of Ethiopian experts and willingness to support by the Chinese experts. Support seeking behavior is initiated as a result of motivation to develop own knowledge, skills and abilities and friendly relationships. Willingness to support among the Chinese experts is developed as a result of the established social relationships. This leads to an effective human capital process during the interaction and interdependence among Chinese to Ethiopian experts. Therefore, these challenges are solved and made

human capital process effective through creating social relationship among the parties involved in human capital process.

> *"During that time, the Chinese experts who were assigned to me were my friends. We ate and drank together, and even when they comeback from China they came with special gifts, I also invited them to my home and I prepared traditional food and drinks, we shared our social life with them. Therefore, if I shared a similar understanding with them then nothing was hidden between us. I was effective and fit while performing my work. Consequently, they loved me and hid nothing from me. They showed me their dedication by transferring their knowledge. Due to such a relationship within the industry and outside the industry, knowledge transfer was smooth. I learnt more from them and know I can cover the tasks done by Chinese experts," bus production factory.*

This shift from a negotiation-based process to an informal relationship based human capital has a significant impact on the process of human capital development. The process works more smoothly when it is embedded in informal social interactions and relationships rather than mere agreements or negotiations.

8.3.2 Emotive Factors

Social exchange is not limited to interactions and interdependencies with Chinese experts. It also happens among Ethiopian during theoretical and practical training among trainees, between trainees and senior employees, during assisting programs between chief technicians and assistant technicians and during informal peer support among employees. Frustrations and tensions emerge as restraining factors in the process of human capital development. Trust and group gains are enablers in this process.

Tensions and Frustrations

BAI was previously owned and administered by the Ministry of Defense. After METEC was established the industries under the Minister of Defense including BAI were transferred to METEC. METEC was established as a public enterprise but its organizational values are military. BAI employees are a mix of military and civil employees. As a result of this combination, it has both a military and a civil administration and there are tensions between these two wings. These tensions affect the process of human capital development.

BAI's key positions like CEO, factory managers and heads of directorates are military officers with high military ranks like colonels, majors and captains. There are also military experts in workshops and stations. Civil employees occupy posts like vice factory managers and experts in workshops and stations. Therefore, as an employee you have to interact with both these groups. During the interactions and interdependencies military employees interact with their military personality and civil employees interact with civil behavior which can lead to tensions among them.

> *".... Well I am a military man and I have a military personality. Starting from my college education till know I have had a military personality which is not influenced by others," research and development.*

Therefore, these two different behaviors have positive and negative connotations for the process of human capital. Since the history of the industry is attached to the military, military employees feel a sense of ownership and superiority over the civil employees. Even the civil employees recognize the industry as the home of the military and they lose their sense of ownership. This situation creates superiority and inferiority among the two wings. This may create frustrations among civil employees and consequently lead to people leaving; motivation among civil employees for building their knowledge, skills and abilities also reduces. Military employees are favored and are assigned key positions because of their positions in the military which are unrelated to automotive performance and experience. Military employees are also favored for skill development training abroad. All this creates tensions among the two streams consequently disrupting social interactions, interdependencies and relationships. This situation creates frustration among civil employees and consequently leads to loss of motivation to build their knowledge, skill and ability.

> *".... They are favored because of their military experience and they also manage to rise up in the military hierarchy. For example, they will improve their military ranking from captain to major. Due to this improvement, they become my immediate leaders or supervisors. This hierarchy does not have any relation with our main task in the bus production factory. This makes me and my friends frustrated. Because such military colleagues do not have professional as well as academic knowledge about our core processes of assembling and disassembling," bus production factory.*

The industry is also dominated by the military philosophy. There are military people who have totally unrelated experience and also those who have no experience. For example, there are surveyors working in the engine station and IT professionals working in customer services. This is due to a military philosophy which states "*working in a position that you are assigned*."

> *"Since I am a member of Ethiopian military I have a responsibility to work where the Defense Ministry sends me. Even if my profession and experience are different I am working here because the ministry assigned me. ...I am here to serve my country because as a military person I have this responsibility, that is why I am here,"* marketing and sales.

Tensions between the two wings may also have negative consequences for the human capital process. For example, almost all BAI factories are managed by military officers. When they give directions or orders, they sound like military commands. This means that their communication is short. They order employees using a military language which civil employees do not know. This may create frustrations among civil employees. It also creates misunderstandings and barriers in the flow of information thus affecting the process of human capital development.

But some also military philosophies provide valuable inputs for the process of human capital development. Most of the time, discipline, safety and security have a positive impact on the process of human capital development. The industry wants to indoctrinate civil employees in military discipline.

> *".... Being in such environment makes you well-disciplined,"* HRM.

Tensions emerge during the interactions and interdependencies among civil and military people due to differences in military and civil cultures, feelings of superiority and inferiority and favoritism. As a result, the human capital process is negatively affected.

The process of human capital development during the training is determined by the interactions and interdependencies among the trainees. Trainees in BAI have different educational backgrounds. Some of them are from TVETs and universities with different educational levels and profession training. But during the BAI training all the trainees are seated in the same class. This mix of trainees may create differences in their knowledge, skill and ability acquisitions and those with lower educational levels may become

frustrated when they compare themselves with those who have better educational qualifications. Those with higher educational levels may develop confidence when they compare themselves with those with lower levels of education. This mix also limits interest in the profession in which the trainee wants to specialize. Trainees are also responsible for tasks in a team and discuss issues around the machine to be made, assembled or disassembled.

> *".... Participants in the training had different educational levels. Some of us were level one, level two and level three; there were also diploma holders and other professionals but in auto mechanics. We all trained in the same class. In the beginning it created frustration among us. But mixing of different trainees with different educational levels helped me to get to know a lot of new things through putting extra effort in readings." Bus production factory.*

Hence, the learning process varies among the trainees, especially among those who have lower educational attainments. But this challenge may also be used as an opportunity for putting in extra effort for preparing, reading different material, giving more time for studying and adjusting themselves with those who are more educated. Consequently, this situation has a dual impact on the process of human capital. First, it is a challenge as it leads to stress and frustration and thus has a negative impact on the process of human capital development. Second, it is an opportunity for devoting extra effort in the knowledge, skill and ability acquisition programs which will have a positive impact on the process of human capital.

Trust and group gains

During practical training in the workshops, interactions and interdependencies happen among the trainees and senior employees. These also continue during the assisting program between the chief technicians and assistant technicians. These are determined through seeking support and exhibiting self-effort among trainees and assistant technicians and willingness to support among senior/chief technicians. Senior/chief technicians' willingness to support is also determined by the interactive behavior of the trainees or assistant technicians because if they show their efforts, performance and willingness in accepting and implementing the chief technicians' directions and show a knowledge seeking behavior then the seniors will be more willing to share their knowledge, skills and

abilities with them. This is called trust and it shows that the trustworthiness of the trainees and assistant technicians influences chief technicians' in trusting and supporting them.

> *"The chief technician is ready to support me when I demonstrate my effort, show my performance and accept all his orders ...."* Light vehicle production factory.

Therefore, the chief technician and assistant technician work together in a frequent interaction. This interaction and interdependence created during assisting program is basically determines by trust which is exchange of willingness to support behavior of the chief technician and demonstrating self-effort and seeking for support behavior of the assistant technician. Trust is also built between the juniors and seniors while informal peer support performing.

> *"As a new employee I had a problem direct interaction with them. But after some time, the interactions increased. Since I am interested in knowing everything related to the automotive industry, I asked the senior employees about the processes which I did not understand. Senior employees were willing to support me. Since I am the only engineer in electrical, I transfer what I have openly to my colleagues. This is because I receive mechanical knowledge from my colleagues…. Our colleagues are also interested in showing us what they have done when they complete their tasks,"* bus production factory.

The other concept that emerges during the interactions and relationships among employees is group gains. BAI is organized in different factories. Within factories there are workshops. There are also stations within workshops. Tasks across stations are sequential and are done pooled around the machine or the vehicle to be made, assembled or disassembled. This pooled work system happens in an open environment. Tasks performed by different experts can be seen by the others. Therefore, the process of human capital development happens through seeing, observing and understanding from team members.

> *"Assembling and disassembling is performed in an open environment pooled on the machine. Tasks performed by my colleagues can be seen by everyone. Nothing is hidden. Therefore, acquisition of knowledge is mainly through seeing, observing, asking and discussing,"* light vehicle production factory.

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The center of gravity for human capital process is the machine or vehicle to be assembled or disassembled. As a result, knowledge, skill and ability of individuals is stored in the center of gravity and accessible to every member of the station. Thus, employees can take the knowledge, skill and ability from the center of gravity they seen, observe and understand. This is a social exchange process because interpersonal exchanges can be considered individual decisions. Individuals who gain knowledge, skills and abilities may also contribute to the center of gravity when they are able.

Figure 11. gives the emotive factors in the process of human capital: There is an interaction and interdependence among chief technicians, senior employees, trainers, and military employees with the perception of willingness or seeking for support and assistant technicians, junior employees, trainees, and civil employees with the perception of willingness or seeking for support. As a result, frustration, tension, trust and group gain are emerged as enabling or restraining factors for human capital process.

