Assessing the Extent of Adoption of Learning Organization Dimensions in Ezzsteel

by

Diaa Ali Haddad

Supervised by

Prof. Dr. Saneya El-Galaly

This paper was submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

(MBA)

at

Maastricht School of Management, MsM

Maastricht, the Netherlands

Maastricht School of Management

P.O. Box 1203

6201 BE Maastricht

The Netherlands

March 2017

The thesis is displayed at the library of Regional IT Institute to optimize the added-value of the reader and leverage his/her knowledge in the subject covered. For further information about the Theses. Their contents, value, grade and overall quality you are advised to contact the Academic Degree Programs Manager.

ACKNOWLEDGEMENTS

In the Name of Allah Most Gracious Most Merciful ... Thanks God for providing me with strength, guidance and rectitude throughout my life ... Praise to Allah, Lord of the Worlds and Prayer and peace be upon our Prophet Muhammad and his family and companions

My Sincere Thanks and Gratitude to ...

To the one who was always by my side, support, encourage, motivate and bring the hope into my heart, the power into my mind and the confidence into my life … to the soul of my Dad;

To the most wonderful mother ever ... Salwa

To Shimaa … my patient wife;

To … My twins; Abdul Rahman and Ahmed … You are the secret of my happiness in this life;

To the whole-hearted sister … Aliaa;

To my true and sincere brother … Ahmed;

To all Ezzsteel staff, managers and colleagues … without you this thesis would not have seen the light;

To all my MBA professors;

To MsM and RITI;

A special thanks to my mentor ... Prof. Dr. Saneya El-Galaly who guided me with her valuable advices and constructive guidance throughout every step in the way to obtain a distinction in this thesis;

Last but not least, to the leader who remains to be a beacon of knowledge and inspiration in my life, Ahmed Ezz.

Thank You …

ABSTRACT

Background: Learning-based companies, such as steelmaking, need to adapt to transformation and to adopt learning as a competitive strategy in the era of globalization. Assessing the organizational capability to learn is therefore a crucial part of the strategic planning in these companies. The purpose of this research is to assess the extent of adoption of learning organization dimensions in a pioneer market player in the steel industry in Egypt.

Methods: A 'three-phase embedded single-case study' research was chosen as a design for this research where data was collected through three phases; preliminary interviews with a selected group of directors and senior managers, followed by a survey using the DLOQ that was administered to a stratified sample of 407 employees at three job levels and from five business units of the company and concluded by post-survey interviews. Data was analyzed using a pattern matching technique for the interviews while a descriptive analysis and non-parametric tests were employed for the survey.

Findings: Compared with the most updated normative scores for benchmarking, a generally positive perception with respect to the adoption of the learning organization dimensions was noticed. However, variations in employee's perceptions of learning dimensions across the business units as well as the job levels were detected. Moreover, the results revealed a focus from the company on the individual, group and environmental levels of learning at the expense of the most important level; the organizational level.

Conclusions: The results of this research revealed treasured insights into the learning culture of the company under study that assisted in deriving an in-depth understanding of the current learning position's strengths and weaknesses, and the path the company should follow to achieve a rooted progress on its journey of becoming a learning organization.

Keywords: Dimensions of the learning organization questionnaire, DLOQ, Learning organization, Organizational learning, Knowledge management, Steel industry, Ezzsteel, Egypt

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

(DLOQ): Dimensions of Learning Organization Questionnaire

(LO): Learning Organization

(OL): Organizational Learning

(KM): Knowledge Management

(HQ): Headquarter

(ES): Ezzsteel Business Unit at Sadat City

(EFS): Ezz Flat Steel Business Unit at Suez City

(ERM): Ezz Rolling Mills Business Unit at 10th of Ramadan City

(DRP): Direct Reduction Plant at Suez City

(MjRQ): Major Research Question

(MRQ): Minor Research Question

CHAPTER 1: INTRODUCTION

1.1 AN OVERVIEW

The world is shifting, and so is the steel industry. In this changing world of globalization and speedy continuous transformation in technology, some companies might have to reconsider the way they run and manage their business. The challenges of globalization, growing competition, technological spreads and the ever-fast-tracking rate of transformation, are also seen as the main drivers for the development of notions such as the 'learning organization' and 'organizational learning', as a means of assisting the companies to deal with those challenges and making them more flexible to transform which made such concepts major strategic business objectives.

In the steelmaking industry, it is only in recent years that steelmaking companies have become aware of the learning and development as important characteristics that may influence the effectiveness and success the steelmaking industry.

Steelmakers are experiencing numerous challenges such as fluctuation, ever-changing demand, complicated supply chains, production capacity and cost efficiency. According to the steelmaking professionals, the sector is experiencing a feeble situation and any further shocks will have a tremendously undesirable effect on steelmakers (Beifus, 2014).

While steelmakers enhance their capabilities to survive in hard times, increasing competition can be noticed in almost all products, especially for higher margin steel products. Among the different strategic choices, adopting a learning-based strategy should therefore have a high priority.

Although numerous companies do not have faith in continuous learning and development, and react to change with different strategies, many researchers think that organizations choosing the learning as a strategic approach have to ensure that the competencies of their staff are optimally utilized and positioned, and have to go beyond just ensuring that people are trained and developed, concentrating on moving forward with comprehensive and continuous learning. Senge (2006) designates these organizations as 'learning organizations'. (Senge, 2006, p. 3)

Accordingly, the researcher has chosen Ezzsteel as a case study to assess the extent to which the company adopts the concept and dimensions of learning organization using the model of Watkins and Marsick (20030 and its instrument measure, Dimensions of Learning Organization Questionnaire, as one of the most holistic, profound and tested models in this regard.

1.2 PROBLEM DEFINITION

The company under study has made several attempts to apply the learning organization dimensions and has invested hugely in learning and development. Those attempts have not been thoroughly assessed to understand to which extent is the company was successful in adopting and applying the dimensions of learning organization and whether it can be considered as an organization on its right path of adopting the concept and principals of "learning organization" or some additional steps are required.

1.3 RESEARCH OBJECTIVES

This case study research aims to assess the extent to which the company is adopting the dimensions of learning organization employing different sources of data to assess, in detail, the level of adoption of each dimension and the extent to which this level of adoption is consistent among the different business units and among the different job levels, to help the company understand where it stands and how it should proceed on its journey towards becoming a learning organization.

1.4 THEORETICAL FRAMEWORK

The chosen research design is a three-phase, embedded single-case study (Yin, 2014), starting with preliminary semi-structured interviews with a selected group of senior managers to create baseline information about the organization under study, followed by a quantitative-dominated phase using Watkins and Marsick's (2003) model of learning organization and its measuring instrument, Dimensions of Learning Organization Questionnaire - DLOQ, (Marsick, 2003) comparing the results to the most updated normative scores of Watkins and Marsick's to assess the extent to which the company under study is rightly an organization on a journey of becoming a learning organization, and finally the research data collection and analysis is closed by a qualitative phase using post-survey semi-structured interviews to interpret the results of the survey to answer the research questions.

1.4.1 Assumptions

- The company under study is an example of a typical steel, heavy industry, manufacturing company and the findings can be 'theoretically generalized' (Yin, 2014) to other similar companies in Egypt.
- All participants have answered the interview and questionnaire to the best of their knowledge.
- The seven dimensions' model of Watkins and Marsick's, including the DLOQ measuring instrument and normative scores, is holistic, profound and tested (Moilanen, 2005; Givel, 2014; Watkins, 2013).

1.4.2 Limitations

- The most common limitation related to the case-study research is the method of choosing the cases in addition to the way research results can, or cannot, be generalized (Yin, 2014). Case studies therefore seek for 'theoretical generalization' rather than 'statistical generalization' (Yin, 2014)
- One of the potential limitations is that the scope of the study and data collection are limited to the company under study.
- Another potential limitation of this research is the fact that the researcher is an employee in a learning-related position in the organization under study which results in some concerns. Nevertheless, this limitation can be overcome by a high quality of research design, application, consistency of collected data, processing and analysis in addition to employing a quantitative source of data using questionnaire-based survey on a stratified sample. Moreover, being an insider-researcher can also involve some advantages, such as the knowledge and experience about how the organization really is, and what can potentially be areas of improvement.
- The data of the survey is based on respondents' perception that might entail possible bias.

1.5 RESEARCH QUESTIONS

1.5.1 Major Research Questions

(MJRQ-1) How successful has the organization under study been in adopting the concept and dimensions of the learning organization?

1.5.2 Minor Research Questions

(MRQ-1) To what extent does the company create continuous learning opportunities?

(MRQ-2) To what extent does the company promote inquiry and dialogue?

(MRQ-3) To what extent does the company encourage collaboration and team learning?

(MRQ-4) To what extent does the company create systems to capture and share learning?

(MRQ-5) To what extent does the company empower people towards a collective vision?

(MRQ-6) To what extent does the company connect the organization to its environment?

(MRQ-7) To what extent does the company provide a strategic leadership model supports learning practices?

(MRQ-8) To what extent are the learning organization dimensions equally perceived among the different business units?

(MRQ-9) To what extent are the learning organization dimensions equally perceived among the different job levels?

1.6 RESEARCH METHODOLOGY

This embedded single-case study (Yin, 2014) is considered as a descriptive research (Yin, 2014). The research uses multiple sources of evidence (Yin, 2014) through a mix of qualitative and quantitative evidences. A simpler pattern matching approach (Yin, 2014) is employed to analyze the qualitative data. Moreover, descriptive and inferential statistical analysis is used in this research to interpret the quantitative part of the research.

On the quantitative part, this case study uses a stratified regular random sample size of 428 from a population size of 3303 employees distributed by two strata, first stratum is plants (ES, ERM, EFS, DRI, and Corporate HQ), and second stratum is job level (Assistant - Deputy manager or manager, Specialist – Supervisor or Engineer, Foreman – Technician). The sample represents a confidence interval 95% and Margin of error 4%. The collected quantitative data is subjected to descriptive analysis using SPSS software (version 17.0).

On the other hand, the qualitative part is based on the contribution of a sample of senior managers whereby the learning process is being planned, managed and controlled. The sampling criteria is therefore based on 'Subjective Judgement' (Yin, 2014)

1.7 THESIS STRUCTURE

This research consists of five chapters that are addressed as follow:

Chapter one includes introduction which provides an overview, problem definition, research objective, the theoretical framework, sampling and data analysis methods.

Chapter two introduces an overview of the literature review of the topic including definitions and reviews of relevant theoretical models and the relevant instrument measures in addition to discussing the best practices and local case.

Chapter three presents a deeper clarification on all parts included in chapter one focusing on the case study research methodology according to (Yin, 2014) protocol and framework.

Chapter four provides the data collection, analysis and findings.

Chapter five concludes the overall study and presents the set of recommendations for the company under study in light of the findings of the study and literature review and finally identifies the possible areas for future research.

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

Intentionally or unintentionally, all organizations learn. Learning is an urgent need for organizations to compete and survive. While some companies adopt learning-based approach, where they dynamically explore better ways of doing their business on an ongoing basis, others take a passive approach to learning. Either way, learning takes place in all organizations (Garvin, 1994).

The 21st century is the era of the global knowledge economy where change is never-ending and inevitable. In order to survive and compete in this challenging era, all organizations must promote, boost, and create learning environments. (Rush, 2011)

In a globally integrated economy, workers will get paid a premium only if they or their firms offer a unique innovative product or service which requires skilled and creative human resources to design, market and manufacture, and, at the same time, able to continue learning. (Friedman, 2006)

Twenty-first century organizations are experiencing a challenging wave of extraordinary changes and a business atmosphere characterized by rapidity, turbulence, volatility and uncertainty, this wave of changes imposes an urgent need to revise the philosophy of managing the business. Various factors help explaining those recent changes in management philosophy and practice; complex, challenging and dynamic political, economic, social, cultural, and technological and legal factors have recently mirrored on business organizations, entailing adjustment and adaptation. These factors extend to include the diffusion of globalization, intensifying competition, the prevalence of global agreements and standards, the dominance of 'knowledge workers' and changing lifestyles and customers' expectations. The combination of these complex environmental changes has formed a high pressure on businesses, entailing a fundamental change in focus and directive. There is a growing recognition in this new environment that organizations should not only aim to survive but also pursue for excellence to ensure growth, continuity and survival (Hitt, 1996)

Obviously, it will not be functional to operate with traditional organizational culture, structures and strategies in this complex and fast changing global market. Most recent researchers think that the main competitive advantage will be obtaining and applying information instead of acquiring assets and natural resources. (Özdemir, 2005)

This environment of change has stimulated a re-evaluation of old-style managerial principals, the reassessment of old business models, processes and systems and therefore the adoption of new management philosophies that revolve around learning organization concept, principles and practices. (Dima Jamali, 2009).

Learning, based on that, is perceived as a vital part of all organizational structures and processes, although learning itself tends to be a very individual-based process.

The key driver for researching and writing on the topics of learning organization (LO) and organizational learning (OL) has remained somewhat consistent over the last three decades, and become significant in today's challenging environment; it is the organizational need to be able to adapt to the continuously changing and stormy economic environment in the era of globalization (Eijkman, 2011).

Skimming through the literature review on the concepts of learning organization and organizational learning, it can obviously be noticed that there are commonly referenced researchers such as Senge (2006), Pedler (1997), Argyris and Schön (1996) and Watkins and Marsick (1993).

The next section presents the definitions of LO and OL, then explores the most commonly referenced models and frameworks in this field, namely the models of Argyris and Schön (1978, 1996), Peter Senge (1996, 2006), Pedler et al (1997) and Watkins and Marsick (1996, 2003)

2.2. OVERVIEW: THE LEARNING ORGANIZATION

This section looks at the different definitions of the learning organization and organizational learning, then discusses the work of the above-mentioned writers in detail to articulate a common understanding of the main ideas around learning organization then examines how different researchers have attempted to measure the status and the extent of adoption of a learning organization, after that the criticism of these models and frameworks is briefly discussed this section is closed by a brief discussion about the measuring instrument of LO and the selected one for this study.

2.2.1. Definition of Organizational Learning and Learning Organizations

Firstly, an important debate is raised about if 'organizational learning' and the 'learning organization' are the same, different, or complementary. By reviewing several writings, it can be inferred that the two terminologies represent two sides of the same coin and often used mutually among the literatures. Organizational learning is described as the process of achieving the goal of becoming a learning organization, while the 'learning organization' is described as the goal to be achieved that involves organizational learning. (Sun, 2003; Marsick, 2003; Nyhan, 2004; Ortenblad, 2001).
Organizational learning is perceived as the process by which an organization adapts and transforms in response to existing or expected change (Nyhan, 2004)

Tackling the question of how individual learning is conveyed to the organization, Kim (1993) believes that this is sorted through collective 'mental models' (Kim, 1993). Mental models, as introduced by Senge (2006), are deeply established internal images of how the world functions, which influence how an individual act, and how new information and knowledge is processed by members of a group or organization (Senge, 2006). This is supported by views of Argyris and Schön (1996), who say that organizational learning happens through individuals whose acts are based on a group of shared models (Argyris, 1996).

Although theories and models of organizational learning are enhanced by empirical researches, the descriptive writings in this topic were not too much successful to introduce pragmatic course of actions to the specialists and practitioners in organizations (Tsang, 1997)

A number of researchers have studied the subject of organizational learning, and attempted to establish models to link individual and organizational learning (e.g. Kim 1993). This created two main tracks of research, the first remained studying the process of organizational learning, and the other chose the prescriptive of learning organization, arguing how an organization should learn to improve its competences to adapt in a confrontation of change (Tsang, 1997).