Figure 11: Interactions and interdependencies among Ethiopian employees
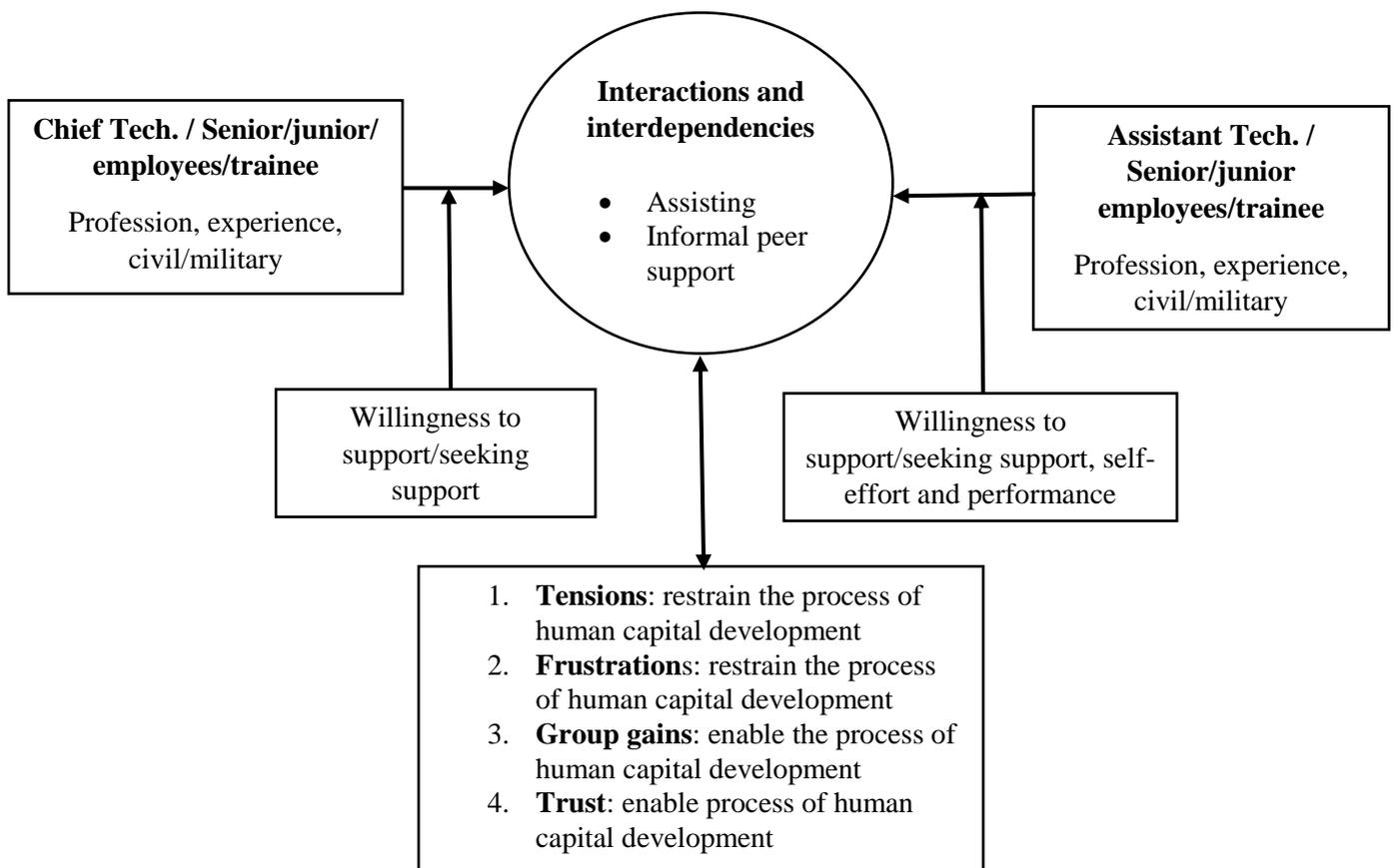
8.3.3 Employees' perceptions about the organization

Perceptions emerge during interactions and interdependencies between employees and the organization. Perceptions about the organization and their impact on the process of human capital development are explained through three main mechanisms. First, during the induction and socialization program junior employees visit the factories, workshops and stations. They are also introduced to the process or assembling and disassembling a vehicle. This is new for almost all the employees. Consequently, this leads to motivation to develop their human capital in the automotive industry. Therefore, junior employs perception of organization process during induction and socialization program helps to develop their motivation for human capital development mechanisms.

Second, perceptions are a facilitator in the process of human capital development when the industry offers access to resources. In BAI, the culture is 'develop your knowledge, skills and abilities even through making resources out of use. This means that employees have access to resources for practicing. Employees develop their human capital through practicing. This indicates that there is freedom in using resources for human capital development.

> *"We make many machines out of use and use them for improving our knowledge, skills and abilities. For the sake of knowledge, we made many cars out of use. You can say in this case cars are destroyed. Our organization does not say you make cars out of use and thus we lose millions for the purpose of learning. But making such practice help us in build our knowledge, skill, ability and confidence. Here risk taking is the main factor in the learning. As a result, the learning process is determined by your level of risk taking in assembling and disassembling cars,"* research and development.

Therefore, perceived access to resources for the purpose of knowledge, skill and ability development motivate employees to develop their human capital.

Finally, perceptions also develop when benefit packages are given to employees. Employees are dissatisfied with their salaries and benefits. BAI's philosophy is that it wants to become the leading automotive industry in the country without loss or profit. So it pays lower salaries and other benefits to its employees. As a consequence of this more

people leave the organization. If employees feel that their salaries and benefit packages are not good, motivation for knowledge, skill and ability development also decreases.

8.4 Indication of the empirical analysis

The interactions and interdependencies among Chinese and Ethiopian experts, chief technicians and assistant technicians, senior and junior employees, trainers and trainees, military and civil employees are the main driving forces in the process of human capital development. In addition to this, the interactions and interdependencies among the employees and the organization also have a big impact on the process of human capital. As a result, social relationships, and emotive factors like trust, group gains, tensions and frustrations are built up as enabling and restraining factors in this process. Further, employees' perceptions can also be enabling or restraining factors for the process of human capital development.

Interactions and interdependencies among Chinese and Ethiopian experts are determined through social exchanges between the interacting parties. Agreements are signed between Chinese companies and BAI which concentrate on money for component parts and human capital development through technology transfer. Human capital development is not performed effectively as per the agreement. Rather human capital development effectively happens during the interactions and interdependencies through social exchange behavior of the interacting parties like seeking support and willingness to support. This happens through social relationships developed between Chinese and Ethiopian experts.

Trust, group gains, tensions and frustrations are enabling and restraining factors in the process of human capital formation. They emerge during social exchanges happened during the interactions and interdependencies happened among employees. For example, trust is the main determinant in the process of human capital development when trainees, assistant technicians and junior employees show trustworthiness through their efforts, performance, accepting and implementing the directions of the chief technicians and by showing knowledge seeking behavior to their senior/chief technicians. Senior/chief technicians reciprocate through their willingness to support them. In addition to this, taking knowledge, skill and ability from the machine to be made, assemble and disassembled. This expected to be reciprocated by contributing knowledge, skill and ability to the pool. Therefore, social exchange theory is indicated in the empirical analysis.

Chapter 9: Contextual factors and the human capital process in BAI

The process of human capital explained in the previous chapter is not a linear process because it is enabled or constrained by the context in which the firm operates. The industry's contextual factors are derived from its inner and outer contexts which I now discuss.

9.1 Inner contextual factors

Inner contextual factors are those which affects human capital process from inner context of the industry. Structure and infrastructure, organizational culture, employees mobility and strategic human resource management are the inner contextual factors in the process of human capital.

9.1.1   Structure and infrastructure

BAI is organized into different factories. These factories are organized into workshops. Within these workshops there are stations. Tasks across stations are sequential in nature and are pooled around the product to be made, assembled or disassembled. Because of this, each station is organized as a team. Within a team there is one team leader, two vice team leaders and 15-20 members. Tasks in a station/team are performed by the team which is pooled around the machine or the vehicle to be made, assembled or disassembled. This pooled work system makes knowledge, skill and ability acquisition easy. Because employees in a station are doing their task round the machine which is easy for communication, seeing, understand, and observe what is performing by other team members.

The station/team has different professionals with different years of experience. This may help employees acquire different knowledge, skills and abilities from different professionals and their experience. For example, if one graduates in electrical engineering he/she develops mechanical knowledge, skills and abilities. Stations also include a combination of senior and junior employees which help in transferring the living experiences of seniors to junior employees.

For example, the light vehicle production factory has three workshops -- the body and frame workshop, painting workshop and light vehicle production (finishing workshop).

Within light vehicle production workshop there are seven stations -- frame and axle (chassis) station, wheel station, power transmission (engine) station, inspection station, body and electrical system station, oil, fuel and coolant dispensing station and adjustment station. Work in all the stations is performed in a sequential manner following a pool work system. Therefore, structure and infrastructure of the industry specifically sequential followed by pooled work system has a big impact on the process of human capital formation. Figure 12. shows the sequential nature of production in the light vehicle production workshop.

Figure 12: A station in the light vehicle production factory

Station 1: Frame and axle (Chassis)   Station 2: Wheel   Station 3: Power transmission

Station 4: Inspection   Station 5: Body and electrical system   Station 6: Oil, fuel and coolant

Station 7: adjustment

Similarly, in the bus production factory, there are nine stations all of which have team leaders, vice team leaders and members. Every station works as a team. For example, the team leader may classify a task as mechanical or electrical but they are both performed by a team. Work is done in an open environment which is accessible to every employee. The tasks performed by one technician can be seen by the others. As a result, knowledge, skill and ability transfers happen among the employees round the machine.

> *"I am in the auto section, but I do related tasks in AC systems, electrical work and also interiors. Since the team composition is different and includes auto, general mechanic and electrical people, knowledge transfers happen across these compositions," bus production factory.*

When tasks are performed in a station everything is done around the machine which facilitates knowledge, skill and ability transfers among the members of the station. Knowledge can be acquired by seeing and observing what the others are doing. Asking, seeing and discussing are also used as a means of human capital development.

Since the work in the stations is sequential, it is difficult to acquire knowledge simply by moving from station to station. But there are ways of coordinating tasks across stations. Knowledge, skill and ability transfers happen when there is coordination between the stations. For example, tasks across stations are coordinated as follows: if station one has completed its task, both leaders in station one and two meet. The leader of station one states that his task is done and station two's head announces his readiness to accept the inputs from station one. There is also a checklist and inspections and quality control in stations one and two which approve accomplishment of the task in station one. This continues among all the stations. Different stations also have discussions every Friday. During all these processes, there are knowledge, skill and ability transfers.

There is also movement of employees among the stations when there are knowledge or skill gaps in one or another station. To fill such gaps employees are moved from station to station. Therefore, the sequential work system as per a pooled work system facilitates the process of human capital development.

9.1.2   Organizational culture

Every employee in BAI develops his/her knowledge, skills and abilities through practicing. The industry has no problems in supplying resources for human capital development purposes. Employees have the freedom to use resources for practicing or learning.

Therefore, learning by practice becomes the main culture of the industry. In BAI you can learn, develop your profession even by making resources out of use. Employees are also given resources for innovations related to the automotive sector. No questions are asked about resource utilization for learning and innovation purposes. Therefore, the culture of developing knowledge, skill and ability even through making resources out of use is developed. Thus, having resources for practicing and no threat when you make resources out of use during practicing for skill development and innovation purpose. All this also facilitates the process of human capital development.

Therefore, acquiring knowledge, skills and abilities is easy through practicing even by making resources out of use. This is a normal practice in BAI and is a culture of the industry.

> *"...here in BAI acquiring knowledge, skills and abilities is easy as you can train yourself even by wasting materials. ..... Learning by wasting materials is highly practiced," light vehicle production factory.*

9.1.3 Employees mobility

Employees mobility in BAI is explained in terms of employees' mobility across METEC sister companies and within BAI, intentions to leave and their leaving. These three determine the dynamism in BAI's human capital.

There is high employees mobility from industry to industry within METEC sister companies and within BAI from factory to factory, from workshop to workshop and from station to station. This situation has two basic consequences. First, such mobility may restrict employees' knowledge, skill and ability acquisition as they do not specialize in a specific field. Second, this may help employees get general knowledge, skills and abilities in the automotive industry.

> *"...... I observe that many employees lose their knowledge, skills and abilities due to their mobility from department to department and from industry to industry within METEC's sister companies," HRM.*

Employees' movements from factory to factory or from workshop to workshop are determined by demand. For example, if the demand for light vehicles decreases employees from the light vehicle production industry are shifted to the bus production factory. Consequently, their knowledge, skills and abilities related to bus production improve.

> *"There is also movement of employees within a factory and from a factory to the garage and from the garage to the factory. But this movement happens when demand decreases,"* HRM.

Retention mechanisms like salary and benefit packages are low in the industry. As a result, employees are dissatisfied when they compare their benefits with that of other companies. These low levels lead to an increase in the intention to leave among employees. Thus, they use BAI as a college for developing their human capital because BAI provides resources for practicing. The management is also committed to knowledge, skill and ability development. After they have acquired the desired knowledge, skills and abilities, employees leave the industry.

Hence, the industry needs to retain its employees as it invests a lot in them. But employees may have their own priorities, especially when they find better alternatives. The basic reason for employees leaving is better salaries.

> *"As I observed, and everyone knows employees stay in BAI for acquiring knowledge, skills and abilities or for practicing because here in BAI acquiring knowledge, skills and abilities is easy by train yourself even by making materials out of use. After they have acquired enough knowledge they leave the organization for financial reasons,"* light vehicle production factory.

Turnover has its own impact on the process of human capital development. Because the remaining employees lose their colleagues who support them, understand them, socialized with them and had experience which they shared. When employees leave BAI, the industry recruits' other people who need to be trained before they become familiar with the environment and tasks at BAI. Training is delivered by stopping projects. Therefore, the costs of training and delaying projects are also affected by employees mobility.

> *"The turnovers have increased from year to year. This shows that the number of new recruits has also increased. This is also due to the fact that employees are also hunted by other organizations. This turnover is because of financial reasons,"* HRM.

Earlier BAI did not give work experience certificates or accept the resignation letters of those who wanted to leave. But after the establishment of the employees' union anyone can leave the industry at any time and they get their work experience certificates also at any time.

> *"I am not satisfied with the benefits. Due to this reason people leave and every year we hire more than half of the current employees. This is like a college. The turnover rate is around 25 percent. But we hire also above this percentage. After they get their experience and develop their knowledge, skills and abilities, employees leave the industry. Even those who have trained abroad also leave the organization. Employees are capable and trained and so they are also hunted by other companies," bus production factory.*

The main reason for such a high turnover is lower salaries. This also has an impact on the process of human capital because when your professional colleagues leave the company there has to be fresh socializing with new employees who do not have as much experience and knowledge.

> *"For example, there was 'collective turnover' in one station due to this there was problem in fulfilling a customer's requirements and the quality of the buses suffered. This happened in the adjustment station when six experienced employees left together," bus production factory.*

Generally, due to low salary and low retention mechanism there is high turnover rate of experienced and skilled employees because experienced and skilled employees who leave the industry may have played bigger roles in transferring their knowledge, skills and abilities to others. Due to such problems, there is a gap in transferring knowledge, skills and abilities and finally only new and unexperienced employees remain in the industry.

9.1.4 Strategic Human Resource Management (SHRM)

Having firm specific human capital does not mean that the industry owns the knowledge, skills and abilities of its employees. Rather the organizations can use retention mechanisms to retain firm specific human capital. There are three basic issues in this sub-theme: benefit packages as viewed by the employees, knowledge, skill and ability development and loyalty.

First, employees are dissatisfied with the benefit packages in the industry. They maintain that "*we have low salaries as compared to the others even when our productivity is higher*". There are also low motivation allowances. This situation exists because of METEC's principle that "*METEC is aimed to lead industrialization in the country without profit or loss.*" Accordingly, BAI is not looking for profit but at becoming a leading automotive industry in the country without suffering a loss. Therefore, employees' salaries are not productivity dependent. It is fixed, and the progression scheme is not satisfactory. This is not due to the current management at BAI but because of METEC's philosophy. For following salary structures based on the value generated this policy will have to be changed.

> *"……my suggestion is that it is possible to be a profitable organization while being a developmental organization. But it is difficult to run the business with the philosophy 'without profit without loss but leading the industrialization in the country',"* research and development.

Therefore, this principle confines for both salary increment and other benefit packages. This leads to dissatisfaction among the employees which gets worse and leads to people leaving. Consequently, it also affects the process of human capital development.

> *"……Therefore, due to low salaries and other allowance problems the turnover rate is high. In general, employees put one leg here and one leg outside looking for another job (ሰራተኛው አንድ እግሩ እዚ ነው አንድ እግሩ ውጭ ነው). On the other hand, I lose my colleagues with whom I socialized. This makes me frustrated,"* bus production factory.

The second strategic human capital management concept used as a retention mechanism for firm specific human capital is the knowledge, skills and abilities that are developed through practicing. Most of the employees stay in BAI for developing their knowledge, skills and abilities as these will help them in the future. Therefore, the retention mechanism should not be allowances or salaries but the knowledge, skills and abilities that are developed at BAI. BAI is better for acquiring knowledge, skills and abilities because resources are available for learning purposes. The management is also committed to such a purpose and it is difficult to find such an opportunity in another industry. Everyone can develop their human capital through practicing. Practicing in BAI is basically determined by resource availability and freedom to use it without fear of damaging it. You can train

yourself by using any resource that you want. Therefore, human capital development by itself is a retention mechanism for firm specific human capital.

> *"Employees stay in BAI for acquiring knowledge, skills and abilities or for practicing because here in BAI it is easy to train yourself," light vehicle production factory.*

The third strategic human resource management concept for retaining firm specific human capital is loyalty. Loyalty is basically discussed by military employees by connecting it with achieving the country´s mission and military service. Loyalty is expressed by military employees when they say that they are with BAI because the country assigned them there and they will serve at BAI even if it is at a lower salary.

> *"The salary is low, but we are here because we love our job. I am using my experience in what I am doing for myself and for my country," research and development.*

9.2 Outer contextual factors

Outer contextual factors exist in the external context of the industry. They are beyond the control of the industry. In BAI, political and economic factors are the main outer contexts which affect the human capital process.

9.2.1 Political

METEC was established by a political decision of supporting industrialization in the country. Consequently, BAI as one of METEC's sister companies was established to lead the automotive industry in the country.

Such political decisions not only had an impact on the establishment of the industry but also on restructuring and assigning manpower to different positions. Restructuring and assigning manpower has a direct and indirect influence on the process of human capital development. For example, restructuring and reorganizing is done by the Defense Ministry through political decisions but this may impact employees' specialized knowledge and in organizing their human capital. BAI assigns those with a military background to managerial positions and to those which require some expertise. This assigning process is a political decision which also affects the process of human capital development.

"Ethiopia is undergoing transformation from being an agricultural led country to becoming an industrialized country. This is also the plan of the Government of Ethiopian which gives policy directions to METEC to lead the overall industrialization of the country. As a result, our tasks are based on the government's mission and implementing that mission. Therefore, there is great involvement of the government," research and development.

9.2.2 Economic

Inflation has increased over time but salaries and other benefits in BAI have not increased and are low. Hence, employees aggressively search for better salaries. As a result, turnover is high in the industry. There are employees who need to leave the industry without any alternatives because of financial problems. This indicates high intention of turnover and turnover by itself are basically affected by economic factors like inflation. As a result of high intention of turnover and high turnover human capital process will also interrupts.

"……In the 10 years that I have been with BAI I have lost many friends. They have left in search of better salaries," Bus production factory.

Chapter 10: Discussion

This chapter provides answers to the research questions posed in the introduction. The main purpose of this research was exploring how human capital develops in an organization as a process with a specific focus on its sub-processes and contexts. It posed the following research questions to address this: 1. How do interactions and interdependencies develop among individuals during the process of human capital development and what role do they play in the development of human capital? and 2. What is the role of the inner and outer contexts of an organization in the process of human capital development?

Figure 13. gives the overall purpose of the research and the main findings of the thesis. Accordingly, the process of human capital development is basically proceeds through process of identifying potential human capital, interactions and interdependencies and proceeds to unit specific or firm specific human capital. During the process of identifying potential human capital, human capital process is basically determined by who joins an organization and how do you join an organization? These questions are helpful in identifying potential human capital. During this stage of the process of human capital development, potential candidates are assessed for their education, experience, attitude, behavior, information processing and professional skills. In addition, homosociality based on networks of family and ethnic background also play a role in identifying potential human capital.

Employees who join an organization develop their human capital through interactions and interdependencies with other employees and also with the organization. These interactions and interdependencies are basically shaped by: First, socioemotional factors such as trust, loyalty, stress, fear, frustration, delusive behavior and tensions among employees. Second, by factors of homosociality such as relationships, in-group gains and status consistency. Third, perception of organizational support (POS) built through training, access to resources, induction and socialization and benefit packages. All these factors are interconnected. Unit specific or industry specific human capital is developed following all these processes.

The process of human capital development is enabled and constrained by inner and outer contextual factors. In addition, inner contextual factors are also affected by outer contextual factors. Details of the result of each sub process will be discussed below.