Another crucial point is that some researchers argued that the concept of the learning organization can be achieved as an ultimate goal of an organization (e.g. as introduced by Senge). Others advocate that organizational learning is a process (e.g. as introduced by Argyris and Schön 1996). Gorelick (2005) advocates that the five disciplines that developed by Senge (2006) are instruments and an essential part of the process of organizational learning (Gorelick, 2005). If learning is to be a continuous process, then the final stage of labeling an organization as a learning organization is not feasible and this is a crucial point: the process of learning organization is considered as continuous, as organizational learning itself consists of ongoing transformation, and accordingly no organization should be able to declare that it has become a learning organization as such (Nyhan, 2004)

The literature on the concept of learning organization has mainly emerged from inside business schools urged by an interest in the field of organizational development (Brown, 2003). As a result, most researchers in this field, as noted by Tsang (1997), are lacking the basis of methodical empirical research (Tsang, 1997).

The majority of researchers introduce common attributes of a learning organization (Hughes, 2000): a strategy of continual organizational change, a connection between individual development of employees and the resulting organizational development, and a new type of workplace learning with an emphasis on substituting single-loop learning by double-loop learning (Argyris, 1996), or adaptive learning by generative one (Senge 2006).

2.2.2. Learning Organization Theories

Although many researchers in the field of learning organization attempt to outline common characteristics and features of the concept, a definite theory, model or framework is of the learning organization is still exposed to a lot of debates. Below follows a review the models of the best-known writers in this field.

2.2.2.1. Chris Argyris and Donald Schön

The concern with the concept of learning organization has begun with Argyris and Schön's (1996) who distinguished between single-loop learning and double-loop learning. According to Argyris and Schön, Single-loop learning is the elementary learning process where learning happens by solving a problem and dealing with the problem's symptom whereas Double-loop learning takes place when tracing, addressing and dealing with the problem's root-cause not only the symptoms to resolve the problem (Argyris, 1996).

Furthermore, Argyris and Schön argued that the collective learning is crucial to the concept of the learning organization and it is not merely the sum of individuals learning but extend to include the learning on individuals, groups, and organization. It is seen by many researchers as a key competitive edge of today's companies (Argyris, 1996).

Moreover, Argyris and Schön recognize the importance of the notion of agency, they argue that the organizational learning can happen when members of an organization perform as learning agents for the benefit of the organization and hence their individual learning will return to the favor of the benefit of learning (Garavan, 1997).

Making an attempt to define the organization that learn, Argyris and Schön start by noting that people have 'theories-in-use', the term that refers to the mental maps managing one's behaviors and performances in the different circumstances and situations. The majority of individuals are not obviously aware of their mental maps which likely to be implicit rather than explicit. (Argyris, 1996)

On the other hand, Argyris and Schön argue that individuals moreover have what they called 'espoused theories', the term that refers to the words used to express what one does or in other words what people want others to think they do. In a nutshell, espoused theories mean what people say they would do in a specific situation whereas the theories-in-use refers to what they actually do. It thus is the mental maps that direct individuals' behaviors rather than their espoused theories. Oftentimes, there is discrepancy between an individual's theory-in-use and espoused theory, Argyris and Schön therefore argue that effectiveness results from the compatibility between the two concepts. (Argyris, 1996)

Argyris and Schön's (1996) think that both individual and collective learning are two aspects for the same process, individual learning does not only occur within individuals but collectively as well. Individuals thus turn into change agents in their organization's theory-in-use. If there is an incompatibility between organizational actual and desired results, they can investigate the root-cause reasons in the organization's theory-in-use and then take the corrective action. This is the main concept onto which Argyris and Schön build their single and double-loop learning theory.

2.2.2.2. Peter Senge

Senge (2006) is a key reference of the concept of the learning organization who believes that today's organizations should become organizations where individuals persistently grow their capability to achieve the results they really desire, they are also the place where new shapes of thinking are encouraged and the place where shared goal is set free, and where people persistently learn how to learn together. Senge's approach to the learning organization is established on five interconnected dimensions that are considered crucial to shape organizations that can really learn, these dimensions called the Five Disciplines, it is the integration among these disciplines that establish the learning organization (Senge, 2006).

The first discipline is Personal Mastery, this is the discipline that addresses the individual's commitment and persistence to excellence and ability of continuous learning. The second discipline is Mental models; in line with Argyris and Schön's (1978) presented work, Mental Models are described as deeply rooted ideas about how the world works (Argyris, 1996). For Senge, it is the action of challenging the standing mental models and its existing assumptions and therefore challenging the status que. Building Shared Visions is the third dimension that aims at aligning individual and organizational objectives through sharing a visionary picture of the future which lead, according to Senge, to stimulate trust, and increase people's commitment. Team Learning, the fourth discipline addresses teams' learning capabilities in addition to the synergy created among them, if teams are not able to learn, then the organization will not be able to learn as well. As the fifth discipline, Systems Thinking is the emphasis on interconnections and the ability to see that the whole thing is interconnected. It stresses on the value of seeing the entire picture rather than just seeing the sum of its parts (Senge, 2006).

Although Senge's fifth discipline concept is considered by many researchers and professionals as the most appealing model, it has also some criticism specially in ignoring number of internal factors such as authority, relations and control within an organization, in addition to some external factors that possibly impose obstacles to learning (Yang, 2004). Senge's model of learning organization looks to build upon some of Argyris and Schön's (1978, 1996) concepts of organizational learning, especially in the parts of challenging the status quo.

2.2.2.3. Mike Pedler, John Burgoyne and Tom Boydell

Pedler, Burgoyne and Boydell (1997) have seen the concept of the learning organization as of a more European perception. A learning company, as they designate it is not only aiming, according to them, at solving instant challenges and issues, but also ensuring that learning occurs from the process of problem-solving if they want to compete in today's competitive settings that require of the organizations to be agile, intelligent and flexible. (Pedler, 1997)

The learning company as described by Pedler et al. is a journey, built on eleven characteristics that require to be established and developed. Those characteristics are: A Learning Approach to Strategy refers to that the organization is continually assessing and revising its strategies; Participative Policy Making means that all members are allowed to contribute in the strategy formulation process; Informating refers to the process of making information available to all members using information technologies; Formative Accounting and Control refers to providing a practice transparency and a clear understanding regarding the way the money works in the business in general and in the organization in particular; Internal Exchange refers to the way individuals and divisions are working in functions within the organization and considering themselves as clients and vendors of each other; Reward Flexibility is the process of providing the rewards and proper environment for learning; Enabling Structures refers to flexibility and adaptability in the organizational structural design; (Burgoyne, 1994).

Boundary Workers as Environmental Scanners is the process of learning from the surrounding environment and accepting information for learning from anyone from across the organization; Inter-company Learning can be achieved through benchmarking and companies building learning partnerships; A Learning Climate is an organizational atmosphere where individuals can try and learn from experience; and finally Self-development Opportunities for All aims at making learning opportunities, sources and materials available to all team members in the organization. (Pedler, 1997)

Pedler et al.'s (1997) framework of the learning organization looks more practical but does not differ substantially from Senge's model. Things are mainly presented in a different way, for instance a 'learning approach to strategy' is very similar to Senge's (2006) 'mental models'.

Pedler et al. (1997) have also created a measuring instrument called 'The Learning Company Questionnaire', which is discussed in detail later in this chapter.

2.2.2.4. Karen Watkins and Victoria Marsick

Watkins and Marsick (1993) defined the learning organization as 'an organization that is characterized by continuous learning for continuous improvement, and by the capacity to transform itself'. (Watkins, 1996). They see the learning organization as an integrated model where learning is a continuing process that is strategically used and integrated with the whole work processes (Yang, 2004). This model thus incorporates both people and structure and focuses on leveraging learning on several layers: individual, team and organizational or system learning. (Watkins, 1994)

Many researchers discussed the difference between individual and organizational learning and although they have generally agreed that organizations to be able to learn individuals have to learn, Watkins and Marsick think that individuals' learning is not seen sufficient alone for organizations to transform (Marsick, 2003)

Watkins and Marsick (1996) clearly distinguish among different levels of learning. In addition, change therefore must take place on all individual, team, organizational and environmental levels of learning.

At the individual level, continuous learning opportunities have to be created, letting individuals in the organization to obtain knowledge and expertise, these opportunities comprise of experiential learning, on the job learning, mentoring and coaching, as well as formal learning over training courses and programs. In conjunction with this, the organization has to create opportunities for employees to try and learn from mistakes, inquire the status quo, provide and receive honest feedback, and promote the culture of dialogue and inquiry in general (Watkins, 1996).

At the group level, individuals learn as teams, concentrating on teamwork and collaboration, practice should be in group workshops, cross-exposure through cross-functional teams who work together on certain projects and action learning programs (Watkins, 1996).

Learning at structural level and job level. structural level is then integrating individual learning and group learning, and grasp all in standard operating procedures SOPs, operations manuals, work processes, learning systems, and link all aspects to the organizational culture. (Watkins, 1996).

Learning at the job level is considered as the most difficult and least applied by organizations as it requires establishing effective, flexible and well-knit systems that aim to capture and share learning, and obtaining organizational agreement and commitment from all staffs by empowering them towards a collective vision (Watkins, 1996).

The last level is learning at the environmental level where organizations attach to their environment. This involves thinking in aspects outside of the organization, thinking in a global way, and evaluating the leadership style in the organization to ensure that leaders are role models who support learning on the different levels (Watkins, 1996). The expected outcomes are therefore organizational learning, and increasing organizational performance (Yang, 2003)

To assess an organization's learning culture, Watkins and Marsick (1996) created the 'Dimensions of the Learning Organization Questionnaire', DLOQ, a holistic measurement tool based on the author's framework of the learning organization.

The most common traits among the models of Argyris and Schön (1978), Senge (2006) and Watkins and Marsick (1993) is that the process of organizational learning is the key of the learning organization, that shared thinking and leveraged capabilities are the infrastructure of the effective learning organization, and that a learning organization is a dynamic and systematic environment that allows and encourage continuous learning.

Some researchers describe the learning organization as a journey rather than a final goal or destination (e.g. (Appelbaum, 2000), (Gallagher 2000), (Ortenblad, 2001)). Although similar, there is no agreement on a definition or a unified set of specified characteristics of learning organizations, and accordingly no agreement on the best measure of the concept ((Jamali, 2008)

For this study, the framework of Watkins and Marsick (1993) is used with its measuring instrument that was developed and validated over several years of research (Tsang, 1997). Generally, this model represents a holistic, profound and tested model and integrative framework of the learning organization (Yang, 2004).

This research also goes for that the learning organization is not an attainable outcome, but an ongoing goal towards which an organization should struggle if they desire to cope with the continuous transformation and change.

2.2.3. Criticism of the Learning Organization

There is a lack of consensus around a unified definition of the learning organization and a feel of non-realization of the enthusiastic predictions in the 1980's the period at which the concept of learning organization was first popularized (Nyhan, 2004; Eijkman, 2011; Garvin, 1994).

The concept of learning organization is still intangible, with little practical views advice that leaders have to use, and a range of measurement instruments investigate different dimensions of the concept (Grieves, 2008).

The criticisms of the concepts of learning organization and organizational learning are many, and it is vital to explore the other views that might impact work of researchers and even practitioners.

The literatures that are discussed earlier in this chapter argue that becoming a learning organization is surely a good thing, and that there is an urgent need for all organizations to start the journey of becoming a learning organization. However, and from a practical view, there are many organizations that are not looking to compete according to the learning-based model, and therefore are not seeking continuous development and improvement as a result of becoming a learning organization (e.g. (Ashton, 1996; Keep, 2000). Alternative approaches to competitive advantage have been considered such as pursuing protected markets for investment, non-organic growth over acquisitions and mergers, power of monopoly or even adopting cost-cutting (Brown, 2003).

Another criticism is raised regarding the lack of consensus of how to measure a learning organization (Garvin, 1994).

In addition, politics, control and power are not highlighted in the learning organization literature despite the crucial impact of such themes. (Coopey, 2000; Keep, 2000; Eijkman, 2011; Owenby, 2002).

Moreover, some researchers criticized the ignorance of some important consideration of other factors such as structure, culture, values, and long-term objectives (Grieves, 2008; Hughes, 2000; Eijkman, 2011; Owenby, 2002; Keep, 2000; Slater, 1995; Eraut, 1997; Appelbaum, 2000).

Another criticism is also discussed regarding the lack of role model examples and success stories with respect of learning organization (Keep, 2000; Nyhan, 2004).

Some researchers referred to an unclear link between the learning organization and business performance as one of the most important critiques to the learning organization model (Brown, 2003; Keep, 2000; Marshall, 2009) as can be inferred from discussing the measuring instruments in the next section.

2.2.4. Learning Organization Measuring Instruments

This section focuses mainly on the instruments that addresses the models and frameworks discussed in the previous section. Chiva et al. (2007) categorize measurement tools by purpose and by the conceptual background. Regarding the purpose, they differentiate among instruments that address either organizational learning capability, such as the instruments of Tannenbaum (1997) or Pedler et al. (1997) that highlight the key learning facilitators (Tannenbaum, 1997; Pedler, 1997), or the organizational learning process, such as the instrument developed by Bontis et al. (2002) that investigate a specific phase of the organizational learning process (Bontis, 2002; Chiva, 2007).

Under the category of conceptual background, they differentiate among tools that are founded on the holistic conception of the learning organization, individual learning, or any other model such as Crossan et al.'s (1999) model that underlies the measurement tool created by Bontis et al. (2002) (Crossan, 1999; Chiva, 2007).

Another classifications of measurement tools are existing, such as the approach of Moilanen (2001) who classified the tools by various interests such as whether the questionnaire has any other outcomes than measuring organizational learning or learning organization only, to what extent the instrument widely covers the concept, to what extent the tool is comprehensive, and if it has been tested for reliability and validity or not (Moilanen, 2001). Table 2.1 shows a brief comparison among a set of these tools according to (Moilanen, 2001) as below.

Table 2.1: Comparison Among the Different LO Measuring Instruments

Name of the instrument	Archetype	Holistic	Profound	Tested
Pedler et al. (1991; 1997): The Learning Company Questionnaire	-	Yes	Yes	-
Mayo and Lank (1994): The Complete Learning Organization Benchmark	-	Yes	Yes	-
Tannenbaum (1997): Learning Environment Survey	-	-	Yes	Yes
Pearn et al. (1995): The Learning Audit	-	-	-	-
Sarala and Sarala (1996): Recognizing your organization	Yes	-	Yes	-
Otala (1996): A quick test of learning organization	-	Yes	-	-
Redding and Catalanello (1997): Learning Organization Capability	Yes	Yes	-	-
Watkins and Marsick (1998): Dimensions of the Learning	-	Yes	Yes	Yes

Source: (Moilanen, 2001)

According to Moilanen's (2001), 'The Learning Company Questionnaire' of Pedler et al. (1997), for example, is classified as not archetypical as and the only thing it measures is the learning organization, holistic as it covers a varied area of the concept, profound and therefore comprehensive, and finally as not tested in terms of statistics. (Moilanen, 2001).

Although the tool has been used in many contexts and has therefore high reliability, there are also some concerns about the internal validity of the tool (e.g. (de Villiers, 2008).

The 'Dimensions of the Learning Organization Questionnaire' (DLOQ) of Watkins and Marsick (2003) falls exactly into the same classifications of Pedler et al.'s (1997) tool based on the frameworks of Moilanen (2001) and Chiva et al. (2007) but the difference is that the instrument was actually tested for validity and reliability as it was developed over sixteen years of study, research and practice and was then tested, validated and adapted again through many researches and studies (Marsick, 2003).

The DLOQ is mainly developed to measure an organization's learning culture using the seven dimensions of a learning organization. It is considered as one of the most comprehensive instruments (Moilanen, 2005). Empirically, it has a tested background and covers the notion and the concept of the learning organizations very widely. (McCown, 2010)

It is worth to refer to Moilanen's (2001) 'Learning Organization Diamond', founded on the holistic models of researchers such as Senge (2006), Pedler et al. (1997), and Argyris and Schön (1978, 996).