Figure 13: Overview of the process of human capital development
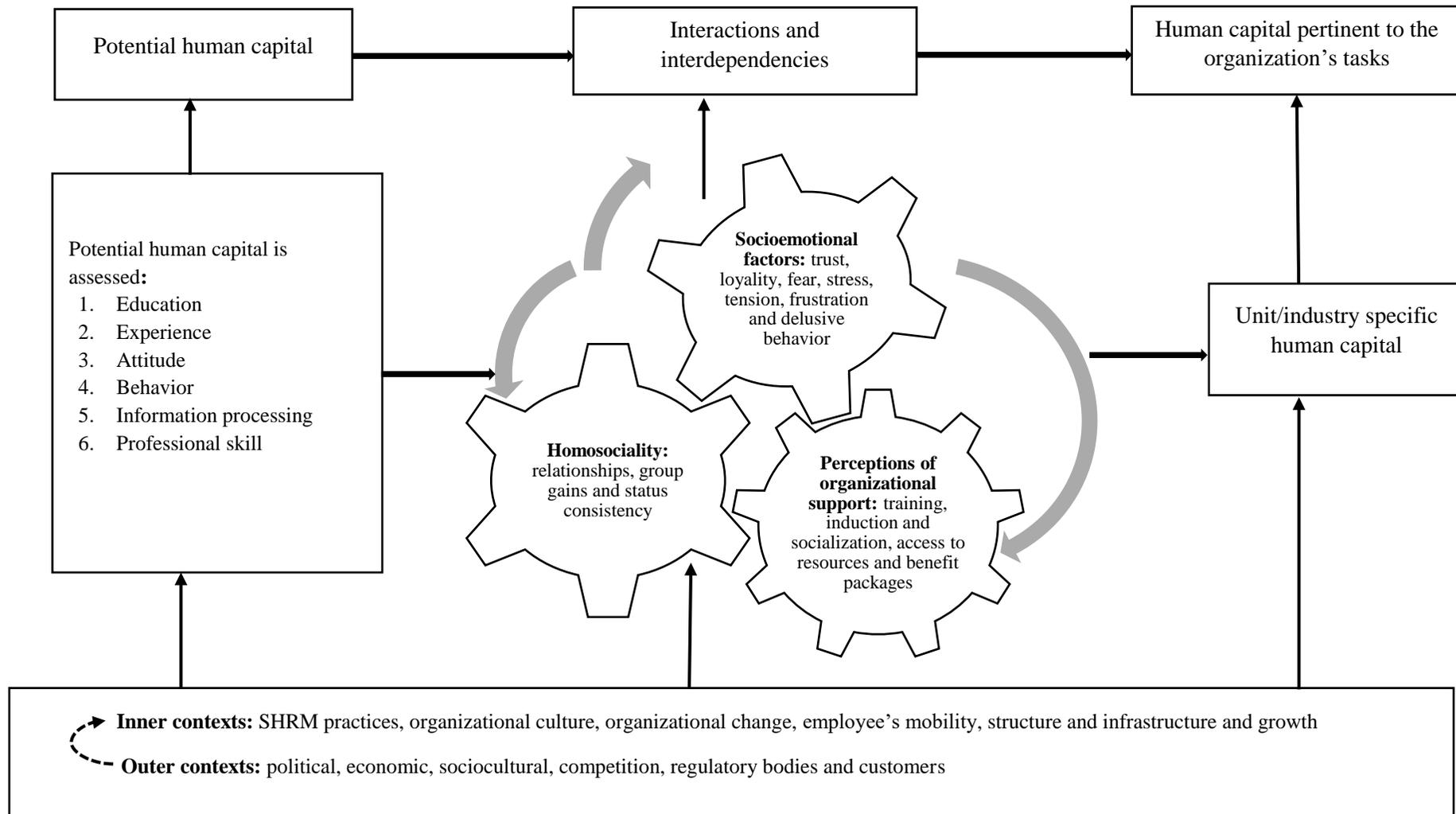
10.1 Potential human capital

Research question 1. was: How do interactions and interdependencies develop among individuals during the process of human capital development and what role do they play in the development of human capital?

In Ethiopian Airlines the potential of its human capital is shaped by assessing candidates' attitudes and behavior. This, however, is a subjective process and may create opportunities for those candidates who have good networks through family, ethnic background and being members of certain social groups. For example, in Ethiopian Airlines the intake process is determined by the philosophy '*hire for attitude, train for skills*' using which the organization assesses its potential human capital. This too is determined by the person who is doing the hiring and as a result nepotism based on family and ethnic networks can determine the candidates who are selected. Such a situation arose in BAI during the intake process as it gives military employees senior positions. They are hired and assigned these positions because of being member of military. Therefore, a candidate who does not have potential may join the organization.

This homosociality continues during on the job through favoring family, ethnic and social networks while delivering human capital development programs. Consequently, favoring members of the networks shapes the process of human capital development both negatively and positively. Those who are favored are motivated to take part in knowledge, skill and ability acquisition programs. However, those who are discriminated against are demotivated in doing so.

Further, in BAI technical and professional skills are examined while identifying potential human capital. Ethiopian Airlines does not look for a finished and sorted manpower which is ready to work for the airline. Instead, firm specific human capital is developed after the employees join the airline.

The human capital that is selected has a significant impact on the process of human capital formation and its development because 'quality inputs provide quality outputs'. As a result, careful selection of human capital is a necessary precondition for good quality human capital (Luthans and Youssef, 2004). Luthans and Youssef (2004) call this process "selection and

selectivity," which shows that a careful selection of human capital is a precondition for the process of good human capital development.

10.2 Interactions and interdependencies: Socioemotional factors, Homosociality and Perceived organizational support

This thesis considers human capital development as a process through which employees' knowledge, skills and abilities are developed through interactions, interdependencies, relationships, events and mechanisms. As a result, social interactions and interdependencies among people and between employees and the organization shape the process of human capital development through mechanisms, events, patterns and social dynamics build up during interactions and interdependencies.

The findings show that interactions and interdependencies among employees and between employees and the organization are basically shaped by social dynamics including socioemotional factors, homosociality and perceived organizational support. These factors affect the process of human capital development both positively and negatively. They are also considered as the main drivers in the process of human capital development. These factors are mainly influenced by the employees' social exchange behavior. Table 4. gives the main concepts of the interactions and interdependencies.

Table 4: Concepts of interactions and interdependencies in the two cases

Ethiopian Airlines	BAI	Aggregated factors
Trust	Trust	Socioemotional
Loyalty	Loyalty	
Stress	Stress	
Fear	Frustration	
	Delusive behavior	
	Tension among civil and military employees	
Relationship	Social relations	Homosociality
Status consistency as a result of networks of family background and ethnicity (favoritism)	Status consistency based on the networks that one belongs to (civil and military employees)	
Lack of group gains	In-group gains	
Refresher/recurrent training	Induction and socialization	Perceived organizational support
Career development training	Access to resources	
Benefit packages	Benefit packages	

10.2.1 Socioemotional factors

Socioemotional factors like trust, loyalty, stress, frustration, delusive behavior and tensions are the main driving forces in the interactions and interdependencies and consequently play an important role in the process of human capital development. Socioemotional factors are considered an outcome of social exchange (Cropanzano and Mitchell, 2005). They are also seen as factors which address people's social needs. However, the findings of this research show that these outcomes have a bidirectional impact on interactions and interdependencies and the process of human capital development.

On the one side, there is trust and loyalty as positive factors facilitating interactions and interdependencies and consequently the process of human capital development. On the other side, there is stress, fear, delusive behavior, frustration and tensions which affect the process

of human capital development negatively. Trust, loyalty and stress were common factors in both the case studies. Fear is a negative determinant factor in Ethiopian Airlines because Ethiopian is the only operator in the country and its employees only have aviation related human capital and hence have no alternative job opportunities. Further, Ethiopian Airlines has leaders who are autocratic. As a result, there is less motivation for seeking knowledge, skills and abilities among the employees. Delusive behavior, frustration and tensions among military and civil employees in BAI are negative determinants of interactions and interdependencies and consequently to the process of human capital development. BAI's distinct socioemotional factors are a result of the industry's unique position as BAI has bilateral relationships with Chinese companies, it has both military and civil employees with the military employees imposing military behavior over the civil employees during communications and discriminations made among military and civil employees.

For example, during interactions between Chinese and Ethiopian experts there are language and cross-cultural barriers between the two. Since Chinese experts try to stay in the relationship while Ethiopian experts did not develop their capability. They want to decorate existing design rather than producing genuine output. This leads to delusive behavior. There are also tensions when military employees are favored for positions and skill development programs. Further, there are also communication barriers between military and civil employees. This all affects the process of human capital development positively or negatively.

Social exchange happens during interactions and interdependencies that generate contingent obligations (Emerson, 1976). Interactions and interdependencies among employees are explained through the lens of employees using social exchange behavior. Because during interactions and interdependencies there is contingent action which affects the process of human capital development both positively and negatively. Socioemotional factors that are identified during interactions and interdependencies are explained by social exchange behavior. Trust which emerged as a common factor in the two cases, is a positive determinant of the process of human capital development and as its absence leads to stress, fear, frustration, tensions and delusive behavior gives an emphasis in the discussion.

A trusting person (trustor) and the person to be trusted (trustee) are the two main interacting actors involved in the process of building trust (Mayer et al., 1995). For example, in Ethiopian

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Airlines trust develops between the trainer, coach, mentor and manager on the one hand and trainee, coachee, mentee and subordinate on the other. Trust is also the main determinant of the process of human capital development in BAI among the trainer and trainees and chief technician and junior technicians. Trust is determined by the trustworthiness of the trustee and the willingness of the trustor to trust the trustee (Mayer et al., 1995). Trustworthiness of the trustee is determined by: First, abilities which are knowledge, skills and competencies. Second, benevolence which is being honest and having an attachment to the trustor. Finally, integrity where the trustee's actions reflect acceptable values to the trustor (Blomqvist, 1997; Ganesan and Hess, 1997; Mayer et al., 1995; Tan and Tan, 2000).

In Ethiopian Airlines the willingness of the trainer, coach, mentor and manager to trust the trainee, coachee, mentee and subordinate is determined by ability/performance, discipline, confidence, support seeking behavior, self-effort or dedication and following the trainer, coach, mentor and manager's directions. These are factors of trustworthiness among the trustees. If such conditions are demonstrated by a trainee, coachee, mentee and subordinate, the trainer, coach, mentor and manager show a willingness to trust him. This is reflected through friendly and cooperative behavior, willingness to support, commitment and positive perceptions about employees' capabilities by the trainer, coach, mentor and manager. These contingent actions by the trustor help in the process of human capital development through information sharing, advice, experience sharing and knowledge transfers. Therefore, the process of human capital development is positively affected during interactions and interdependencies among these two groups when trust is demonstrated among the two parties.

In BAI trust is identified during interactions and interdependencies among the trainer and trainee and the chief technician and junior technicians. Trainees and junior technicians' trustworthiness is seen through their dedication/self-effort, performance, support seeking behavior, accepting and implementing orders given by the trainer and chief technician. As a result, the trainer and chief technician show trust through their willingness to support the trainees and junior technicians. Therefore, this willingness to support by the trainer and chief technician affects the process of human capital development positively. Willingness to support is demonstrated through information sharing, experience sharing, knowledge transfers, advice

and psychological attachments. These contingent actions of the trustor affect the process of human capital development of the trainees and junior technicians.

Therefore, demonstrating trustworthiness creates a contingent action of willingness to support by the trainer, coach, mentor, manager and chief technician. Willingness to support is also explained through cooperative, social and friendly behavior and commitment to support. This is social exchange behavior where demonstrating trustworthiness is reciprocated with willingness to support. As a result, the process of human capital development is positively affected through support from the trustor. Support from the trustor includes information sharing, knowledge transfers, advice, commitment, informal peer support and practical help. These are considered to the mechanisms of the process of human capital development that emerge during interactions and interdependencies.

Literature discusses trustworthiness by focusing on aspects like ability, benevolence and integrity (Mayer et al., 1995). However, this thesis also uncovers reciprocity in trustworthiness like cooperative, social and friendly behavior, willingness to support, information and experience sharing, knowledge transfers and psychological attachments. This reaction to trustworthiness has an impact on interactions and interdependencies consequently affecting the process of human capital development.

Trust as a research subject is used in social psychology as a function of risk, information and interactions; in philosophy as a function of situations that one is unaware of; in economics as a response to expected future behavior in an imperfectly competitive market; in law as mutual understanding as there are no written agreements; in marketing as being vital for long term relationships and creating networks during sales activities (Blomqvist, 1997). In addition, trust is studied in communication, leadership and management by objective, negotiation, performance appraisal, and labor-management relationship (Mayer et al., 1995). Trust is also studied as an implication of commitment and relationships (Ganesan and Hess, 1997). This thesis studies trust in the process of human capital development in the way in which it facilitates interactions and interdependencies among employees.

Loyalty as a positive factor in the process of human capital development is also identified in both the cases in this thesis. Loyalty is a result of experience in the organization and the sense of ownership that is developed because of this experience. For example, employees in

Ethiopian Airlines develop a psychological ownership over the organization. Consequently, they are loyal to the organization. They are also motivated for acquiring knowledge, skills and abilities. In Ethiopian Airlines experienced employees are loyal and have a sense of 'we' after the years that they have spent in the organization. In BAI, military employees develop loyalty and have a sense of psychological ownership because the industry has a military history and they are favored for training and managerial positions. The psychology of 'mine' plays a significant role in shaping self-identity and in making employees effective (Pierce et al., 2002).

Some socioemotional factors affect the process of human capital development negatively. These include stress, frustration, fear, tensions and delusive behavior. These factors arise when there is absence of trust in the interactions and interdependencies among the parties involved, no alternative employment options (Ethiopian Airlines), favoritism, feelings of superiority and inferiority (BAI) and aggressive training and evaluation. Such factors come into play also because trustworthiness is not demonstrated by the trustors.

For example, BAI has a military history. Before METEC was established, the industry was owned by the Defense Ministry for several years. As a result, BAI employees are a mix of both military and civil employees. However, military employees feel a sense of ownership over the industry; they also feel superior because they hold key positions like CEO, factory managers and heads of departments. They are hired for such senior positions because of their military background and not because they have automotive related experience. They are also preferred for training within and outside the country. Further, communication among military and civil employees is different as military employees follows a military style of communicating and also follow a command system. This leads to tensions among military and civil employees which obstruct interactions and interdependencies among them by creating barriers on information and experience sharing, communication and informal support. This also affects the process of human capital development.

Tensions among military and civil employees can be viewed in two ways. First, military employees are motivated to make use of human capital development mechanisms as they are favored for training and managerial positions; hence they also develop a sense of ownership and confidence. Second, civil employees are demotivated to make use of human capital

development mechanisms as they are discriminated against for training and managerial positions and thus feel inferior.

BAI is doing business with Chinese companies. Chinese experts are required to transfer their knowledge, skills and abilities to Ethiopian experts based on the agreements signed. But Chinese experts are not willing to transfer their knowledge, skills and abilities to the Ethiopian experts. This can be seen through their delusive behavior because Chinese experts want the relationship to be long lasting. This relationship is continued as far as local capabilities are not developed. Because once these capabilities are built the relationship ends which means that the Chinese will lose their hold over the market. Therefore, the Chinese experts delay the transfer of knowledge and skills by creating language and cultural barriers and not providing appropriate designs. Consequently, the process of human capital development is negatively affected by delusive behavior during interactions and interdependencies with Chinese experts. This is consistent with Adem's (2012) Sino-pragmatism view in which China's involvement in Africa shows neocolonialism and Jackson's (2012) view that China's involvement in Africa is directed towards resources that can meet the needs of Chinese economic development. These studies also imply that Chinese companies may not give priority to negotiated cooperation and agreement deals and instead focus on their markets.

10.2.2 Homosociality factors

Homosociality in this dissertation is explained as a social bond developed through relationships, status consistency developed through favoritism based on family, ethnic background and social networks and group gains. Homosociality is a driving force in the interactions and interdependencies which also has an impact on the process of human capital development.

Relationships in the two cases in this thesis are determined by their work settings. In Ethiopian Airlines, relationships start among classmates in the aviation academy. These relationships continue at the work place and are helpful in facilitating information flows and informal support among employees. Long term relationships among employees help in effective interactions and interdependencies. Relationships are determined by the amount of information that the employees receive from their colleagues and the informal support that they get from them. However, Sias (2005) argues that relationships among coworkers are not determined by

the amount of information received from each other. But, evidence from the two cases in this thesis shows that information exchange among colleagues determines their relationships. Relationships among coworker also help in the process of human capital development through information flows, informal peer support and advice.

Relationships with stakeholders also have a significant impact on the process of human capital development. Emerging economies are emphasizing on having proper processes of human capital development. They are also recognizing 'people' based processes rather than merely depending on physical resources. These economies have natural resources, but they do not always exploit them fully (Konings, 2007) because of lack of knowledge, skills and abilities. Hence, they consider people (knowledge, skills and abilities) based development. Technology transfers from developed economies is also on their agenda. These refer to knowledge, skills and abilities being transferred from the developed world by creating relationships with international companies. Due to recent transformations in China's development process many African countries are seeing this as a new model (Jackson, 2012; Konings, 2007) and want to establish relationships and agreements with Chinese companies. China's presence in Ethiopia too has increased (Adem, 2012).

BAI has also signed agreements for technology transfers with Chinese companies. These agreements are consistent with literature which discusses creating alliances with other organizations as a means of acquiring new knowledge, skills and experience (Muthusamy and White, 2005). Initially the agreement included exchange of money for automotive component parts and technology transfers. This agreement includes economic exchange and social exchange. Because there is exchange of money with component parts which is an economic exchange. On the other hand, technology transfers which includes building the knowledge, skills and abilities of Ethiopian experts in the automotive industry which is a social exchange process. Human capital development is not considered an economic exchange but is instead seen as a social exchange.

The agreement for both component parts and technology transfers is negotiated and binding. Practically, an economic transaction which is paying money for component parts can be done based on the binding agreement because it specifies the when, what and extent of the exchange. Most economic exchanges are negotiated and follow strict accounting (Molm et al., 2012). In

contrast to this, Granovetter (1985) argues that economic actions are embedded in social and personal relationships. According to the social exchange perspective, the process of human capital development is determined by reciprocity during interactions and interdependencies among employees and also between employees and the organization. Thus, it is difficult to make binding agreements for the process of human capital development (knowledge, skill and ability development programs from Chinese to Ethiopian experts) because the process of human capital development is determined by the level of relationships, interactions and interdependencies among the parties involved in the agreement (in BAI's case between Chinese and Ethiopian experts).

Binding and negotiated exchanges ensure that both parties receive the benefits of the agreement (Molm et al., 2012). But the process of human capital development during interactions and interdependencies among Chinese and Ethiopian experts fails as per the negotiated and binding agreement because of cross-cultural and language barriers and Chinese experts' delusive behavior because of Chinese perceptions that they will lose the relationship and consequently their market once they have transferred the knowledge, skills and abilities to Ethiopian experts. These constraints come into play both consciously and unconsciously. For example, cross-cultural barriers come into being due to experience which occurs unconsciously. But perceptions about losing the relationship and delusive behavior are conscious acts. These factors become a constraint in the effective implementation of the process of human capital development based on the negotiated and binding agreement between BAI and Chinese companies.

However, as a solution, BAI employees try to look for conditions where they can acquire knowledges, skills and abilities from Chinese experts. Creating social relations with the Chinese experts is used as a mechanism for having smoother knowledge transfers. Social relationships are formed as there are frequent visits between Ethiopia and China by the experts which help in developing informal relationships, knowing each other's cultures and participating in social affairs.

In this way, the process of human capital development is determined by the social exchange behavior of the interacting parties. Which is support seeking behavior of Ethiopian experts and willingness to support behavior by Chinese experts. For example, since Ethiopian experts

develop social relations with Chinese experts they ask for help, perform well, show respect and psychological attachment with the Chinese experts. As a result, Chinese experts are willing to support through openness, commitment and cooperative behavior. This affects the process of human capital development. This works better through informal relations rather than through negotiated and binding agreements. These informal relationships also show respect and perceptions of fairness which uphold the relationships (Liao, 2004).

This discussion shows that there is a movement from formal, negotiated and binding social exchange embedded in a negotiated economic exchange to a non-binding social exchange. This non-binding social exchange happens through informal social relations which are helpful in facilitating transfers of knowledge, skills and abilities. This finding is different from Cropanzano and Mitchell's (2005) study according to which exchange is determined by the type of transaction and type of relationship among the actors involved in the exchange. They developed a 2×2 matrix where cell1 is social transactions in a social relationship, cell 2 is economic transactions in a social relationship, cell 3 is social transactions in an economic relationship and cell 4 is economic transactions in an economic relationship. Their matrix does not show movement across the cells or the differences between binding and non-binding social exchanges. But evidence from BAI shows that there is a movement from negotiated and binding relations embedded in a negotiated and binding economic exchange to a non-binding social exchange embedded in a negotiated economic exchange. Therefore, there is movement across the cells. The process of human capital development across the binding and non-binding social exchanges is also different. Consequently, the process of human capital development is facilitated when a non-binding social exchange is embedded in the economic exchange rather than a binding social exchange being embedded in a binding economic exchange. This has implications for an economic exchange becoming a base for the social exchange.