Although it is a very comprehensive instrument, Moilanen's (2001, 2005) is following the argument that the learning organization is a destination that can be attained where that organization are either 'learning organization' or 'non-learning organization" (Moilanen, 2001; Moilanen, 2005)

A number of instruments have been developed through the past years to measure several aspects of the learning organizations and organizational learning some with tested validity and reliability while others still untested yet. (Moilanen, 2001).

For this study, 'Dimensions of the Learning Organization Questionnaire' (DLOQ) is utilized because it has been validated in several settings such as the validity to be used within business context (e.g. (Ellinger, 2003) and across many countries (e.g. (Jyothibabu, 2010; Song, 2009) including the Middle East (e.g. (Jamali, 2008)) and considered as the most broadly tested tool.

There are two forms of the DLOQ; the first is the full version that consists of 43 items and considered to be suitable as an investigative tool for practitioners who want to assess the learning culture comprehensively to make decisions on where to interfere. The second form is a shortened one comprises of 21 items of the original 43, this abbreviated form is still possessing higher construct validity and reliability, in addition is more suitable for researchers who need to use the DLOQ as a research tool. There are three statements for each of the seven included dimensions. (Målqvist, 2015). Therefore, the shorter version of the DLOQ is used for this study.

2.3. BEST PRACTICES

Although the learning organization and organizational learning have been investigated in a wide-ranging context, industries and countries, there are only very few studies that address the learning in the steelmaking companies and none of those studies applied any of the learning organization models to a steel company. The available studies either discuss the knowledge management process in some steel industries or just refer to the importance of learning in this industry.

Garvin (1994) has referred to a steel company called Chaparral as an example for an organization that has acknowledged the relation between learning and continuous improvement. This company sends its supervisors in experiential visits across the world where they meet academic and industry professionals and leaders, develop a deep recognizing of new best practices of work and new technologies, then convey what they've learned back to their company and apply it in the daily jobs and operations. Mainly as a result of these strategy, Chaparral has become one of the five lowest cost steel makers in the world (Garvin, 1994). Nevertheless, this literature is not introducing the model that is adopted by this company or how learning is being done. Moreover, he didn't mention whether the learning process in this company has been assessed in a way or another or not.

Another literature by Couillard (2007) who argued that creating a learning organization leads the high-tech companies to succeed. He explored the learning process in some companies and one of them is Chaparral Steel again, he discussed that the company strongly concerns with knowledge management and has a managerial system that enables and rewards learning in addition to the huge investment in an unusual formal education program for everyone in the plant. (Couillard, 2007). Similar to the previous literature of Garvin (1994) the writer didn't refer to the entire learning process, the adopted learning model or the way of assessing the learning process in this company.

One more important study by (Samuel, 2009) refers to three important steel companies that adopt a strong learning and knowledge management systems, the first company is Arcelor Mittal Steel, the London based world's number one steel maker, that has established a number of tools for sharing knowledge throughout their business units in Europe, CIS countries, Africa and North/Central America. One of this tools is the directorships policy, which obliges the General Manager of each operating business unit to take a seat on the of at least one other unit's board. This allows Arcelor Mittal's Steel plants to adopt best practices from across the different plants. Managing Directors of every operating business unit also have a phone conference lasting for about two hours while executives report issues that in company language `keeps them awake at night'. In such tele-conferences, the Managing Director in a certain country mentions problems he experiences whereas

managers in in another counties' plants also have similar problems in their plant and this process ends up with collaborating on trouble shooting and having the expertise to perform solutions. (Samuel, 2009). The second discussed company is Tata Steel; the global steel giant that is designated as the pioneer in learning and knowledge management in the Indian steel industry. Tata Steel boarded on KM in 1999 to systematically transfer and share best practices, learning principals, and knowledge elicitation projects (Arora, 2001). The KM system of Tata Steel experienced lots of enhancements and modifications and went through many learning stages to reach its current state. Eventually, Tata's Knowledge Management has been acknowledged as one of the main reasons that make Tata Steel independent in technology and be a truly global player (Samuel, 2009).

The third presented company is the Indian company Vizag Steel, which has a strategic objective to become the lowest cost steel maker in the world. The company believes that this goal can be reached through the operational excellence alongside with a strong learning strategy. The company thus developed a platform to the staffs to team up and participate by each other's experiences to achieve business intelligence and excellence. The main learning processes are; daily operation debriefing, sharing new lessons learnt, cross-functional teamwork and projects, quality improvement projects, cross-departmental knowledge sharing and follow-up actions for continuous improvement. In addition, they determined the domains of knowledge management as: procedures, practices, learning, root causes, planning & scheduling, success stories, systems improvement and resulted savings. Moreover, the company provided a learning and knowledge management portal called 'GNANA'; it is a web based KM platform and evaluation system, the knowledge piece named K-Chip, that is being submitted by an employee, is directly sent via the system to knowledge expert titled 'K-Veteran' to evaluate its quality, after that, if the K-Veteran agrees, it gets added to the database as K-Asset and if it is not approved it would have turned as I-Piece. An option is given then to the K-Author to edit the I-Piece and resubmit, the K-Veteran provides the score of a 10-point scale based on a policy whether the knowledge is implicit or explicit. To reward and acknowledge the quality contributors to GNANA, a reward scheme called "Gnana Puraskar Yojana" was launched in 2005. Moreover, Community of Practice, groups of people share an interest of something that they know how to do and get in contact on a regular basis to learn how to do it better. These groups are known as "K-Groups" (Knowledge Groups), they gather through a direct interaction, conversations and communication which helps the organization to create business value through sharing experiences, learning from failures, process improvement and develop group knowledge in addition to establishing a network of knowledge and people. (Samuel, 2009).

This presented study of (Samuel et al, 2009) digs deeper into the dimension of learning in the steel companies and addresses in detail the learning processes in a practical approach. however, the researcher couldn't reach studies that apply the theoretical framework and models of learning organization and organizational learning in the steel industry including assessing the level of adopting the learning organization dimensions using any of the considerable and available instruments.

On the other hand, a number of researchers made use of the DLOQ instrument in some sectors and industries; it has been applied to manufacturing companies; Darryl Dymock and Carmel McCarthy explored the employees' perceptions of learning organization culture at a medium-sized manufacturing company that seek to become a learning organization. The researcher set an interview with the company's Organizational Development Manager and performed the DLOQ on stratified sample of 20 employees in addition to semi-structured interviews with a number of managers. Findings of this study are that the company uses learning to develop its competitive advantage and employees. On the other hand, a mismatching was detected between the company's goals and the aspirations of a number of the staff, however the majority appeared to accept the learning policy as good for them and for the company. (McCarthy, 2006)

In addition, the DLOQ has been applied to a companies in a developing country in the Middle East; A study by Dima Jamali, Yusuf Sidani and Charbel Zouein (2009) have capitalized the DLOQ that was therefore applied in two sectors of the Lebanese economy; banking and IT. DLOQ was accordingly applied to a sample of six organizations from each sector with a total sample of 227 employees and managers to assess the progress towards the adoption of the dimensions of learning organization in a context of a developing country. The findings recommend the incorporation of learning organization best practices in the two sectors with reasonable progress in the IT sector in particular. The strengths of the two sectors appeared to lie in the dimension of strategic leadership while the weaknesses lay in the dimension of people empowerment and systems creation. (Dima Jamali, 2009)

One more study from the Middle East is developed by Farid M. Qawasmeh and Ziad S. Al-Omari that aimed to measure the impact of learning organization's dimensions on organizational performance in Jordan Telecom in addition to figuring out correlation among these dimensions as well as assessing the validity and reliability in the Arab context. The sample of the study was (312) employees. The main results are that the situation of the learning organization dimensions is (3.44) out of 5 on 5-step Likert scale, in addition, a positive correlation is proved among the seven dimensions and a positive statistical correlation with the organizational performance. The results also showed a possibility to apply the DLOQ in the Arab context.

2.4. CASE STUDY ORGANIZATION: EZZSTEEL

The focus of this research is to measure the learning organization dimensions within Ezzsteel. It is an Egyptian joint stock company established in 1994, the company is registered in Egypt stock exchange and London stock exchange with more than 20,000 shareholders. It is the largest steel producer in MENA region (According to Metal Bulletin Report, 2015) with a production capacity of 6.8 million tons per year and a market share of 47% in 2016. The company exported 545,000 tons in 2016 to countries in Africa, Asia, Europe and Gulf area.

Moreover, the company is the second Direct Reduced Iron (DRI) producer worldwide with production capacity of 5.1 million tons per year. Moreover, the company is listed among the top 37 steel companies in the world according to World Steel Dynamics report (dated June 2016). The company therefore has fully integrated production operations.

Furthermore, the company has a workforce of 8,000 employees located in five business units (Ezzsteel plant at Sadat city, Ezz Flat Steel Plant at Suez city, Direct Reduced Iron Plant at Suez City, Ezz Rollin Mill plant at 10th of Ramadan City and Ezz-Dkhaila at Alexandria).

The company produces a diversified set of steel products; rebar, wire rod, hot rolled coils with a wide-range thicknesses and specifications.

On the other hand, the company under study is experiencing critical challenges due to energy issues, dumbing-based Chinese competition, the complete reliance on the imported iron ore that makes the company always exposed to the FX risk in addition to economic and political instability.

The company under study believes in learning as a way of development and continuous improvement. A huge investment in learning is therefore takes place; a huge number of employees is enrolled in different training programs and a number of training and learning initiatives take place. However, no attempts are made to assess these efforts to provide a practical view about where the company stands and where it wants to reach on its journey of becoming a learning organization.

The researcher believes, based on the literature review that is discussed earlier in this chapter, that becoming a learning organization is the most substantial strategy that can help the organization under study deal with the current and potential challenges and also believes that the main competitive advantage in the 21st century is obtaining and applying knowledge rather than acquiring assets and natural resources.

As discussed earlier in this chapter, none of the learning organization models was applied to a steel company, the researcher is therefore attempting to knock this door through this study.

CHAPTER 3: THEORETICAL FRAMEWORK AND RESEARCH DESIGN

3.1 INTRODUCTION

In chapter 2, the concept of learning organization and its measuring instruments are defined along with the different models and frameworks of learning organization. In addition, best practices and a brief about the case study organization are introduced

In this chapter, the researcher attempts to articulate the theoretical framework and design for this case study research through presenting the problem statement, research objective, research type, assumptions, limitations, questions, data collection methods and phases, sampling and data analysis methods.

3.2 PROBLEM STATEMENT

Although the company under study invests hugely in learning-related projects and developmental activities, no assessment for these projects and activities has taken place in a way or another to understand to which extent the company is successful in adopting the dimensions of learning organization and if it can be considered as an organization on its right way to becoming a 'learning organization' or not. Lack of such assessment makes it infeasible to continue investing in such projects and activities as long as a possibility of not properly adopting the dimensions of learning organization exists, as it might be better to redirect the efforts and investment to other domains that achieve higher value and return on investment in learning and development, employing the existing strengths and possible opportunities and addressing the existing and possible challenges.

3.3 RESEARCH OBJECTIVE

Through assessing the extent to which the company is adopting the dimensions of learning organization, this case study research aims to help the company understand where it stands in its path to become a learning organization and where it should proceed. Attempting to achieve this objective, the researcher employs different sources of data to assess, in detail, the level of adoption of each dimension and the extent to which this level of adoption is consistent among the different business units and among the different job levels to introduce an integrated analysis, findings and course of recommended actions.

3.4 THEORETICAL FRAMEWORK

3.4.1 Research Type: An Overview

This embedded single-case study (Yin, 2014) is considered as a descriptive research (Yin, 2014) aiming to assess the extent to which the company under study is adopting the dimensions of learning organization. This research uses multiple sources of evidence (Yin, 2014) through a mix of qualitative and quantitative evidences. A pattern matching approach (Yin, 2014) is employed to understand the qualitative data. On the other hand, descriptive and inferential statistical analysis techniques are applied to interpret the collected questionnaire-based survey.

3.4.2 Assumptions

- The company under study is an example of a typical steel, heavy industry, manufacturing company and the findings can be 'theoretically generalized' (Yin, 2014) to other similar companies in Egypt.
- All participants have answered the interview and questionnaire to the best of their knowledge.
- The seven dimensions' model of Watkins and Marsick's, including the DLOQ measuring instrument and normative scores, is holistic, profound and tested (Moilanen, 2005).

3.4.3 Limitations

- The most common limitation related to the case-study research is the method of choosing the cases in addition to the way research results can, or cannot, be generalized (Yin, 2014). Case studies therefore seek for 'theoretical generalization' rather than 'statistical generalization' (Yin, 2014)
- One of the potential limitations is that the scope of the study and data collection are limited to the company under study.
- Another potential limitation of this research is the fact that the researcher is an employee in a learning-related position in the organization under study which results in some concerns. Nevertheless, this limitation can be overcome by a high quality of research design, application, consistency of collected data, processing and analysis in addition to employing a quantitative source of data using questionnaire-based survey on a stratified sample. Moreover, being an insider-researcher can also involve some advantages, such as the knowledge and experience about how the organization really is, and what can potentially be areas of improvement.
- The data of the survey is based on respondents' perception that might entail possible bias.

3.5 RESEARCH QUESTIONS

3.5.1 Major Research Questions

(MJRQ-1) How successful has the organization under study been in adopting the concept and dimensions of the learning organization?

3.5.2 Minor Research Questions

Minor research questions are as follow:

(MRQ-1) To what extent does the company create continuous learning opportunities?

(MRQ-2) To what extent does the company promote inquiry and dialogue?

(MRQ-3) To what extent does the company encourage collaboration and team learning?

(MRQ-4) To what extent does the company create systems to capture and share learning?

(MRQ-5) To what extent does the company empower people towards a collective vision?

(MRQ-6) To what extent does the company connect the organization to its environment?

(MRQ-7) To what extent does the company provide a strategic leadership model supports learning practices?

(MRQ-8) To what extent are the learning organization dimensions equally perceived among the different business units?

(MRQ-9) To what extent are the learning organization dimensions equally perceived among the different job levels?

3.6 RESEARCH METHODOLOGY

3.6.1 Case Study Research Design

The chosen research design is a descriptive three-phase, embedded single-case study (Yin, 2014), starting with a preliminary semi-structured interviews with a selected group of senior managers to create baseline information about the organization under study, followed by quantitative-dominated phase using a survey questionnaire to investigate whether the organization under study is rightly an organization on a journey of becoming a learning organization, and finally closed by a qualitative phase using post-survey semi-structured interviews to interpret the results of the survey to answer the research questions.

Case study data collection phases are showed in Table 3.1 below.

Table 3.1: Case Study Data Collection Phases

Case Study	Phase 1	Preliminary Semi-structured interviews
	Phase 2	Survey
	Phase 3	Post-survey Semi-structured interviews

Case study design differentiate between four types; single-case and multiple-case designs, and holistic and embedded types for each design (Yin, 2014)

Yin introduces reasons for choosing single-case studies could be if the case represents a critical case in testing a well formulated theory, represents an extreme case of a unique circumstance, representative of experience of a large institution or previously inaccessible to scientific community. (Yin, 2014),

This design is therefore chosen due to the experience of a large company which leads the steel market in Egypt. Moreover, it is the first time to be accessed in terms of scientific assessment related to its learning strategies.

Having selected the single-case study design, the next step is to decide whether the research would involve more than one unit of analysis. Although the case study is about a single company but the company consists of more than business unit. In addition, to accurately assess the extent to which the company adopts the learning organization dimensions, the analysis should include outcomes about different levels of employees located in different business units of the organization. Therefore, as per Yin (Yin, 2014) classification, a descriptive three-phase 'embedded' single-case study research is chosen for the company under study. Design parameters tests are as follow (Yin, 2014):

- The construct validity: researcher uses multiple sources of evidence (survey and two-phase in-depth semi-structured interviews). In addition, the construct validity of the measuring instrument is deliberately proven (Yang, 1998; Yang, 2004)
- The internal validity: pattern matching technique is employed in this research for the qualitative analysis while the internal validity for the questionnaire is presented earlier in chapter 2.
- The external validity: the learning organization theory and its measuring instrument of Watkins and Marsick (2003), which are proved, as explained in the literature review, as valid, holistic, profound and tested theory and instruments, is applied to this single case study.
- The reliability: While case study protocol is used for the reliability of the case study, an additional reliability test for the items of the questionnaire data using Cronbach's alpha test is conducted.