Homosociality emerges through networks of family, ethnicity and social status that the employees belong to as this has an influence on the process of human capital development. These networks are considered while determining potential human capital and continue to influence while they are on the job. Homosociality during the process of identifying potential human capital in Ethiopian Airlines is determined by networks of family and ethnic background. Homosociality at this stage involves providing information to candidates and

showing favoritism for network members. Homosociality in BAI is determined by being a member of one social class -- civil or military. For example, members of the Ethiopian armed forces join BAI because they are members of the army and have military experience. Therefore, the networks created through family, ethnic background and being members of one social class (military or civil) plays a role in the selection of candidates at BAI. They are also preferred for human capital development programs like training. This is also a way of discriminating against some candidates by favoring those who belong to specific networks.

Homosociality developed through network of family and ethnic background is continued while they are on the job. Those who have the network of family and ethnicity are favored for human capital development programs. Favoritism in human capital process has double edge sward. In one case the one who is favored to join the industry, skill development trainings and has network through family and ethnic background is motivated for human capital development programs. Because employees are beneficiated from the network they have. For example, in BAI employees with high military status are favored for skill development programs in abroad and for managerial positions. In Ethiopian airlines employees who have network of family and ethnic background are favored for skill development programs. Therefore, employees who are favored in such process has sense of ownership and motivated for human capital development programs. In contrast to this, those who are discriminated from such situation are lost their confidence and discouraged for human capital development programs.

Social exchange theory describes where resources are allocated based on the race, family and group that one belongs to by using the term "*status consistency*" (Cropanzano and Mitchell, 2005; Meeker, 1971). Anderson and Miller (2003) also argue that network ties created through family, ethnic and social groups provide additional human capital by providing information, skill development training and additional resources because of the network that they belong to. But the findings of my thesis show that networks created through family, ethnic and social groups have a positive and a negative impact on the process of human capital development because those who are favored because of their networks have a greater probability of participating in human capital development programs; they are also motivated to acquire knowledge, skills and abilities from the programs. In contrast, those who are discriminated against are demotivated in the process of human capital development.

Tasks in BAI are organized in a sequential order and are carried out following a pooled work system. This pooled work setting is around the machine to be made, assembled or disassembled. Knowledge, skills and abilities of all the employees are put in the machine to be made, assemble and disassemble. Such stock of knowledge, skill and ability on the machine is accessible for everyone. As a result, human capital development happens through seeing, observing, understanding and discussions. Such a process of human capital development is explained in social exchange theory as "*group gain*" (Cropanzano and Mitchell, 2005; Meeker, 1971). In group gain refers knowledge, skills and abilities can be learnt from the machine to be made, assembled or disassembled. Individuals can develop their human capital through interactions with the group irrespective of their contribution to the group. Further, the work setting in BAI is also helpful for employees to get to know each other, facilitating interactions and interdependencies and becoming friends as employees in the pool frequently interact with each other for long periods of time. This affects informal peer support and information sharing and consequently the process of human capital development.

In BAI, group gain plays a significant role in the process of human capital development. Therefore, employees gain knowledge, skills and abilities from the product being made through seeing, observing and understanding. It is difficult to build the process of human capital development in service industries like Ethiopian Airlines through group gain because the activities are not done by a group in an open environment where everyone can learn.

Homosociality helps to explain integration, interactions and interdependencies among employees. Social exchange theory states that there are integrative outcomes of social exchange. These outcomes involve a feeling of solidarity (Molm et al., 2012), cooperation and shared codes (Collins and Smith, 2006) and solidarity in micro-interactions (Cook, 2015). Social exchange theory also states that there are positive outcomes of this including relationships, cooperation and feelings of solidarity among employees (Collins and Smith, 2006; Cook, 2015; Molm et al., 2012). Literature (e.g., Molm et al., 2012) discusses integrative factors developed through as homosociality has positive impact on the interactions and interdependencies, but the findings of my thesis show that homosociality such as relationships, status consistency and in-group gains have both positive and negative impacts on interactions and interdependencies and consequently on the process of human capital development.

10.2.3 Perceived organizational support

The interactions and interdependencies between employees and the organization have an impact on the process of human capital development because organizational policies and procedures have an impact on the employees' human capital. In addition, employees' human capital has also an impact on accomplishing the organizational mission. During interactions and interdependencies, employees' perceptions about developing their knowledge, skills and abilities is determined by their perceptions about the organization's treatment. Literature explains this as perceived organizational support which employees' perceptions about how the organization is treats their well-being (Eisenberger and Huntington, 1986; Settoon et al., 1996).

Social exchange theory explains perceived organizational support as organizational values and an organization's concerns about employee well-being with exchange behavior (Settoon et al., 1996). Perceived organizational support is seen as being reciprocated by commitment (Eisenberger and Huntington, 1986); trust and commitment (Whitener, 2001); affective attachment, performance outcomes and helping the organization (Eisenberger et al., 1990); affective organizational commitment and organizational performance (Eisenberger et al., 2001); and reducing absenteeism (Settoon et al., 1996). A comprehensive literature review by Rhoades and Eisenberger (2002) concludes that aspects like fairness, support from supervisors, rewards and favorable job conditions are basically associated with perceived organizational support. Consequently, perceived organizational support also affects commitment, performance and reducing absenteeism among employees.

Unlike literature, the findings of this research show that perceived organizational support is associated with motivation to develop employees' human capital. For example, in Ethiopian Airlines, employees' promotions and certificate allowances are determined by the level of their refresher/recurrent and career development training received. As a result, employees are motivated to use these human capital development mechanisms for promotions and certificate allowances. Perception of employees on human resource related benefit packages given by the airline affect employees' intentions of leaving and leaving their jobs both positively and negatively. Hence, this also affects the process of human capital development through losing of employees who have rich experience who have capability to transfer their lived knowledge,

skills and abilities, and disturbing social relationships, interactions and interdependencies among employees.

There is also evidence of perceived organizational support in BAI which has a culture of developing employees' knowledge, skills and abilities through practice. Practice is done by "*making resources out of use*". Employees see that they have access to resources for practicing and perceive this as a supportive organizational culture. This perception of access to resources even by making the resources redundant develops their motivation for human capital development through practicing. Perceived low salaries and insufficient benefit packages in BAI increase employees' intentions to leave and consequently to their leaving. This adversely affects the process of human capital development. This social exchange behavior during interactions and interdependencies between employees' and the organization has both a positive and a negative impact on employees' attitudes towards human capital development programs, mechanisms and events.

These three basic driving forces for interaction and interdependence are interconnected. For example, socioemotional forces like trust drive integration among employees through creating relationships and making the transfer of knowledge, skills and abilities smoother leading to group gains. Employees' positive perceptions about the organization also lead to good relations among the employees. Therefore, interactions and interdependencies among employees happen because of the interconnected nature of socioemotional factors, homosociality and perceptions about organizational support. These help in developing human capital as unit or firm specific human capital.

10.3   Industry/ unit specific human capital

Human capital in an organization is categorized under generic and firm specific human capital. Firm specific human capital includes knowledge, skills and abilities that are pertinent for a specific firm. Generic human capital refers to knowledge, skills and abilities that are valuable in a variety of firms. Human capital that emerges through interactions and interdependencies is firm specific (Ployhart and Moliterno, 2011; Ployart et al., 2014; Wright et al., 2014).

Human capital developed through interactions and interdependencies among employees and between employees and the organization varies across industries. For example, employees in

Ethiopian Airlines develop their knowledge, skills and abilities through interactions and interdependencies (socioemotional factors, homosociality and perceived organizational support) which is unit specific human capital. Because Ethiopian Airlines' employees working in Maintenance, Repair and Overhaul have knowledge, skills and abilities related to this field and not in customer services or flight operations. This is because those working in Maintenance, Repair and Overhaul have direct interactions and interdependencies with each other and not with the other units. Cabin crew members have knowledge, skills and abilities related to the work that they have to do on a flight. Therefore, employees in the airline have unit specific human capital. Such kind of human capital may also be applicable in the same industry. As a result industry specific human capial is also developed in the airline. This is the opposite of generic human capital which is applicable to a variety of firms (Datta and Iskandar-Datta, 2014) and is also slightly different from firm specific human capital which is pertinent for a given firm (Ployart et al., 2014; Wright et al., 2014).

Besides industry specific human capital, employees of the airline are also scared as Ethiopian Airlines is the only operator in the country and consequently there are no alternative employment options for them. This is also because they have unit specific aviation industry human capital with no alternative employer in case they choose to leave Ethiopian Airlines.

BAI's employees have industry specific human capital rather than unit specific human capital. This is because the work system in the industry is open, sequential and pooled from which there are group gains through seeing, observing, asking and understanding. Gaining automotive knowledge, skills and abilities from colleagues is possible for everyone. Every task in the industry is performed in a workshop. In the workshop the stations are arranged sequentially. Tasks within a station are pooled and open to everyone. Further, tasks across stations are also open to others. And there is movement of employees across stations. Everyone participates in assembling and disassembling a single automotive. As a result, employees have automotive related human capital.

10.4 Contextual factors

Research question 2 was: What is the role of the inner and outer contexts of an organization in the process of human capital development? which will be addressed below.

Studying human capital as a process provides a base for understanding the contextual factors which affect human capital development (Pettigrew, 1987). These contextual factors also affect the process of human capital development both positively and negatively. Pettigrew (1987) categorizes contextual factors into inner and outer contextual factors. Inner contextual factors refer to the organizational structure, corporate culture, organizational policies and procedures and organizational political contexts which exist in an organization. These contexts are within the control of the organization. Outer contextual factors refer to the economic, social, political and competitive environment which is outside the control of the organization (cf. Pettigrew, 1987).

Inner and outer contextual factors have a direct and indirect impact on the process of human capital development. Table 5. gives the inner and outer contextual factors in Ethiopian Airlines and BAI.