3.6.2 Instrument and Data Collection Method

Yin argues that a case study evidence should be gathered from multiple sources, to enhance the construct validity and reliability of the case study research. This research took advantage of two main sources of evidence as well, semi-structured interviews and survey (Yin, 2014).

Case study research is not only a form of qualitative research although some researchers have considered the case study as a qualitative research choice (Yin, 2014). Yin has referred to the importance of using a mix of quantitative and qualitative evidence and even be limited to, quantitative evidence including the use of surveys within the case study (Yin, 2014). In addition, Surveys can be used for descriptive, explanatory and exploratory purposes. (Babbie, 2011).

This study uses multiple sources of evidence; Survey and interviews in 'a triangulation of data sources' type (Patton, 2002) where interviews take place at the beginning, followed by the survey and finally closed by post-survey interviews.

As per Yin, the research target audience in a case study are called 'participants' (Yin, 2014) and therefore it will be used in this research to refer to the interviewees of the preliminary and post-survey interviews and the correspondents of the survey.

3.6.2.1 Preliminary Interviews

For the qualitative phase of the research, the interviews followed a semi-structured form (Yin, 2014) using open ended questions allowing the participants to talk about their perceptions about the seven dimensions of Watkins and Marsick's model but with more emphasis on the 'Why' part which can be employed in answering the research questions. Interviews participants are selected based on their involvement in designing, enforcing, managing and controlling the learning process within the organization. Schedule of preliminary interviews is presented in table 3.2 below.

Table 3.2: Schedule of Preliminary Interviews

Interview	Date	Position	Location
Interview 1	2 October 16	Human Resources Director	Corporate HQ
Interview 2	4 October 16	Organizational Development Director	Corporate HQ
Interview 3	3 October 16	Learning and Development Manager	Corporate HQ
Interview 4	2 October 16	HR Management System Senior Manager	Corporate HQ
Interview 5	3 October 16	Technical Consultancy Senior Managers	Corporate HQ
Interview 6	12 October 16	Technical Division Senior Manager	Sadat Plant
Interview 7	4 October 16	Training Manager	Suez Plant

As the first phase of data collection, preliminary semi-structured interviews are conducted with a selected group of senior managers to understand the perceptions of the main concerned senior managers about their strategy of adopting the learning organization concept and dimensions.
Another objective for those interviews is to create baseline information about the organization under study helps us understanding the possible variations between the perception of selected managers and the employees' perception regarding the implementation of learning organization dimensions.
A case study and interviewing protocol has been prepared, containing both the instruments as well as the procedures to be followed in conducting the case study. It also contained a set of questions to be addressed while collecting data during individual interviews (Yin, 2014).
The researcher ensures a certain level of consistency and structure throughout the interviews but still leaves enough space for open-ended questions to elicit the important information from participants.
The structure of the preliminary interviews is presented in Table 3.3 below

Table 3.3: The Structure of the Preliminary Interviews

Dimension	**Preliminary interviews Question 1**	**Preliminary interviews Question 2**
1- Create continuous learning opportunities	Do you think that the organization Create continuous learning opportunities? If 'yes', go to question 2, if 'No' explain why?	1- What are the actions done by the organization to ensure that people help each other learn?
		2- What are the actions bone by the organization to ensure that people are given time to support learning?
		3- What are the actions done by the organization to ensure that people are rewarded for learning?
2- Promote inquiry and dialogue	Do you think that the organization Promote inquiry and Dialogue? If 'yes', go to question 2, if 'No' explain why?	4- What are the actions done by the organization to ensure that people give open and honest feedback to each other?
		5- What are the actions done by the organization to ensure that whenever people state their view, they also ask what others think?

Dimension	Preliminary interviews Question 1	Preliminary interviews Question 2
		6- What are the actions done by the organization to ensure that people spend time building trust with each other?
3- Encourage collaboration and team learning	Do you think that the organization Encourage collaboration and team learning? If 'yes', go to question 2, if 'No' explain why?	7- What are the actions done by the organization to ensure that teams/ groups have the freedom to adapt their goals as needed?
		8- What are the actions done by the organization to ensure that teams/ groups revise their thinking as a result of group discussions or information collected?
		9- What are the actions done by the organization to ensure that teams/ groups are confident that the organization will act on their recommendations?
4- Create systems to capture and share learning	Do you think that the organization Create systems to capture and share learning? If 'yes', go to question 2, if 'No' explain why?	10- What are the actions done by the organization to create systems to measure gaps between current and expected performance?
		11-What are the actions done by the organization to make its lessons learned available to all employees?
		12- What are the actions done by the organization to measures the results of the time and resources spent on training?
5- Empower people toward a collective vision	Do you think that the organization Empower people toward a collective vision? If 'yes', go to question 2, if 'No' explain why?	13- What are the actions done by the organization to recognize people for taking initiative?
		14- What are the actions done by the organization to give people control over the resources they need to accomplish their work?
		15- What are the actions done by the organization to support employees who take calculated risks?

Dimension	Preliminary interviews Question 1	Preliminary interviews Question 2
6- Connect the organization to its environment	Do you think that the organization Connect the organization to its environment? If 'yes', go to question 2, if 'No' explain why?	16- What are the actions done by the organization to encourage people to think from a global perspective?
		17- What are the actions done by the organization to ensure that it works together with the outside community to meet mutual needs?
		18- What are the actions done by the organization to encourage people to get answers from across the organization when solving problems?
7- Provide strategic leadership for learning	Do you think that the organization Provide strategic leadership for learning? If 'yes', go to question 2, if 'No' explain why?	19- What are the actions done by the organization to ensure that leaders mentor and coach those they lead?
		20- What are the actions done by the organization to ensure that leaders continually look for opportunities to learn?
		21- What are the actions done by the organization to ensure that leaders ensure that the organization's actions are consistent with its values?

3.6.2.2 Questionnaire-based Survey

The employed instrument for the survey is the 'Dimensions of the Learning Organization Questionnaire' (DLOQ) developed by Watkins and Marsick (Watkins, 1997; Marsick, 2003) it is used to assess the organization's progress towards the learning organization model.

The DLOQ is validated in a number of settings for the use within business contexts (Ellinger, 2003; Topluca, 2014) and across number of countries (Dima Jamali, 2009; Målqvist, 2015; Al-Omari, 2013). DLOQ is Considered as one of the most comprehensive questionnaires (Moilanen, 2005). It fulfills the three criteria of validity, depth and comprehensiveness and also assimilates essential elements of the learning organization (Yang, 2004).

There are two versions of the DLOQ, the first is the full version with 43 questions which is useful as an analytic tool for experts who want a comprehensive assessment of the learning culture to make decisions on where to interfere. The second version is a shortened form contains 21 questions of the original 43. However, the shorter one still possesses construct validity and reliability and better suited for researchers who want to employ the DLOQ as a research instrument. There are three measurement questions for each of the model's seven dimensions. (Målqvist, 2015; Yang, 2003)
The seven dimensions' definitions and their relevant questions are presented in table 3.4 below

Table 3.4: DLOQ Definitions and Statements

Dimension	Definition	Questionnaire Statement
1- Create continuous learning opportunities	Learning is designed into work so that people can learn on the job; opportunities are provided for on-going education and growth.	1- In my organization, people help each other learn.
		2- In my organization, people are given time to support learning.
		3- In my organization, people are rewarded for learning.
2- Promote inquiry and dialogue	People gain productive reasoning skills to express their views and the capacity to listen and inquire into the views of others; the culture is changed to support questioning, feedback, and experimentation.	4- In my organization, people give open and honest feedback to each other.
		5- In my organization, whenever people state their view, they also ask what others think.
		6- In my organization, people spend time building trust with each other.
3- Encourage collaboration and team learning	Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded.	7- In my organization, teams/ groups have the freedom to adapt their goals as needed.
		8- In my organization, teams/ groups revise their thinking as a result of group discussions or information collected.
		9- In my organization, teams/ groups are confident that the organization will act on their recommendations.

Dimension	Definition	Questionnaire Statement
4- Create systems to capture and share learning	Both high- and low-technology systems to share learning are created and integrated with work; access is provided; systems are maintained.	10- My organization creates systems to measure gaps between current and expected performance.
		11- My organization makes its lessons learned available to all employees.
		12- My organization measures the results of the time and resources spent on training.
5- Empower people toward a collective vision	People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision making to that people are motivated to learn toward what they are held accountable to do.	13- My organization recognizes people for taking initiative.
		14- My organization gives people control over the resources they need to accomplish their work.
		15- My organization supports employees who take calculated risks.
6- Connect the organization to its environment	People are helped to see the effect of their work on the entire enterprise; people scan the environment and use information to adjust work practices; the organization is linked to its communities.	16- My organization encourages people to think from a global perspective.
		17- My organization works together with the outside community to meet mutual needs.
		18- My organization encourages people to get answers from across the organization when solving problems
7- Provide strategic leadership for learning	Leaders model, champion, and support learning; leadership uses learning strategically for business results.	19- In my organization, leaders mentor and coach those they lead.
		20- In my organization, leaders continually look for opportunities to learn.
		21- In my organization, leaders ensure that the organization's actions are consistent with its values.

Source: (Marsick, 2003, p. 139)

For this study, the shorter version of the Watkins and Marsick's DLOQ with 21 questions is considered most appropriate because of its properties as a holistic, profound and tested measuring tool as well as its ease of completion.

The survey has been introduced in a bilingual format English/ Arabic to suit the different education levels (the English is the original form of the questionnaire developed by Watkins and Marsick (2003) and the Arabic translation has been developed by use of an academically validated Arabic version from an Arabic published research (Al-Omari, 2013).

Questionnaire has been delivered in both computerized and hard-copy format to reach the maximum target number of participants. A blank copy of the DLOQ used in this study is attached (Appendix A) On the other hand, to get permission to use this instrument, the researcher contacted Watkins and Marsick directly via email. Clear permission to use the questionnaire was gained.

To benchmark the results; Karen Watkins sent the researcher the latest norms of the 'Dimensions of the Learning Organization Questionnaire - DLOQ' (Watkins, 2013) that are used as benchmark against which the results of the questionnaire are compared to provide an opportunity to interpret the results of the seven dimensions of the learning organization to assess whether the organization is indeed an organization on its way to become a learning organization. This Benchmarks are developed by the authors of the model and represent are the weighted average of 70 selected researches applied the DLOQ to different types of companies in different countries, industries and to different job levels.

3.6.2.3 Post-Survey Interviews

The third data collection phase is a qualitative phase using post-survey semi-structured interviews, with the same selected managers for the preliminary interviews, aims to interpret and validate the results of the survey to get rich qualitative data to answer the research questions by getting the views of the selected managers regarding the results of the survey and to which extent the results match with the their perception and why the variation exists, if any, and how to overcome the potential obstacles to reach the desired level of adopting the learning organization concept and dimensions.

Interviews schedule is presented in table 3.5 below. The structure of the interview is presented in table 3.6 Below.

Table 3.5: Schedule of Post-Survey Interviews

Interview	Date	Position	Location
Interview 1	4 December 16	Human Resources Director	Corporate Office
Interview 2	5 December 16	Organizational Development Director	Corporate Office
Interview 3	5 December 16	Learning and Development Manager	Corporate Office
Interview 4	6 December 16	HR Management System Senior Manager	Corporate Office
Interview 5	6 December 16	Technical Consultancy Senior Managers	Corporate Office
Interview 6	7 December 16	Technical Division Senior Manager	Sadat Plant
Interview 7	8 December 16	Training Manager	Suez Plant

Table 3.6: Structure of Post-Survey Interviews

Findings	**Post-survey interviews Questions Section 1**	**Post-survey Interviews Questions Section 2**
1-	How do you perceive this finding (agree/ disagree)? If agree, go to question 2 If disagree explain why	• Why do you think this finding has been revealed?
		• In your opinion, how to overcome the current and potential challenges can be resulted from this finding?
		• In your opinion, how to move forward a higher level of adoption of the relevant dimension?

3.6.3 Sampling Methods

For the survey, participants are chosen based on a stratified regular random sampling approach with a target sample of 428 participants from across the entire organization.

This case study uses a stratified regular random sample size of 428 from a population size of 3303 employees distributed by two strata, first stratum is plants (ES, ERM, EFS, DRI, and Corporate HQ), Ezz-Dekhaila is excluded due to its different culture and learning system and second stratum is job level (Assistant - Deputy manager or manager, Specialist – Supervisor or Engineer, Foreman – Technician). The sample represents a confidence interval 95% and Margin of error 4%.

The formula which is used to calculate this sample size is:

$$n = \frac{\frac{z^2 * p * (1-p)}{e^2}}{1 + (\frac{z^2 * p * (1-\mathrm{p})}{e^2 N})}$$

Where:

n = Sample Size

z = z value (1.96 for 95% confidence level)

p = Percentage picking a choice, (0.75 used for sample size needed)

e = Margin of error, (0.04 used for sample size)

N = Population size, this case study has a population of 3303 employees selected from Ezzsteel company. Some job levels are excluded from the population due to the irrelevance their low educational level and the relative difficulty to understand the context of the questionnaire, these levels are the helpers and the administrative workers

On the other hand, for the interviews, the interviewees sampling criteria are based on 'Subjective Judgement' (Yin, 2014) based on their direct relevance to the theme. The sample is limited to 7 senior managers whereby the learning process is being planned, managed and controlled

3.6.4 Data Analysis Methods

Simpler 'pattern matching' is used as a data analysis strategy (Yin, 2014) for qualitative data derived from the preliminary and post-survey interviews. For the survey, the collected quantitative data is subjected to descriptive and inferential analysis using SPSS (version 17.0).

Due to the relatively small sample (less than 2000), a normality test is conducted using "Shapiro-Wilks" test. Alpha level is set to 0.05, which resulted a rejection of the null hypothesis for all the statements in addition to all the dimensions.

Non-parametric tests were therefore performed for the further data analysis. The "Kruskal-Wallis" test is performed to test for significant differences among the various groups of plant as well as the job levels. Mann-Whitney tests are performed to compare groups that proved significant differences during the Kruskal-Wallis test.

3.6.5 Confidentiality and Anonymity

A formal unconditional approval from the case-study organization's top management to conduct the research and collecting the required data using the name of the company while the whole research is introduced to the company to benefit from in planning and improving the learning processes.

CHAPTER 4: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

The aim of this chapter is to address and discuss the case-study research data analysis and findings considering the results of the research's three phases; preliminary interviews, survey and post-survey interviews in light of the literature review presented in chapter 2

4.2 RESULTS FOR PHASE 1: PRELIMINARY INTERVIEWS

As outlined in chapter three, qualitative data was collected through in-depth semi-structured interviews. The aim of this phase is to understand to which extent the concept of learning organization is initially adopted and some progress is achieved towards adopting the dimensions of the learning organization dimensions. Participants were asked to state their views about the seven dimensions of the questionnaire by explaining to which extent do they think each dimension is implemented and why do they think it is implemented or not.