Table 5: Inner and outer contextual factors in the cases

Ethiopian Airlines	BAI	Aggregated factor
Employee mobility	Employee mobility	Inner contextual factors
Strategic Human Resource Management	Strategic Human Resource Management	
Organizational change	Organizational culture	
Growth	Structure and infrastructure	
Regulatory bodies	Political	Outer contextual factors
Competition	Economic	
Customers		
Political		
Sociocultural		

Employee mobility, strategic human resource management, organizational change and growth are the inner contextual factors in Ethiopian Airlines. Besides these, employees mobility, SHRM, organizational culture and structure and infrastructure are the inner contextual factors in BAI. Some of the inner contextual factors are discussed during interactions and interdependencies among employees and between employees and the organization like strategic human resource management practices, structure and infrastructure and organizational culture. SHRM is discussed while discussing perceptions about organizational support. These inner contextual factors emerge due to the impact of inner surrounding of the organization. For example, Strategic human resource management practices emerge during the implementation of organizational philosophies, policies, processes and practices which affect the process of human capital development. Further, structure and infrastructure are seen while discussing in group gains.

Employee mobility in both the cases is explained through the outflow of employees from the organizations. In most cases, the outflow of employees from the industry is because of economic reasons. But whatever the reasons, employees leaving an organization affects the process of human capital development in two ways. First, when senior employees who have the capabilities, experience, knowledge, skills and abilities leave the organization. Second, the turnover of employees also disrupts existing social relationships, interactions and interdependencies. As a result, human capital of the employees is negatively affected. This finding is in line with Nyberg and Ployhart's (2013) outflow of employees' in quality and quantity from a unit. This condition is happened in search of better salaries and benefits or economic reasons. Employee mobility also happens when there are poor perceptions about the employee benefits offered by an organization (Wright and McMahan, 2011). This movement leads to a gap in knowledge transfers to junior employees.

Ethiopian Airlines also faces an outflow of technicians and pilots to the Gulf airlines in search of better salaries and benefits. Thus, due to such economic problem intention to turnover and turnover increased. The outflow of employees from an industry also affects the process of human capital development as it disrupts social relationships and leads to a loss of experienced manpower which had the potential of transferring their human capital to others. This is consistent with Campbell et al., (2014) who state that collective turnover of employees affects

the process of human capital formation negatively through affecting the unit's climate and relationships among individual employees.

However, due to the interacting nature of outer and inner contextual factors, outer contextual factors (such as economic factors) also affect inner contextual factors (such as employee mobility). Economic factors refer to employees wanting to search for better salaries and benefit packages. One reason for this is inflation in the country. This interplay between inflation and search for better paid jobs also has an impact on the process of human capital development through disrupting social relationships, increasing intention to turnover and turnover.

Besides these, organizational changes including changes in organizational structure, merging departments, work systems and introducing new systems such as technology also have an impact on the process of development because training and coaching are needed following restructuring, the merging of departments and new technology being introduced. For example, in Ethiopian Airlines there are human capital development mechanisms like training and coaching when there is any structural change or a new technology or system is introduced. In Ethiopian airlines there is coaching aimed in developing human capital due to merging of departments and there is also training aimed at developing human capital when new aircraft are introduced.

Organizational culture also has a significant impact on the process of human capital development. For example, in BAI there is a culture of learning by practice. This is practiced even by making materials out of use. This becomes a culture in the industry. Employees develop their knowledge, skills and abilities directly by practicing on machines and vehicles. However, developing a culture of learning by practice even by making materials out of use must consider the importance and cost of human capital. It is because of this reason that the industry is considered a training center and not a business industry.

Ethiopian Airlines is the fastest growing airline in Africa. Its growth is visible in the number of passengers that it carries and its sales. Hence, the airline requires human capital which fits its growth. For this it provides human capital development mechanisms like training, coaching, mentoring and succession program. However, when an airline grows rapidly, the number of its employees also grows rapidly. This becomes a barrier to information flows, in creating social relationships and also in getting informal support. As a result, this may affect human

capital negatively. Therefore, the findings of this thesis show that growth also affects the process of human capital development both positively and negatively. This is happened through enforcing the organization to have human capital which fits growth of the organization as well as through being a barrier for information flow, social relationship and informal support.

Regulatory bodies, competition, customers/passengers, political and sociocultural factors form outer contextual factors in the process of human capital development in the airline. In addition to these, political and economic factors are outer contextual factors in the process of human capital development in BAI. As far as the interconnected nature of the inner and outer contextual factors is concerned, the outer contextual factors have been discussed when discussing inner contextual factors. For example, I discussed the economic impact of human capital development while discussing employee mobility. Sociocultural issues are discussed during interactions and interdependencies while discussing socioemotional issues. Therefore, this discussion on outer contextual factors focuses on political factors, regulatory bodies and passengers/customers.

Since, BAI and Ethiopian Airlines are state owned organizations, political changes affect their process of human capital development as well. Polices, rules and regulations developed for the government's political interests directly affect this process. Small political disturbances like elections and riots may create stress in employees and consequently impact the process of human capital development. Further, since political officials are board members of the organizations their political affiliations and thoughts also affect major decisions of the organizations. Such conditions and decisions affect the process of human capital development.

Human capital development in Ethiopian Airlines is a mandatory exercise because human capital and human capital development mechanisms are audited by regulatory bodies. Regulatory bodies like FAA and EASA are responsible for auditing both the airline's human capital and its human capital development mechanisms. To meet the requirements of the audit the airline is obligated to build the human capital of its employees through refresher/recurrent and career development training. Thus, human capital development is not a choice in the airline because it has to follow what the regulatory bodies state and provide training to its employees. Further, the findings from the airline also show that passengers, especially gold and platinum

members of Shebamiles, have a big impact on building crew capabilities through advice and suggestions. Because these are frequent flyers they have experience of flying on the basis of which they make suggestions. Interactions with passengers also help the crew in becoming familiar with different cultures. This is consistent with Coff (1997) who states that networks with stakeholders such as customers and suppliers have an impact on human capital formation and development.

Based on the discussion so far, we come to a number of conclusions. First, inner and outer contextual factors have a big impact on the process of human capital development. Second, the interconnected nature of inner and outer contextual factors means that outer contextual factors have an impact on the inner contextual factors which in turn shape the process of human capital development. For example, outer contextual factors like economic factors and competition affect strategic human resource management and employees' leaving the organization which are inner contextual factors.

Chapter 11: Conclusions, contributions and future research

This chapter gives the conclusions and contributions of this thesis. It first gives a brief summary of the dissertation and then discusses its contributions to human capital and social exchange theory. This is followed by a discussion of the implications of its findings. Lastly, it also discusses the limitations of the study and offers some suggestions for future research.

11.1   Summary of findings

The main purpose of this thesis was to explore how human capital develops in an organization as a process with a specific focus on its sub-processes and contexts. To achieve this objective two in depth cases -- Ethiopian Airlines from the service industry and BAI from the manufacturing industry were conducted. The thesis considered human capital as knowledge, skills and abilities that are developed through interactions, interdependencies, relationships, mechanisms, events and the dynamics among people. It used these dynamics to explain the process of human capital development through the lens of social exchange theory.

The process of human capital development starts with the selection of potential human capital. Employees join the organization with individual capital. The relationships that the employees have through their family, ethnic background and social networks are considered factors for potential human capital selection. The thesis also sees individual capital like educational background, experience, attitude, behavior, information processing and professional skills determined as origin for human capital process. Once employees are accepted by an organization, their interactions and interdependencies with others and with the organization start. These happen between the trainer and trainee, coach and coachee, mentor and mentee, manager and subordinates, between employees and between employees and the organization. Unit or industry specific human capital is developed as a result of the interactions and interdependencies among employees and those between employees and the organization.

The premise of this thesis was that the human capital can be seen as a process that is influenced by interactions, interdependencies, relationships and social dynamics created among people and with the organization. This thesis shows that interactions and interdependencies are the main driving force of the process of human capital development. They are characterized by

socioemotional factors (trust, loyalty, stress, fear, frustration, delusive behavior and tensions), *homosociality* (relationships, group gains and status consistency) and *perceptions about organizational support* (benefit packages, induction and socialization, training and access to resources). Further, the thesis also shows how these characteristics (socioemotional factors, homosociality and perceptions of organizational support) affect the process of human capital development.

Human capital developed from the interaction and interdependence among employees resulted in unit or industry specific human capital. Unit specific human capital is developed when there is a lack of integration among units and there are no group gains. Industry specific human capital is developed as a result of a pooled work system and free movement of employees across units which leads to group gains through seeing, observing, asking and understanding. Human capital developed at this level has distinct characteristics of the interactions and interdependencies and the organizational culture and context which gets embedded in individuals, groups, units and the organization.

This study shows that the process of human capital development is not a linear one and is instead a socially dynamic process determined by the characteristics of interactions and interdependencies (socioemotional factors, homosociality and perception about organizational support) and the context in which a firm is operating. Hence, contextual factors also have a crucial impact on the process of human capital development. The findings of this thesis suggest that employee mobility, SHRM practices, organizational culture, organizational change, structure and infrastructure and growth of the industry are inner contextual factors which enable or constrain the process of human capital development. Political, economic, sociocultural, competition, regulatory bodies and passengers/customers are outer contextual factors which also enable or constrain the process of human capital development. Due to the interconnected nature of these two contexts, outer contextual factors have an impact on inner contextual factors and consequently on the process of human capital development.

This thesis also shows that collaborations with international companies have a crucial impact on the process of human capital development. Human capital development during the interactions and interdependencies with international companies is constrained by cross-cultural and language barriers and the delusive behavior of the international partners. The

process of human capital development during collaborations is enabled through informal social relationships. The thesis shows that the process of human capital development is better facilitated in an informal social relationship than through negotiated agreements because informal social relationships facilitate interactions and interdependencies among the collaborating parties through developing support seeking and willingness to support behavior among the interacting parties. However, negotiated agreements are a base for forming these informal social relationships.

11.2   Contribution to human capital and social exchange theory

Multilevel (Nyberg and Ployhart, 2013; Ployhart and Moliterno, 2011) and micro-foundation (Barney and Felin, 2013; Foss, 2011) concepts of human capital consider the impact of interactions and interdependencies on human capital. However, these streams of literature lack in explain details of the interactions and interdependencies and their impact on the process of human capital development. The findings of this thesis help in unpacking these interactions and interdependencies showing that they are determined by socioemotional factors, homosociality and perceptions about organizational support. The process of human capital development is facilitated when these factors work together; however, they also have negative implications. Further, the findings of this research contribute to human capital literature by introducing social exchange concepts like socioemotional factors, homosociality and perceptions about organizational support.