Seven out of the seven participants have a general consensus that the company is adopting the dimensions of learning organization. However, the revealed evidence on that the company is adopting the dimensions of learning organization, are varied as presented in table 4.1

Table 4.1: Preliminary Interviews Analysis

Item	Components	References
Evidence reveal that the company adopts the learning organization dimensions		7
	Corporate Learning initiatives	5
	Continuous improvement process	4
	Organizational Manuals	4
	Cooperation agreements	2
	Applying technologies and expertise	5
	Ezz Academy	2
	Cross-plants exposure	1
	Company's social activities	4
	Technical committees	4

It can be noticed that five out of the seven participants consider corporate learning and development initiatives as one of the most important evidence of being a learning organization; corporate learning and development initiatives include training programs, awareness, overseas exposure, cooperation agreements with learning entities and provided educational facilities. This evidence is mainly related to the first dimension (Create continuous learning opportunities). However, the answers in this topic focus mainly on the formal training courses and programs. This direction touches the individual level of learning according to the model of Watkins and Marsick (2003) (See section 2.2.2.3)

Moreover, five out of the seven participants see that the company is always looking for acquiring and applying the latest technologies. Seeing so, the participants support their views by some proofs such as the continuous upgrading of the production equipment and systems, the continuous research and development in the areas of production methods, safety and cost reduction, the cooperation with the most reputable steel institutions in the world and the continual dispatching of the company's staff to different steel companies worldwide for training and acquiring the latest best practices and updates in the steel industry. This evidence is mainly related to the seventh dimension (Provide strategic leadership for learning) and the sixth dimension (Connect the organization to its environment) and can be categorized under the environmental learning level of Watkins and Marsick' model (2003).

Furthermore, four out of the seven participants referred to the company's social activities; they think that the company contributes to the development of society to meet mutual needs through many activities such as the summer internships programs for the universities' students (e.g. more than 500 students were enrolled in 2016 internship program), providing a transportation to and from the university in the cities nearby the Sadat plant and contributing to the construction of roads around the plants. This evidence is mainly related to sixth dimension (Connect the organization to its environment) and can be categorized under the environmental learning level according to the model of Watkins and Marsick (2003).

Another evidence is seen by four out of the seven participants who refer to the "organizational manual" project as one of the most important implemented projects in the organization; this project is basically a knowledge elicitation project aims at extracting the knowledge from the mental models of the technical expertise to be documented in a Standardized Operating Procedures (SOPs) form. This evidence is mainly related to the fourth dimension (Create systems to capture and share learning) and can be categorized under the structural learning level according to the model of Watkins and Marsick (2003).

In addition, four out of the seven participants mentioned the evidence of 'continuous improvement process' which refers to the process of getting the suggestions and feedback from staff, studying them carefully and implementing the most appropriate of them. This evidence is mainly related to the third and fifth dimension (Encourage collaboration and team learning) and (Empower people toward a collective vision) consequently and can be categorized under the group learning level according to the model of Watkins and Marsick (2003).

Furthermore, four out of the seven participants think that the mechanism of the technical committees' workshops that being held on regular basis where people state their views in different raising issues and have brainstorming discussions and revise their thoughts accordingly. This evidence is mainly related to the second and third dimensions (Promote inquiry and dialogue) and (Encourage collaboration and team learning) consequently and can be categorized under the group learning level according to the model of Watkins and Marsick (2003).

On the other hand, participants think that some items of the dimensions are not widely implemented whether because it is partially implemented (systems to measure the gap between actual and desired performance; which is partially implemented in some technical departments), still in the planning phase (measuring learning effectiveness) or under study (financial rewarding for learning).

The conclusion is that the participants in the preliminary interviews see their organization as a learning organization; they provided a set of evidence to prove their claim as presented. However, it can be noticed that the answers didn't refer an evidence related to the organizational level of learning according to the model of Watkins and Marsick (2003).
A survey is conducted therefore to understand the employees' perceptions regarding the dimensions of learning organization. The next section discusses the results of this survey.

4.3 RESULTS FOR PHASE 2: DIMENSIONS OF THE LEARNING ORGANIZATION QUESTIONNAIRE – DLOQ

4.3.1 Descriptive Analysis

4.3.1.1 Descriptive Analysis for The Questionnaire's Statements

Using a stratified regular random sample represents five business units and three grouped job levels, out of the 428 forms distributed, 407 forms were collected, with a response rate of 95%.

Out of the respondents, 34% (136) are from Sadat Plant (ES), 34% (140) are from Suez plant, 15% (61) are from 10th of Ramadan plant (ERM), 6% (26) are from Direct Reduction plant (DRP) and 11% (44) are from corporate HQ as presented in Figure 4.1.

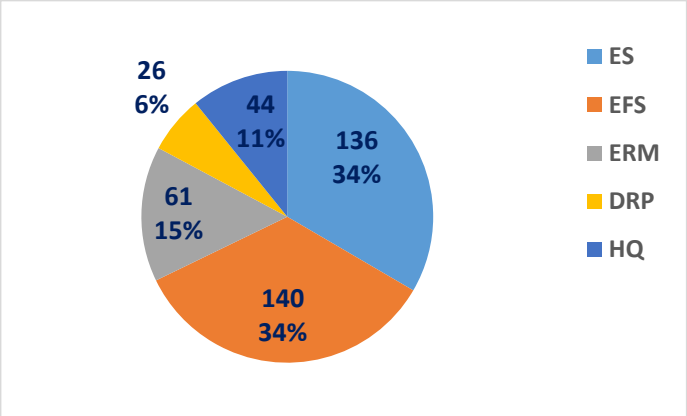

Figure 4.1: Respondents Distribution by Business Unit

On the other hand, out of the respondents, 67% (272) are foremen and technicians, 23% (93) are Engineers and specialists and 8% (35) are managers, while 2% (7) of the respondents have failed to answer the question regarding job level as presented in Figure 4.2.

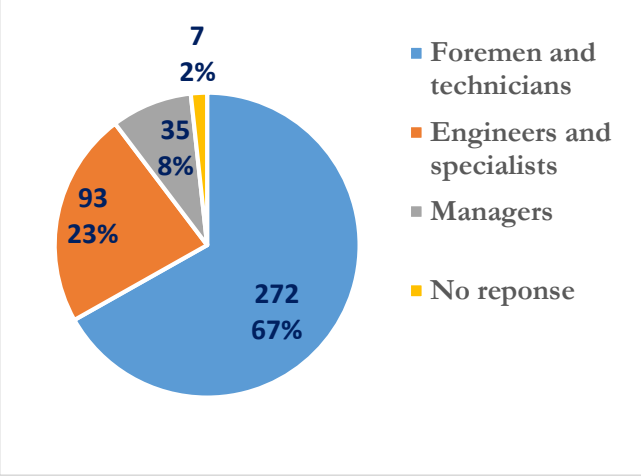

Figure 4.2: Respondents Distribution by Job Level

The descriptive analysis for the statements and the dimensions are showed in Table 4.2. The means of Q1 to Q21 ranges between 2.94 on Q3 (In my organization, people are rewarded for learning) to 3.87 on Q19 (In my organization, leaders mentor and coach those they lead.), the mean standard deviation for all the statements is 0.71.

Table 4.2: Descriptive statistics as per statement

Statements	N	Mean	Min	Max	Median	Range	SD	Normality P Value
Dimension 1. Create continuous learning opportunities								
1- In my organization, people help each other learn.	407	3.43	1.00	5.00	4.00	4.00	1.20	0.000
2- In my organization, people are given time to support learning.	407	3.72	1.00	5.00	4.00	4.00	1.04	0.000
3- In my organization, people are rewarded for learning.	407	2.94	1.00	5.00	3.00	4.00	1.24	0.000
Dimension 2. Promote inquiry and dialogue								
4- In my organization, people give open and honest feedback to each other.	407	3.85	1.00	5.00	4.00	4.00	.93	0.000
5- In my organization, whenever people state their view, they also ask what others think.	407	3.69	1.00	5.00	4.00	4.00	.93	0.000
6- In my organization, people spend time building trust with each other.	407	3.77	1.00	5.00	4.00	4.00	.93	0.000
Dimension 3. Encourage collaboration and team learning								
7- In my organization, teams/ groups have the freedom to adapt their goals as needed.	407	3.58	1.00	5.00	4.00	4.00	1.02	0.000

Statements	N	Mean	Min	Max	Median	Range	SD	Normality P Value
8- In my organization, teams/ groups revise their thinking as a result of group discussions or information collected.	407	3.68	1.00	5.00	4.00	4.00	.93	0.000
9- In my organization, teams/ groups are confident that the organization will act on their recommendations.	407	3.22	1.00	5.00	3.00	4.00	1.10	0.000
Dimension 4. Create systems to capture and share learning								
10- My organization creates systems to measure gaps between current and expected performance.	407	3.18	1.00	5.00	3.00	4.00	1.13	0.000
11- My organization makes its lessons learned available to all employees.	407	3.80	1.00	5.00	4.00	4.00	1.02	0.000
12- My organization measures the results of the time and resources spent on training.	407	3.62	1.00	5.00	4.00	4.00	1.01	0.000
Dimension 5. Empower people toward a collective vision								
13- My organization recognizes people for taking initiative.	407	3.60	1.00	5.00	4.00	4.00	1.03	0.000
14- My organization gives people control over the resources they need to accomplish their work.	407	3.86	1.00	5.00	4.00	4.00	.95	0.000
15- My organization supports employees who take calculated risks.	407	3.17	1.00	5.00	3.00	4.00	1.07	0.000
Dimension 6. Connect the organization to its environment								
16- My organization encourages people to think from a global perspective.	407	3.44	1.00	5.00	4.00	4.00	1.09	0.000

Statements	N	Mean	Min	Max	Median	Range	SD	Normality P Value
17- My organization works together with the outside community to meet mutual needs.	407	3.75	1.00	5.00	4.00	4.00	.97	0.000
18- My organization encourages people to get answers from across the organization when solving problems	407	3.50	1.00	5.00	4.00	4.00	1.05	0.000
Dimension 7. Provide strategic leadership for learning								
19- In my organization, leaders mentor and coach those they lead.	407	3.87	1.00	5.00	4.00	4.00	1.03	0.000
20- In my organization, leaders continually look for opportunities to learn.	407	3.76	1.00	5.00	4.00	4.00	1.03	0.000
21- In my organization, leaders ensure that the organization's actions are consistent with its values.	407	3.42	1.00	5.00	4.00	4.00	1.20	0.000
ALL	407	3.56	1.38	5.00	3.62	3.62	0.71	0.001

P > 0.05, normally distributed data; P <0.05, non-normally distributed data.

4.3.1.2 Descriptive Analysis for DLOQ's per Dimensions (Benchmarking the Results)

Using the latest norms of the 'Dimensions of the Learning Organization Questionnaire to benchmark the results of the organization under study as presented in Figure 4.3 and table 4.3, it can be noticed that the company under study scored slightly above the benchmark in six out of the seven dimensions of the learning organization (dimensions from 2 to 6), and slightly below the benchmark in dimension 1. The outcomes consequently show a generally positive perception of participants of the questionnaire with respect to the adoption of the learning organization dimensions.

Table 4.3: Descriptive Statistics as per Dimension

Dimension	Total N	Benchmark	Mean	Minimum	Maximum	Median	Range	SD	Normality P Value
1- Create continuous learning opportunities	407	3.49	3.36	1.00	5.00	3.33	4.00	.95	0.000
2- Promote inquiry and dialogue	407	3.43	3.77	1.00	5.00	4.00	4.00	.77	0.000
3- Encourage collaboration and team learning	407	3.40	3.50	1.00	5.00	3.67	4.00	.83	0.000
4- Create systems to capture and share learning	407	3.10	3.53	1.00	5.00	3.67	4.00	.87	0.000
5- Empower people toward a collective vision	407	3.33	3.53	1.00	5.00	3.67	4.00	.80	0.000
6- Connect the organization to its environment	407	3.38	3.57	1.00	5.00	3.67	4.00	.81	0.000
7- Provide strategic leadership for learning	407	3.63	3.68	1.00	5.00	4.00	4.00	.95	0.000
All	407	3.39	3.56	1.38	5.00	3.62	3.62	0.71	0.001

P >0.05, normally distributed data; P <0.05, non-normally distributed data.

It can be noticed in Table 4.3 that the means of the dimensions range between 3.36 on dimension one (Create continuous learning opportunities) to 3.77 on the dimension two (Promote inquiry and dialogue). The mean standard deviation for the seven dimensions is 0.71.

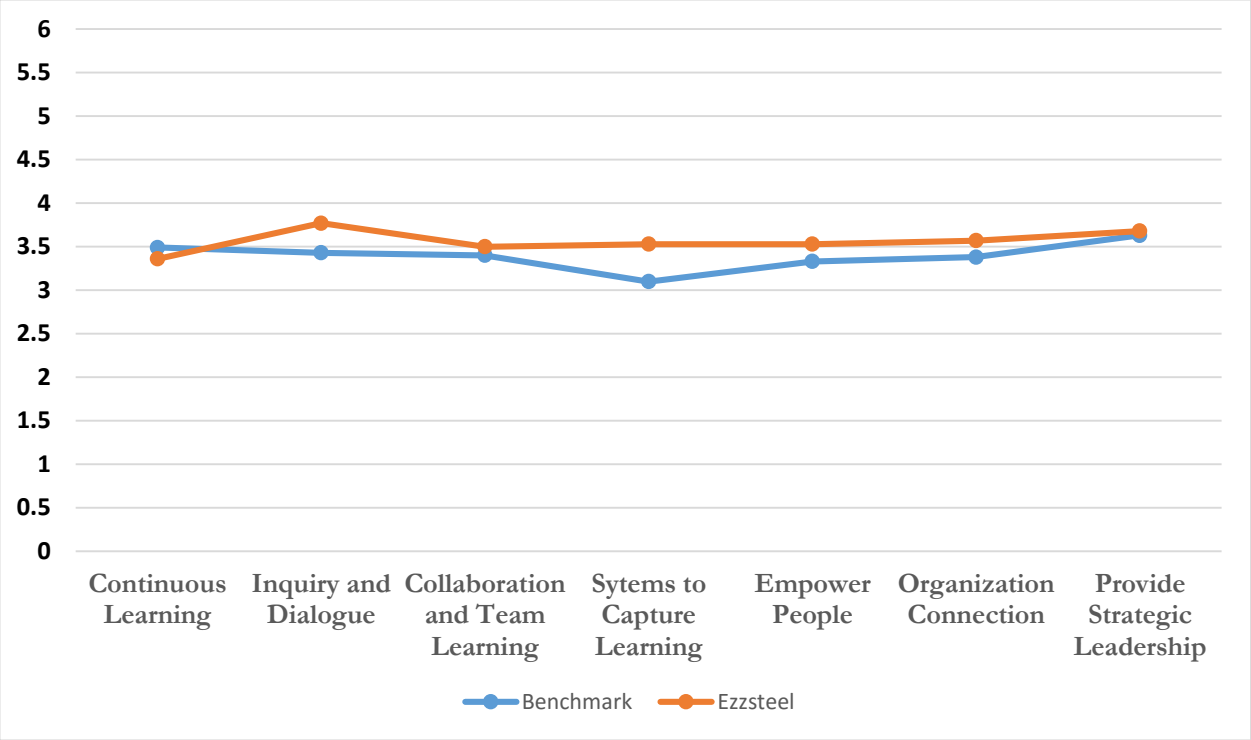

Figure 4.3: Overall Survey Results versus Benchmark

4.3.1.3 Descriptive Analysis per Dimension for Business Units

Scores for the dimensions distributed by plants are presented in Table 4.4 and Figure 4.4. For the corporate headquarter (HQ), the mean ranged from 2.87 on dimension 4 (Create systems to capture and share learning) to 3.70 on dimension 2 (Promote inquiry and dialogue), with a mean standard deviation of 1.049. For the Suez plant (EFS), the mean ranged from 3.10 on dimension 1 (Create continuous learning opportunities) to 3.50 on dimension 2 (Promote inquiry and dialogue), with a mean standard deviation of 1.075. For the Sadat plant (ES), the mean ranged from 3.52 on dimension 1 (Create continuous learning opportunities) to 3.88 on dimension 2 (Promote inquiry and dialogue), with a mean standard deviation of 1.029. For the Direct Reduction plant (DRP), the mean ranged from 3.35 on dimension 1 (Create continuous learning opportunities) to 3.88 on dimension 2 (Promote inquiry and dialogue), with a mean standard deviation of 1.083. For the 10th of Ramadan plant (ERM), the mean ranged from 3.70 on dimension 4 (Create systems to capture and share learning) to 3.92 on dimension 7 (Provide strategic leadership for learning), with a mean standard deviation of 1.021.

Table 4.4: Descriptive statistics as per Plants

Plants	Dimension	D1	D2	D3	D4	D5	D6	D7	Total
Corporate Headquarter	N	44	44	44	44	44	44	44	44
	Mean	3.09	3.50	3.06	2.87	3.33	3.41	3.40	3.24
	SD	0.87	0.81	0.74	0.90	0.72	0.82	0.87	0.64
EFS	N	140	140	140	140	140	140	140	140
	Mean	3.10	3.70	3.41	3.48	3.34	3.30	3.51	3.40
	SD	0.95	0.77	0.78	0.81	0.75	0.78	0.94	0.64
ES	N	136	136	136	136	136	136	136	136
	Mean	3.52	3.88	3.62	3.70	3.71	3.78	3.86	3.74
	SD	0.93	0.79	0.90	0.82	0.82	0.76	0.92	0.72
DRI	N	26	26	26	26	26	26	26	26
	Mean	3.35	3.88	3.58	3.56	3.38	3.64	3.63	3.56
	SD	0.92	0.42	0.72	0.99	0.97	0.85	1.02	0.76
ERM	N	61	61	61	61	61	61	61	61
	Mean	3.78	3.84	3.72	3.70	3.80	3.81	3.92	3.77
	SD	0.87	0.75	0.79	0.85	0.65	0.78	0.91	0.68
Kruskal-Wallis P Value		0.000	0.017	0.000	0.000	0.000	0.000	0.000	

*P <0.05, significant.

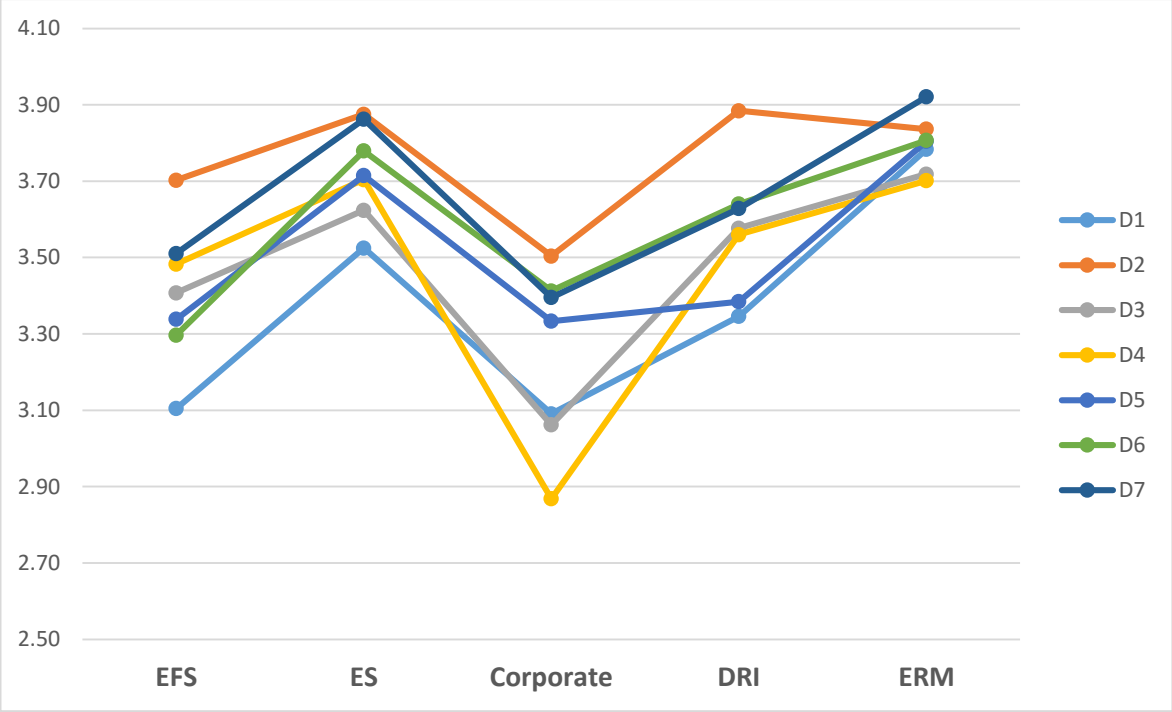

Figure 4.4: Diagram shows the distribution of the means for each Plant per dimension.

4.3.1.4 Descriptive Analysis per Dimension for Job Levels

Scores for the dimensions distributed by job level are presented in Table 4.5 and Figure 4.5. For the foremen and technicians' level, the mean ranged from 3.36 on dimension one (Create continuous learning opportunities) to 3.84 on dimension 2 (Promote inquiry and dialogue), with a mean standard deviation of 1.067. For the specialists and engineers' level, the mean ranged from 3.24 on dimension one (Create continuous learning opportunities) to and 3.61 on dimension 6 (Connect the organization to its environment), with a mean standard deviation of 1.070. For the managers' level, the mean ranged from 3.51 on dimension four (Create systems to capture and share learning) to 3.84 on dimension seven (Provide strategic leadership for learning), with a mean standard deviation of 1.070.

Table 4.5: Descriptive statistics as per Job Level and dimension

Job Levels	Dimension	D1	D2	D3	D4	D5	D6	D7	Total
Assistant, Deputy manager or manager	**N**	35	35	35	35	35	35	35	35
	Mean	3.55	3.77	3.52	3.51	3.72	3.75	3.84	3.68
	SD	.81	.71	.75	.83	.67	.71	.78	0.64
Specialist – Supervisor - Engineer	**N**	93	93	93	93	93	93	93	93
	Mean	3.24	3.59	3.26	3.30	3.50	3.61	3.48	3.42
	SD	.83	.76	.78	.86	.70	.75	.93	0.67
Foreman – Technician	**N**	272	272	272	272	272	272	272	272
	Mean	3.36	3.84	3.58	3.59	3.52	3.53	3.72	3.59
	SD	1.01	.78	.84	.87	.85	.85	.97	0.74
Kruskal-Wallis P Value		0.141	0.017	0.002	0.017	0.344	0.528	0.047	

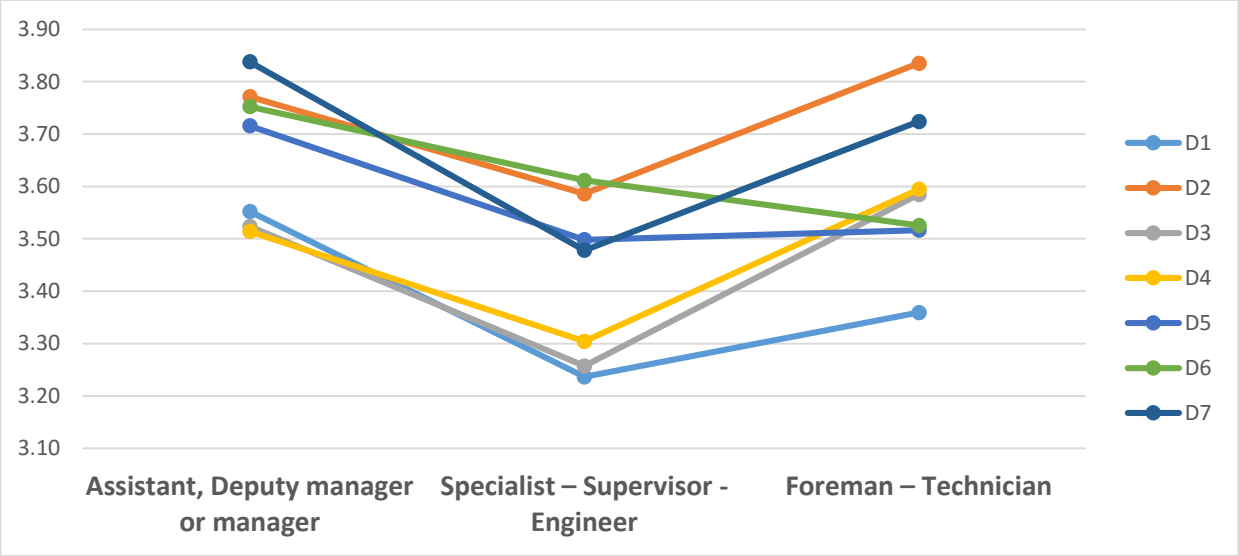

Figure 4.5: Diagram Shows the Distribution of the Means for Each Job Level Per Dimension

4.3.1.5 Reliability Test

Reliability analysis is a substantial step aims at assessing the internal consistency and stability of the questionnaire items to ensure that all items are linked to each other. As presented before, the questionnaire consists of seven dimensions each dimension consists of three questions. The test is therefore conducted for each dimension to ensure that the items of this dimension are consistent and reliable.

The most popular measure that very frequently used in calculating the reliability of the questionnaire is Cronbach Alpha test (Hinton, 2004).

According to (Sekaran, 1992)., results less than 0.60 are considered to be poor, those in the 0.70 are considered to be acceptable, and those over 0.80 are considered to be good.

The conclusion from the reliability test for the seven dimensions is good as Cronbach Alpha is 0.925 as presented in table 4.6 below

Table 4.6: Cronbach Alpha Scores for All DLOQ Dimensions

Dimension	Cronbach's Alpha	N of Items
All DLOQ dimensions	.925	7

For the dimensions of learning organization questionnaire, DLOQ, Cronbach reliability coefficient test was performed to test the reliability of the questionnaire. Table 4.7 below presents that six dimensions (from D1 to D6) are considered acceptable and D7 is considered good.

Table 4.7: Cronbach Alpha Scores for Learning Organization Dimensions

Dimension	Cronbach's Alpha	N of Items
D1- Create continuous learning opportunities	.755	3
D2- Promote inquiry and dialogue	.766	3
D3- Encourage collaboration and team learning	.751	3
D4- Create systems to capture and share learning	.761	3
D5- Empower people toward a collective vision	.683	3
D6- Connect the organization to its environment	.681	3
D7- Provide strategic leadership for learning	.831	3

4.3.1.6 Descriptive Analysis Conclusion

The descriptive analysis results provided the researcher with a positive sense regarding the data and its distribution patterns, the main findings of the descriptive analysis can be concluded as follow:

- The data is consistent and reliable (Cronbach's Alpha > 0.6).
- The company under study has scored plausible levels of adoption of the learning organization dimensions compared by the latest updated norms developed by the owners of the model.
- The highest scored question is Q19 "In my organization, leaders mentor and coach those they lead.) with a mean of 3.87, while the lowest scored question Q3 (In my organization, people are rewarded for learning) with a mean of 2.94 on
- The highest scored dimension across the whole company is dimension 2 (Promote inquiry and dialogue) with a mean of (3.77) while the lowest scored dimension is dimension 1 Create learning opportunities) with a mean of (3.36).
- The business unit of Corporate HQ has scored means of dimensions slightly below the other business units in the seven dimensions.
- The means of the dimensions of the job level of specialists-engineers has scored slightly below the other job levels in the seven dimensions.

4.3.2 Inferential Data Analysis

4.3.2.1 Normality Test

A normality test is conducted using "Shapiro-Wilks" test. Alpha level is set to 0.05, which resulted a rejection of the null hypothesis for all the statements as well as all the dimensions as presented in Tables 4.2 and 4.3. Non-parametric tests were thus performed using Kruskal-Wallis test for further analysis of the data.

4.3.2.2 Kruskal-Wallis Tests

The Kruskal-Wallis test is being used to compare two or more groups of cases on one dimension and identifies if a statistical difference is existing or not. If P-value is greater than 0.05, this means that there is an insignificant difference while if P-value is less than 0.05, this means that there is a significant difference.

Since the business unit level comprises of five groups and the job level consists of three groups, the researcher used this test to detect the possible differences among the different business units and job levels with respect to each dimension.

The results of Kruskal-Wallis test indicate significant differences among the means of the five business units (plants) regarding the seven dimensions as presented in Table 4.4.

On the other hand, the test indicates a significant difference between the means of the different job levels regarding dimensions 2 (Promote inquiry and dialogue), 3 (Encourage collaboration and team learning), 4 (Create systems to capture and share learning) and 7 (Provide strategic leadership for learning) whereas no significant difference is noticed regarding dimensions 1(Create continuous learning opportunities), 5 (Empower people toward a collective vision) and 6 (Connect the organization to its environment) as presented in Table 4.5.

As a result, in the next step Mann-Whitney tests are conducted to compare the relation between each two groups of the plants in each of the dimensions from 1 to 7. In addition, Mann-Whitney tests are conducted to compare the relation between each two groups of the job levels with respect to dimensions 2, 3, 4 and 7.

4.3.2.3 Mann-Whitney Tests

Mann-Whitney is a non-parametric statistical test compare two groups of cases in one dimension to detect if any statistical differences are existing or not. If P-value is greater than 0.05, this means that there is an insignificant difference while if P-value is less than 0.05, this means that there is a significant difference.

Regarding the job level, the results of Mann-Whitney tests showed that there are no significant differences between neither the managers and specialists-engineers levels nor between the managers and foremen-technicians levels in the seven dimensions while a significant difference is noted between specialists-engineers and foremen-technicians' levels in dimensions 2, 3, 4 and 7 as presented in table 4.8 below.

Table 4.8: Mann-Whitney Test for Job Level

Specialists-engineers and foremen-technicians' levels

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	11152.000	9626.000	9227.000	9729.500	11732.500	11398.000	10313.000
Wilcoxon W	15523.000	13812.000	13505.000	14007.500	16103.500	45851.000	14591.000
Z	-1.568	-2.830	-3.461	-2.864	-.535	-.629	-2.313
Asymp. Sig. (2-tailed)	.117	.005	.001	.004	.593	.529	.021

Regarding the business units (plants), the results of Mann-Whitney tests showed that there are significant differences between the business units of: EFS and ES in the seven dimensions, EFS and corporate HQ in dimensions 3 (Encourage collaboration and team learning) and 4 (Create systems to capture and share learning), EFS and DRP in dimension 6, EFS and ERM in dimensions 1(Create continuous learning opportunities), 3 (Encourage collaboration and team learning) and 4 (Create systems to capture and share learning), 5 (Empower people toward a collective vision), 6 (Connect the organization to its environment) and 7 Provide strategic leadership for learning) , ES and Corporate HQ in the seven dimensions, ES and ERM in dimension 1 (Create continuous learning opportunities), Corporate HQ and DRP in dimensions 2 (Promote inquiry and dialogue), 3 (Encourage collaboration and team learning) and 4 (Create systems to capture and share learning), Corporate HQ and ERM in the seven dimensions and between DRP and ERM in dimension 1 (Create continuous learning opportunities). On the other hand, no significant differences are noticed regarding the seven dimensions between the business units of ES and DRP.