This thesis also helps bridge the gap between literature on strategy and strategic human resource management through the concept of process understanding to human capital because the process of human capital development includes the strategy concept of aggregation during discussing characteristics of the interactions and interdependencies among employees and between employees and the organization. Strategic human resource management is also a part of the process of human capital development during interactions and interdependencies among employees and between employees and the organization, and during discussing influence of perception of organizational support on the process of human capital development. Literature on strategies considers human capital as an 'aggregated' concept which sees individual level human capital aggregated to unit level human capital through interactions and interdependencies (Nyberg et al., 2014; Ployhart et al., 2011, 2014). Literature on SHRM

considers human capital as a 'black box' which is affected by comprehensive implementation of human resource management policies and practices (Jiang et al., 2012; Youndt et al., 1996). The findings of this thesis help in integrating the 'aggregation' and 'black box' concepts of human capital.

Human capital has so far been studied through the lens of human capital theory and a resource based view. Human capital theorists argue that human capital is knowledge, skills and experience embedded in individuals which provides economic value (Becker, 1964; Jiang et al., 2012; Schulz et al., 2013; Youndt et al., 1996). They also believe that investments in human capital add value to productivity. Theorists who have a resource based view argue that human capital can be a source of competitive advantage if it is valuable, rare, inimitable and non-substitutable (Barney, 1991; Hatch and Dyer, 2004). Both these streams, however, lack in explain how human capital develops. The findings of this thesis contribute to literature on human capital by viewing human capital as a process, identifying the characteristics of interactions and interdependencies among employees and between employees and the organization. In addition, this thesis also views human capital through the lens of social exchange theory.

The thesis uses the social exchange theory to study how human capital develops in an organization and is helpful in explaining the process of human capital development through interactions, relationships, social dynamism and interdependencies among people and between employees and the organization and the relationships among employees and with stakeholders. Social exchange theory was first used by Homans (1958) and Blau (1964) to explain mutually contingent actions and interactions in an exchange of tangible and intangible resources. Literature on social exchange theory shows that the outcomes of the actions and interactions among the parties involved in an exchange are mostly positive like attachments and solidarity (Molm et al., 2012). This literature also states that the exchange is positive as it leads to sentiments and feelings of solidarity (Cook, 2015). However, the findings of this thesis show that in addition to positive outcomes like trust, in group gains, relationships and loyalty also have a positive impact on the process of human capital development but there are also some negative effects like tensions, stress, fear, frustration, delusive behavior and status consistency. Thus, social exchange theory should consider both the negative and positive outcomes of

social exchange and their impact on the phenomenon to be studied. These outcomes also have an impact on shaping the interactions and interdependencies as well as on the process of human capital development. Therefore, the impact of the outcomes is bidirectional between interactions and interdependencies and the process of human capital development.

The findings of this thesis show that there is a movement from a negotiated and binding social exchange embedded in a negotiated economic exchange to informal and non-binding social exchange embedded in a negotiated economic exchange. The process of human capital development becomes smoother if informal and non-binding social exchanges are embedded in an economic exchange rather than negotiated and binding exchanges. Because the characteristics of the interactions and interdependencies in informal social exchanges are more effective than those in formal and binding exchanges. As a result of this, support seeking and willingness to support behavior is enhanced. However, formal, binding and negotiated exchanges form a base for the informal and non-binding social exchanges. Hence, the findings of this thesis extend the suggestions made by Cropanzano and Mitchell (2005) who discuss social exchange theory as an interaction between the type of transaction and the type of relationship, depicting social exchange as either of the following: social transactions in a social relationship, economic transactions in a social relationship, social transactions in an economic relationship and economic transactions in an economic relationship, rather than looking at the developmental stages.

11.3   Implication for practice

The results of this thesis provide important suggestions for human capital development programs as it shows that human capital development programs like training, coaching, mentoring, succession programs and workshops require changes in their implementation because the process of human capital development is determined by the characteristics of interactions and interdependencies like socioemotional factors, homosociality and perceptions about organizational support. Hence, the findings of this thesis will help in designing human capital development programs as they can consider these characteristics of interactions and interdependencies among people and between employees and the organization. Human capital development programs should focus on these three main factors. However, the characteristics of interactions and interdependencies can differ in organizations, therefore human capital

development programs should put different emphasis on for example, trust, loyalty, group gains, informal social relationships, understanding the impact of status consistency developed through ethnic and family networks, stress, frustration, tensions, distrust, delusive behavior and language and cross-cultural barriers.

Employees are core assets of an organization. An organization can achieve its mission because of its employees' capabilities in doing their tasks. These capabilities are determined by the level of knowledge, skills and abilities that they have. As a result, the findings of this research show that managers should consider people and people management programs for making employees' human capital firm specific or unit specific which will help them in accomplishing their organizational missions. Managers need to be decisive in identifying potential human capital, understanding the characteristics of interactions and interdependencies among employees and between employees and the organization and unit specific and firm specific human capital in the process of human capital development.

The findings of this thesis also show that homosociality developed through family, ethnic and social networks determine the process of human capital development. These can lead to discrimination among employees while delivering human capital development programs. Therefore, this thesis has also an implication for managers in understanding the networks in an organization and convert the disadvantages of the networks into advantages.

The findings of this thesis also have implications for employees since human capital is basically determined by the characteristics of the interactions, interdependencies and relationships among the employees, their social dynamic behavior like demonstrating trustworthiness, informal relationships, informal peer support and group gains including seeing, observing, asking and understanding. As a result, employees' self-effort is crucial in determining their human capital. Therefore, this thesis has an implication in which employees have a responsibility to put in an effort in building their trustworthiness, motivation, performance, discipline, support seeking behavior, active participation, observing and understanding. Because such a behavior has an impact on their acquiring knowledge, skills, abilities, support and experience.

Further, this thesis is also important for policymakers. Emerging economies like Ethiopia have gone into many agreements with different international companies for collaborations.

Collaborations with international companies include human capital development programs. This thesis shows that the process of human capital development is effective in informal social exchange relationships rather than in formal, negotiated and binding agreements. In collaborations, task companies are engaged in maximizing their own profits. Therefore, policymakers should consider these interests while collaborating by focusing on informal relationships and social exchange behavior.

Mix of employees from different cultural backgrounds and/or professional status can create tensions among employees. These effect the process of human capital development. Therefore, finding of this thesis has an implication to managers in identifying the impact of this mix on the process of human capital development. Furthermore, industries with the purpose to be transformed as a governmental objective of the country, will find difficulties in doing so through delivering low salary, high training cost (train yourself by making materials out of use), and less qualified employees. Therefore, finding of thesis has an implication to policymakers and managers understand the importance of employees' human capital in achieving organizational missions and also of lowering the cost of human capital.

Understanding how human capital develops in an organization helps in providing an overall picture of human capital development programs, mechanisms, events, patterns, interactions, interdependencies and relationships. Therefore, this thesis has also an implication to policymakers need to consider comprehensive mechanisms of human capital development programs, especially when considering the characteristics of interactions and interdependencies and relationships when designing human capital related policies. The thesis also provides policymakers an understanding of the impact of outer contextual factors like political, economic, sociocultural and competitive factors on the process of human capital development.

11.4   Limitations and suggestions for future research

This study makes significant contributions to strategy, strategic human resource management and particularly to human capital literature by exploring how human capital develops in an organization as a process with a specific focus on its sub-processes and contexts. These results can form the basis for future advancement of human capital as a dynamic process. However, the study has some limitations.

I follow process research but a longitudinal real-time approach may provide better insights into process research (Van de Ven, 2007). I did retrospective in-depth semi structured interviews as a substitute for a real time methodology. This may have led to a bias of prior knowledge. Even if I tried to overcome such drawbacks in data collection process through using numerous and highly knowledgeable informants who viewed the process of human capital development from diverse perspectives, using informants from different functional areas, hierarchical levels and groups and triangulating this data with different sources to study the process of human capital development as it unfolds will create additional knowledge. To extend our understanding of a processual research approach for studying human capital future research should consider the longitudinal approach with real time data on the characteristics of interactions and interdependencies, relationships, mechanisms and events and their impact on the process of human capital development.

This thesis collected data from state owned and large-scale organizations. As direction of the government, priority of the organizations to human capital and their size; the process of human capital development may be different in private and small-scale enterprises. Taking data from private and small-scale enterprises may provide a different perspective on the process of human capital development. As a result, this will also provide future research to provide diverse perspectives on the process of human capital development.

The findings of the thesis show that socioemotional factors, homosociality and perceptions about organizational support are driving forces for unit or firm specific human capital. Therefore, future research can examine the interconnected nature of these characteristics and their impact on building human capital. Future researchers can also integrate micro characteristics of interactions and interdependencies among employees and between employees and the organization with macro level human capital in an organization. Since this thesis finds that homosociality based on the networks of ethnicity and family have an impact on the process of human capital development future research can consider diversity like age, sex, race, political views and religion and the impact that these have on the process of human capital development.

The scope of this thesis is limited to the process of human capital development from the date of entry to an organization to the date when data was collected. As a result, it focuses only on

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the process of how human capital develops. Future research can create a link between the characteristics of the process of human capital development with outcomes like competitive advantage, performance and productivity. This may help future researchers in creating a link between the process of human capital development with the outcomes achieved using multiple theories like the human capital theory, resource based view and the social exchange theory.

Emerging economies like Ethiopia emphasize on forming and developing human capital through technology transfers from international companies. International companies too are interested in these emerging economies whether through foreign direct investments or collaborations. This leads to interactions and interdependencies among local and foreign industries. The findings of this thesis show that the characteristics of the interactions and interdependencies among foreign (Chinese) and local (Ethiopian) experts have an impact on the process of human capital development. The characteristics of interactions and interdependencies happen between different cultural, political, social and market contexts of both the countries. Therefore, considering these contexts with the lens of embeddedness and disembeddedness may provide new insights into the process of human capital development. The thesis also opens up interactions between inner and outer contextual factors and their impact on the process of human capital development. Future researchers can consider this interplay and its impact on the process of human capital development.

In group gain in this thesis refers regardless of employees contribution to the pool, employees can acquired knowledge, skill and ability from a common pool. Thus, employees acquired knowledge, skill and ability from the pool through seeing, observing, asking and understanding. This thesis also concludes that group gains have a crucial impact on the process of human capital development. One important avenue for future research is exploring how the process of human capital differs across industries when it comes to group gains and how these gains affect the process of human capital development in different industries.

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