Table 4.9: Mann-Whitney Test for Business Units

EFS and ES

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	6970.500	7734.000	7445.500	7474.500	6148.500	5742.000	7114.500
Wilcoxon W	16840.500	17464.000	17175.500	17065.500	15464.500	15195.000	16844.500
Z	-3.699	-2.182	-2.706	-2.668	-4.504	-5.297	-3.314
Asymp. Sig. (2-tailed)	.000	.029	.007	.008	.000	.000	.001

EFS and Corporate HQ

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	2973.000	2506.500	2211.500	1700.000	2938.000	2627.000	2729.000
Wilcoxon W	3963.000	3452.500	3157.500	2646.000	3928.000	12080.000	3675.000
Z	-.349	-1.624	-2.601	-4.263	-.182	-.859	-.865
Asymp. Sig. (2-tailed)	.727	.104	.009	.000	.856	.390	.387

EFS and DRP

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	1622.000	1584.000	1630.000	1682.500	1679.000	1259.000	1676.000
Wilcoxon W	11492.000	11314.000	11360.000	11273.500	10995.000	10712.000	11406.000
Z	-.885	-1.023	-.801	-.198	-.410	-2.121	-.590
Asymp. Sig. (2-tailed)	.376	.306	.423	.843	.682	.034	.556

EFS and ERM

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	2409.500	3574.500	2952.500	3253.000	2541.500	2308.000	2938.500
Wilcoxon W	12279.500	13304.500	12682.500	12844.000	11857.500	11761.000	12668.500
Z	-4.801	-1.089	-2.986	-2.087	-3.958	-4.518	-3.174
Asymp. Sig. (2-tailed)	.000	.276	.003	.037	.000	.000	.002

ES and Corporate HQ

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	1992.500	1938.000	1659.000	1321.500	1904.500	1944.500	1907.500
Wilcoxon W	2982.500	2884.000	2605.000	2267.500	2894.500	2847.500	2853.500
Z	-3.248	-3.117	-4.116	-5.336	-3.456	-2.994	-3.318
Asymp. Sig. (2-tailed)	.001	.002	.000	.000	.001	.003	.001

ES and ERM

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	3225.500	3554.500	3630.500	3813.500	3722.000	3623.500	3711.000
Wilcoxon W	12270.500	5207.500	12408.500	12724.500	12500.000	12534.500	12622.000
Z	-2.217	-.530	-.572	-.125	-.308	-.487	-.607
Asymp. Sig. (2-tailed)	.027	.596	.567	.900	.758	.627	.544

Corporate HQ and DRP

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	484.500	368.500	357.500	336.500	537.500	428.000	472.500
Wilcoxon W	1474.500	1314.500	1303.500	1282.500	1527.500	1331.000	1418.500
Z	-1.074	-2.420	-2.526	-2.574	-.423	-1.272	-1.079
Asymp. Sig. (2-tailed)	.283	.016	.012	.010	.672	.203	.280

Corporate HQ and ERM

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	697.500	935.500	617.500	594.500	793.500	792.500	781.000
Wilcoxon W	1687.500	1881.500	1563.500	1540.500	1783.500	1695.500	1727.000
Z	-4.121	-2.045	-4.359	-4.507	-3.297	-2.892	-3.334
Asymp. Sig. (2-tailed)	.000	.041	.000	.000	.001	.004	.001

DRP and ERM

	D1	D2	D3	D4	D5	D6	D7
Mann-Whitney U	531.000	740.500	615.000	654.000	568.500	612.000	637.500
Wilcoxon W	882.000	2393.500	966.000	979.000	919.500	937.000	988.500
Z	-2.359	-.005	-1.359	-.710	-1.812	-1.025	-1.248
Asymp. Sig. (2-tailed)	.018	.996	.174	.478	.070	.305	.212

From the above data, it can be concluded that there are significant differences among the different business units in many dimensions which means that the perceptions of the dimensions of learning organization are not the same among the different business units. An analysis for that will be discussed in the conclusion section.

4.3.3 Conclusion of Phase 2

The conclusion of the survey phase can be summarized in three main findings:

- The company under study has scored slightly above the benchmark in six out of the seven dimensions of the learning organization (dimensions from 2 to 6), and slightly below the benchmark in dimension 1. The outcomes therefore show a generally positive perception of participants of the questionnaire with respect to the adoption of the learning organization dimensions.
- Significant differences are noted among the different business units in the seven dimensions which means that the perceptions of the dimensions of learning organization are not the same among the different business units. An analysis for that will be discussed in the conclusion section.
- Significant difference is noted between specialists-engineers job level and foreman-technician job level in dimensions 2, 3, 4 and 7. An analysis for that will be discussed in the conclusion section.

4.4 RESULTS FOR PHASE 3: POST-SURVEY INTERVIEWS

The aim of this phase is to interpret the results of the survey phase and to understand how to overcome the potential challenges that might be encountered through the journey of the adoption of the learning organization dimension. Participants were asked to state their views regarding this question in light of the results of the survey.

This phase has revealed many substantial insights into the steps the company has to pace in the very near future.

Raised topics during these interviews are presented in Table 4.10 below.

Table 4.10: Post-Survey Interviews Analysis

Item	Components	References
How to overcome the potential challenges with respect to survey results		7
	Linking learning with performance management and rewarding systems	6
	Organizational values	3
	Learning platform (Knowledge management system)	6
	Using balance scorecards and management by objectives	2
	Culture change program	4
	Measuring learning effectiveness	2
	Policies activation	4
	Creating coaching culture	5
	Synergizing and unifying the learning-related vision, plans and activates for the different business units	6

As it can be inferred from the above Table, almost a consensus is existing regarding synergizing and unifying the learning-related vision, plans and activities for the different business units; this is very important issue, as the results of the survey have revealed a significant difference among the different business units regarding their perceptions of the dimensions of the learning organization, participants think that the main reason behind this results is due to the lack of a shared learning vision across the different business units. Participants believe that the learning-related projects are somehow left to each business unit without a real collective vision and direction in this regard which might interpret the relative low means of the corporate HQ business unit where the learning-related projects and activities are not equally given the same concern compared by the other 'production' business units. This crucial point is directly affect the seven dimensions and form a real challenge for the continuity of the progress of adopting the learning organization concept and dimensions. This topic can be categorized under the structure learning level (Part of the organizational learning level) of Watkins and Marsick' model (2003).

Another substantial topic with an almost consensus is linking the learning activities with performance management and rewarding systems; 6 out of 7 participants see this topic as one urgent issues that should be dealt with in the very near future. Some of them think that any efforts could be exerted to becoming a learning organization are not guaranteed unless they are associated with a coherent performance management system where the learning pillars are embedded in the systems, communicated to stakeholders, assessed and rewarded. Lack of such linking is considered a stumbling block in the way of continuing as a learning organization as people will lose the motives to learn, leaders will not be urged to ensure learning processes and the company will not be able to monitor the learning progress. This topic is directly impacting dimensions 2, 3 and 4. In addition, this discussion contributes in interpreting the significant differences that are noted between the different business units. This topic can be categorized under the job learning level (Part of the organizational learning level) of Watkins and Marsick' model (2003).

Five out of seven participants think that creating coaching culture is something essential to boost the learning culture throughout the organization where the leaders will be more accountable to share knowledge, extract the knowledge from the mental models of the team members, synergize the capabilities of the individuals and shield the expertise of the whole organization. Participants think that the coaching culture is somewhat existing but not widely diffused across the organization and think that the absence of coaching culture according to the participants means the absence of trust building, effective communication, talent development opportunities and creating future leaders.

This topic is impacting dimensions 1, 5 and 7. The impact of the lack of coaching culture can be noticed in the finding that refers to a significant difference between specialists-engineers and foremen-technicians' levels in dimensions 2, 3, 4 and 7 which means a gab in the perceptions between one of the most important levels in the organization, technician and foreman level is reporting to the engineers' level, that should be aligned towards the same learning vision. Working on this pillar should improve the mentioned results and close the gap. This topic can be categorized under the environmental (global) learning level of Watkins and Marsick' model (2003).

Creating a platform for learning is an important topic that is raised from 6 out of 7 participants; they think that the existence of such platform will serve as an instrument through which the knowledge will be managed and shared, information will be provided and available for the right users on the right time with the adequate level of details and the organizational memory will be organized, updated and leveraged. According to the participants, the non-existence of such platform might lead to slow the learning process down and make it difficult to share the knowledge across the different business units. This topic is directly impacting dimensions 4 and 6 and can be categorized under the job learning level (Part of the organizational learning level) of Watkins and Marsick' model (2003).

Four out of the seven participants think that the diffusion of the learning culture throughout the organization requires a high readiness and willingness in terms of culture. In this regard, participants think that a culture change program might be effective where issues such as motivation, diversity, engagement, communication, process and system thinking will be the main pillars of this change management program. Lack of such program might lead to failure of any exerted effort to take any advanced steps towards the adoption of learning organization dimensions. This topic is a prerequisite for any advanced step regarding the seven dimensions and impacts the four learning levels of Watkins and Marsick' model (2003).

Some other topics are revealed during these interviews but with less frequencies; policies activation, measuring learning effectiveness, using balance scorecards and management by objectives, synergizing the expertise across the different business units and declaring the organizational values which are can be considered important as well and interpret some raised issues as will be discussed later in chapter five.

4.5 DISCUSSION AND CONCLUSION

The main findings of this study are presented in relation to research's minor questions as follow.

(MRQ-1) To what extent does the company create continuous learning opportunities?

The overall descriptive analysis of the survey states that the company scored a mean of 3.36 (with a mean SD of 0.95) compared by a benchmark of 3.49 which means that the company is slightly below the benchmark norm in this dimension. However, noticeable variations are detected among the means of the different business units (e.g. 3.09 for HQ versus 3.87 for ERM). On the other hand, the preliminary and post survey interviews showed a positive interest in this dimension by participants. This discrepancy between the interviews and the survey results can be interpreted by the noticed lack of a well-knit learning management system addresses and controls the pillars of this dimension specially the pillar of rewarding for learning that scored the lowest mean across the 21 statement of the questionnaire.

(MRQ-2) To what extent does the company promote inquiry and dialogue?

The overall descriptive analysis of the survey states that the company scored a mean of 3.77 (with a mean SD of 0.77) in this dimension compared by a benchmark of 3.43 which means that the company is slightly above the benchmark norm in this dimension. Although the preliminary and post survey interviews showed a positive interest in this dimension by participants, an important step was revealed during the interviews regarding linking the pillars of this dimension to the performance management system to get it more effective and to enforce the culture of inquiry and dialogue.

(MRQ-3) To what extent does the company encourage collaboration and team learning?

The overall descriptive analysis of the survey states that the company scored a mean of 3.50 (with a mean SD of 0.83) in this dimension compared by a benchmark of 3.40 which means that the company is slightly above the benchmark norm in this dimension. However, noticeable variations are detected among the means of the different business units (e.g. 3.06 for HQ versus 3.72 for ERM). On the other hand, the preliminary and post survey interviews showed a positive interest in this dimension by participants. This discrepancy between the interviews and the survey results can be interpreted by the noticed lack of a strong coaching culture linked to performance management and rewarding system along with the other human resources management systems which is also inferred through the post-survey interviews.

(MRQ-4) To what extent does the company create systems to capture and share learning?

The overall descriptive analysis of the survey states that the company scored a mean of 3.53 (with a mean SD of 0.87) in this dimension compared by a benchmark of 3.10 which means that the company is slightly above the benchmark norm in this dimension. However, noticeable variations are noticed among the means of the different business units (e.g. 2.87 for HQ versus 3.70 for ES and ERM). In line with this, the preliminary and post survey interviews showed a lack of interest in this dimension by participants. This is a crucial point, lack of such system can threat the whole learning context and make any efforts exerted in the other dimensions tend to be useless as will be discussed in chapter 5.

(MRQ-5) To what extent does the company empower people towards a collective vision?

The overall descriptive analysis of the survey states that the company scored a mean of 3.53 (with a mean SD of 0.80) in this dimension compared by a benchmark of 3.33 which means that the company is slightly above the benchmark norm in this dimension. In line with this, the preliminary and post survey interviews showed a positive interest in this dimension by participants.

(MRQ-6) To what extent does the company connect the organization to its environment?

The overall descriptive analysis of the survey states that the company scored a mean of 3.57 (with a mean SD of 0.81) in this dimension compared by a benchmark of 3.38 which means that the company is slightly above the benchmark norm in this dimension. In line with this, the preliminary and post survey interviews showed a positive interest in this dimension by participants. On the other hand, with respect to the third pillar in this dimension (people get answers from across the organization when solving problem) some participants referred to the importance of developing a platform that facilitate the cross-functions exposure across the different business units of the company.

(MRQ-7) To what extent does the company provide a strategic leadership model supports learning practices?

The overall descriptive analysis of the survey states that the company scored a mean of 3.68 (with a mean SD of 0.95) in this dimension compared by a benchmark of 3.63 which means that the company is slightly above the benchmark norm in this dimension. However, some participant of the preliminary and post survey interviews referred to the impotence of having a clear, declared and diffused values for the company to emphasis the role of leaders in enhancing the learning culture across the whole organization.

(MRQ-8) To what extent are the learning organization dimensions equally perceived among the different business units?

Mann-Whitney tests showed that there are significant differences between the business units of: EFS and ES in the seven dimensions, EFS and corporate HQ in dimensions 3 and 4, EFS and DRP in dimension 6, EFS and ERM in dimensions 1, 3, 4, 5, 6 and 7, ES and Corporate HQ in the seven dimensions, ES and ERM in dimension 1, Corporate HQ and DRP in dimensions 2, 3 and 4, Corporate HQ and ERM in the seven dimensions and between DRP and ERM in dimension 1. On the other hand, no significant differences are noticed regarding the seven dimensions between the business units of ES and DRP.

(MRQ-9) To what extent are the learning organization dimensions equally perceived among the different job levels?

Mann-Whitney tests showed that there are no significant differences between neither the managers and specialists-engineers levels nor between the managers and foremen-technicians levels in the seven dimensions whereas significant difference is noted between specialists-engineers and foremen-technicians' levels in dimensions 2, 3, 4 and 7.

In line with answers of MRQ-8 and MRQ-9, the preliminary and post survey interviews revealed that these variations might due to the lack of strong and unified learning management system linked with the performance management and rewarding systems along with other human resources management system in addition to the need for creating a rooted learning culture including an enhanced coaching culture across the whole business units.

CHAPTER 5: CONCLUSION, RECOMMENDATION AND FUTURE RESEARCH

5.1 CONCLUSION

This section answers the research's major question; How successful has the organization under study been in adopting the concept and dimensions of the learning organization?

The results of the survey and the interviews refer to a generally acceptable situation regarding the adoption of the learning organization; the preliminary interviews introduced some evidences that the company under study is taking tangible steps the way of adopting the dimensions of learning organization.

A survey therefore is conducted to a stratified sample from the organization to assess these steps from the employees' perceptions using the holistic, profound and tested questionnaire of Watkins and Marsick, the results are compared to the benchmarking norms of Watkins and Marsick that have been mentioned earlier in chapter 3 and 4 which resulted in a general finding that the company under study has scored slightly above the benchmark in six out of the seven dimensions of the learning organization (dimensions from 2 to 6), and slightly below the benchmark in dimension 1. The outcomes therefore show a generally positive perception of participants of the questionnaire with respect to the adoption of the learning organization dimensions.

Post-survey interviews are therefore conducted to validate the survey results and to discuss the survey findings specially the significant differences that are noted among the different business units in many dimensions and the significant difference that is noted between specialists-engineers and foremen-technicians levels in dimensions 2, 3, 4 and 7. Some important issues are revealed during these interviews that interpret these findings and can consequently be considered as the base of the steps that should be taken in the very near future to overcome the raised challenges, achieve progress on the journey of adopting the learning organization dimensions and to move forward towards a better situation. The raised issues are the lack of a unified well-knit knowledge management system, lack of linking between learning and performance management and rewarding systems, the lack of unified learning vision among the different business units, the absence of clear declared organizational values, and the lack of unified learning-related policies.

The above discussion leads to a significant conclusion; Although the company invests hugely in learning-related projects and activities and does its best to be a learning organization and despite the positive results of the survey and interviews, all these efforts and investment are exposed to the risk of discontinuity and might become ineffective if the mentioned symptoms continued. The reason is that that the 'learning organization cannot be considered as a final goal that can be accomplished for once and then is over. The researcher, based on the reviewed literatures, thinks that the 'learning organization' is an ongoing process and the final goal of permanently becoming a learning organization is not conceivable. The concept of learning organization itself comprises of a process of ongoing alteration and no organization thus should permanently 'label' itself as a 'learning organization'.

Based on that, it is very substantial for the company under study to start a course of actions to address these raised issues, overcome the existing challenges, avoid the potential obstacles and threats and to achieve an advanced position on the journey of becoming a learning organization. The next section theretofore proposes this recommended course of actions.

5.2 RECOMMENDATIONS

Based on the reviewed literature and the data analysis findings, the researcher think that the following recommended course of actions could assist the company under study to overcome the raised challenges and to move forward towards a higher level of adoption of learning organization dimensions that make it in a better position on its journey of becoming a learning organization.

5.2.1 Developing a Thorough Learning Management System

The findings have revealed variations among the different business units and some job level, as discussed earlier in chapter 4. In addition, noticeable variation is detected in the measured dimensions (creating systems to capture learning). Moreover, the findings detected a lack of focus with respect to the organizational level of learning that includes both structure level and job level according to the model of Watkins and Marsick (2003) (see section 2.2.2.3). Indeed, the lack of such a system impacts all finding as well as most of the dimensions. It is highly and urgently recommended for the company to develop and enable such a system, that will be considered as an infrastructure that serves as a platform through which the knowledge could be managed and shared, information could be provided and available for the right users on the right time with the adequate level of details to support decision making process and as an organizational dynamic memory that leverages the organizational knowledge.

5.2.2 Linking Learning to Human Resources Management Systems

One of the most important findings is that the lack of rewarding for learning, scored the lowest mean score across the organization. Learning should be rewarded and recognized otherwise the motive for learning will not be there. Success stories in the largest steel companies give insights into this topic (see section 2.3). on the other hand, adopting the dimensions of learning organization without linking to the performance management, rewarding, talent management and other human resources management systems could waste all exerted efforts and invested money on the learning projects and activities. An integration thus should take place between learning and human resources management systems to ensure a unified vision throughout the entire organization and equal perception for the concept of learning in the organization.

5.2.3 Creating a Learning Assurance and Control Process

The findings reveal some variations among the different business units as well as some job levels with respect to their perceptions regarding the adoption of learning organization dimensions. It is therefore important to have a learning assurance and control process aims to ensure a continual evaluation for the learning-related projects and activities, monitoring the learning process, tracking the learning plans, ensuring the learning is being provided properly and equally among the different business units and job levels across the organization. Employing the suggested learning management system will be very much beneficiary in this regard.

5.2.4 Creating Learning- Supportive and Coaching Culture

To address the detected variations among some job levels across the organization in addition to enhance the environmental level of learning, according to the model of Watkins and Marsick (2003), creating learning supportive and coaching culture is substantial for the company under study as leaders will be more accountable to share knowledge, extract the tacit knowledge from the mental models of the team members, synergize the capabilities of the individuals and shield the expertise of the whole organization. In addition, to leverage the value of implicit knowledge, mentorship programs should take place where people are chosen as mentors and mentees for an employee's career. Moreover, the existence of a learning supportive culture will ensure high level of consistency in the learning vision and strategy among the different business units and to control the crux of learning across the whole organization.

5.2.5 Launching a Global Initiative for Learning-based Cooperation

Launching an initiative for cooperation with the worldwide steel companies that have success stories in adopting and applying learning-supportive strategies, some of them are mentioned in section (2.3) (e.g. Tata Steel and Vizag Steel in India, Chaparral Steel in USA and Arcelor Mittal Steel in UK) and creating a network and community of practice where the best learning practices and lessons learnt are shared, discussed and captured. In addition, this community act as a learning-based network and will provide a good opportunity to benchmark the adopted and applied learning strategies and projects. Moreover, this network will provide a strong opportunity for cross-exposure training and knowledge exchange.

5.3 FUTURE WORK

Future work might investigate the following:

- Investigating the relationship between the adoption of learning organization dimensions and financial performance in the company under study.
- Extending the scope of the study to include other manufacturing companies in Egypt
- Comparing two or more learning organizations and measuring their levels of organizational success
- Evaluating the impact of leaders in creating a 'learning organization culture' in the organizations
- Investigating the relationship between the adoption of learning organization dimensions and turnover intention
- Developing a competency framework for the learning organizations
- Studying the LO as a competitive advantage and analyzing its impact on the business results.
- Investigating the learning-based strategies in the largest steel companies in the world.

REFERENCES

Al-Omari, F. &. M. Q. &. Z. S., 2013. The Learning Organization Dimensions and Their Impact on Organizational Performance: Orange Jordan as a Case Study. *Arab Economic and Business Journal,* Volume 8, pp. 38-52.

Appelbaum, S. &. G. J., 2000. The competitive advantage of organizational learning. *Journal of Workplace Learning: Employee Counselling Today,* 12(2), pp. 40-56.

Argyris, C. &. S. D., 1978. *Organizational Learning: A Theory of Action Perspective.* MA: Addison-Wesley.

Argyris, C. &. S. D., 1996. *Organizational Learning II; Theory, Method and Practice.* MA.: Addison-Wesley.

Arora, M. R. &. R., 2001. *Knowledge Management Initiatives in Tata Steel.*:Tata Search.

Ashton, D. &. G. F., 1996. Conclusion: a Framework for Policy Analysis. In: E. Elgar, ed. *Education, Training and the Global Economy.*, pp. 176-185.

Babbie, E., 2011. *The Basics of Social Research.* 5 ed. United States: Wadsworth Cengage Learning.

Beifus, A., 2014. *Global Steel Report,* Madrid: EY Ernst & Young Global Limited.

Bontis, N. &. C. M. &. H. J., 2002. Managing an organisational learning system by aligning stocks and flows. *Journal of Management Studies,* 39(4), pp. 438-469.

Brown, A. &. K. E., 2003. Competing perspectives on workplace learning and the learning organisation. In: *Nyhan, B., Kelleher, M., Cressey, P., Poell, R. (Eds) Facing up to the Learning Organisation Challenge – Volume II Selected European Writings, Cedefop Reference Series.* Luxembourg: Office for Official Publications of the European Communities, pp. 73-91.

Burgoyne, J. &. P. M. &. B. T., 1994. *Towards the Learning Company. Concepts and Practices.* London: McGraw-Hill.

Chiva, R. &. A. J. &. L. R., 2007. Measuring organisational learning capability among the workforce. *nternational Journal of Manpower,* 28(3/4), pp. 224-242.

Coopey, J. &. B. J., 2000. Politics and Organizational Learning. *Journal of Management Studies,,* 37(6), pp. 869-885.

Couillard, D., 2007. Why Creating A Learning Organization Leads The High Tech Firm To Succeed. *IVEY Business Journal,* July / August.

Crossan, M. &. L. H. &. W. R., 1999. An organizational learning framework: from intuition to institution. *Academy of Management Review*, 24(3), pp. 522-537.

de Villiers, W., 2008. The Learning Organisation: Validating A Measuring Instrument. *The Journal of Applied Business Research,* 24(4), pp. 11-22 .

Dima Jamali, Y. S. a. C. Z., 2009. The learning organization:tracking progress in a developing country. *The learning organization*, 16(2), pp. 103-121.

Eijkman, H., 2011. The learning organization as concept and journal in the neomillennial. *The Learning Organization*, 18(3), pp. 164-174.

Ellinger, A. &. E. A. &. Y. B. &. H. S., 2003. Making the Business Case for the Learning Organisation Concept. *Advances in Developing Human Resources*, 5(2), pp. 163-172.

Eraut, M. &. A. J. &. C. G. &. S. P., 1997. *The Impact of the Manager on Learning in the Workplace.*, pp. 1-2.

Fiol, C. &. M. L., 1985. Organizational Learning. *The Academy of Management Review*, 10(4), pp. 803-813.

Friedman, T. L., 2006. Learning to keep learning.. *New York Times,* 13 December.p. A33.

Garavan, T., 1997. The learning organization: a review and evaluation. *The Learning*, 4(1), pp. 18-29.

Garvin, D. A., 1994. Building a learning organization. *Business Credit*, 1(96), pp. 19-28.

Givel, Y. P., 2014. *An investigation of an organisation's journey towards becoming a learning organization, thesis submitted for the degree of Doctor of Social Science.* London: University of Leicester.

Gorelick, C., 2005. Organizational learning vs. the learning organization: a onversation with a practitioner. *The Learning Organization*, 12(4), pp. 383-388.

Grieves, J., 2008. Why we should abandon the idea of the learning organization. *The Learning Organization*, 15(6), pp. 463-473.

Hinton, P. R., 2004. *Statistics Explained.* 2nd ed. London and New York: Routledge.

Hitt, W., 1996. The learning organization: some reflections on organizational renewal. *Employee Counseling Today*, 8(7), p. 16.

Hughes, J., 2000. *The Learning Organisation Part I.*:CLMS Working Paper.

Jamali, D. &. S. Y., 2008. Learning organizations: diagnosis and measurement in a developing country context. *The Learning Organization,*, 15(1), pp. 58-74.

Jyothibabu, C. &. F. A. &. P. B., 2010. An integrated scale for measuring an organizational learning system. *The Learning Organization*, 17(4), pp. 303-327.

Keep, E. &. R. H., 2000. *Towards the Learning Organization? In Back.* 3rd ed. Oxford: Blackwell.

Kim, D., 1993. The Link between Individual and Organizational Learning. *Sloan*, pp. 37-50.

Målqvist, M. L. &. R. V. &. A. B. &. A. K. &. M., 2015. Dimensions of Learning Organizations Questionnaire (DLOQ) in a low-resource health care setting in Nepal.. *Health Research Policy and Systems*, pp. 6-13.

Marshall, J. &. S. S., 2009. Learning organisations and organisational learning What have we learned?. *Management Services*, Summer, pp. 36-44.

Marsick, V. &. W. K., 2003. Demonstrating the value of an organization's learning culture: the dimensions of the Learning Organization Questionnaire. *Advances in Developing Human Resources*, 5(2).

Marsick, V. &. W. K., 2003. Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire. *Advances in Developing Human Resources*, 5(2), pp. 132-151.

Mayo, A. &. L. E., 1994. *The Power of Learning A Guide to Gaining Competitive Advantage.* London: IPD House.

McCarthy, D. &. D. C., 2006. Towards a learning organization? employees perception. *The Learning Organization*, 13(5), pp. 525-537.

McCown, K. D. B. &. D. D. P. &. D. L., 2010. Testing a Measure of Organizational Learning Capacity and Readiness for Transformational Change in Human Services. *Journal of Prevention & Intervention in the Community,* 39(1), pp. 35-49.

Moilanen, R., 2001. Diagnostic tools for learning organizations. *The Learning Organization*, 8(1), pp. 6-20.

Moilanen, R., 2005. Diagnosing and measuring learning organizations. *The learning organization*, 12(1), pp. 71-89.

Nazari, K., 2012. Assessing Learning Organization Dimensions and Demographic Factors in Technical and Vocational Colleges in Iran. *International Journal of Business and Social Science,* 3(3).

Nyhan, B. C. P. T. M. K. M. P. R., 2004. European perspectives on the learning organisation. *Journal of European Industrial Training*, 28(1), pp. 76-92.

Ortenblad, A., 2001. On differences between organizational learning and learning organization. *The Learning Organization*, 8(3), pp. 125-133.

Ortenblad, A., 2001. On differences between organizational learning and learning organization. *The Learning Organization*, 8(3), pp. 125-133.

Owenby, P., 2002. Organizational learning communities and the dark side of the learning organization,. *New Directions for Adult and Continuing Education*, pp. 51-60.

Özdemir, A. &. A. A. B., 2005. Individual learning and organization culture in learning organizations. *Managerial Auditing Journal,* 20(4), pp. 422-441.

Patton, M. Q., 2002. *Qualitative research and evaluation method.* 3 ed. CA: Thousand Oaks.

Pedler, M. &. B. J. &. B. T., 1991. *The Learning Company, a Strategy for Sustainable Development.* London: McGraw-Hill.

Pedler, M. &. B. J. &. B. T., 1997. *The Learning Company.* 2nd ed. Maidenhead: McGraw-Hill Publishing Company.

Pedler, M. &. B. T. &. B. J., 1989. Towards the learning company. *Management Education and Development*, 20(1), pp. 1-8.

Pedler, M., 1996. *Action learning for managers.* London: Lemos & Crane.

Rush, R. B., 2011. Learning Organization Principles: The Impact on a Midwest State Government as Perceived by Its.

Samuel, C. &. W. R. &. S. H., 2009. *Managing Knowledge for Global and Collaborative Innovations.* Hong Kong: World Scientific.

Schramm, W., 1971. *Notes on case studies of instructional media projects.* Washington, DC: Working paper for the Academy for Educational Development.

Sekaran, U., 1992. *Research Methods for Business – A skill building approach.* 2nd ed. USA: John Wiley & Sons.

Senge, P., 2006. *The Fifth Discipline, the Art and Practice of Learning Organization (Revised Version).* New York, NY: Doubleday Dell.

Slater, S. &. N. J., 1995. Market Orientation and the Learning Organization. *Journal of Marketing,* 59(3), pp. 63-74.

Song, J. &. J. B. &. C. T., 2009. The Dimensions of Learning Organization Questionnaire (DLOQ): A Validation Study in a Korean Context. *Human Resource Development Quarterly*, 20(1), pp. 43-64.

Sun, H., 2003. Conceptual clarifications for 'organizational learning' 'learning organization' and 'a learning organization'. *Human Resources Development International*, 6(2), pp. 153-166.

Tannenbaum, S., 1997. Enhancing continuous learning: diagnostic findings from multiple companies. *Human Resource Management*, 36(4), pp. 437-452.

Topluca, M. Y. &. Ö. Ş. &. D., 2014. An Investigation of the Characteristics of Learning Organizations in Turkish Companies: Scale Validation. *Procedia - Social and Behavioral Sciences*, pp. 726-734.

Tsang, E., 1997. Organizational Learning and the Learning Organization: A Dichotomy Between Descriptive and Prescriptive Research. *Human Relations*, 50(1), pp. 73-89.

Watkins, K. &. M. V., 1994. *Sculpting the Learning Organisation.* San Francisco, USA: Jossey-Bass.

Watkins, K. &. M. V., 1996. *In Action: Creating the Learning Organization.* Alexandria, GA: American Society for Training and Development.

Watkins, K. &. M. V., 1997. *Dimensions of the Learning Organization Questionnaire.* Warwick, RI: Partners for the Learning Organization.

Watkins, K., 2013. A Meta-Analysis of the Dimensions of a Learning Organization Questionnaire: Looking Across Cultures, Ranks, and Industries. *Advances in Developing Human Resources,* 1(15).

Yang, B. &. W. K. &. M. V., 1998. *Examining Construct Validity of Dimensions of the Learning Organization Questionnaire.*

Yang, B. &. W. K. &. M. V., 2004. The construct of the learning organization: dimensions, measurement, and validation. *Human Resource Development Quarterly*, 15(1), pp. 31-55.

Yang, B. &. W. K. &. M. V., 2004. The Construct of the Learning Organization: Dimensions, Measurement, and Validation. *Human Resource Development*, 15(1), pp. 31-55.

Yang, B., 2003. Identifying valid and reliable measures for dimensions of a learning culture. *Adv Dev Hum Res.*, 5(2), p. 152–162.

Yin, R. K., 2014. *Case Study Research Design and Methods.* 5 ed. London: SAGE.

APPENDIX A: DIMENSION OF LEARNING ORGANIZATION QUESTIONNAIRE

- This questionnaire is being conducted in partial fulfillment of the requirements for the degree of Master of Business Administration, MBA, at Maastricht School of Management, the Netherlands. It aims at assessing the extent to which the company adopts the dimensions of learning organization.
- Simply, the "Learning Organization" is a company that has the powerful capacity to collect, store and transfer knowledge and thereby continuously transform itself for corporate success. It empowers people within and outside the company to learn as they work. A most critical component is the utilization of technology to optimize both learning and productivity
- The word "learning" in this questionnaire is the act of acquiring new, or modifying and reinforcing existing, knowledge, behaviors, skills, values, or preferences.
- As with all questionnaires, your response to this survey, or any individual question on the survey, is completely voluntary. Your response will be kept confidential and will be aggregated with other responses so individual respondents cannot be identified. The aggregated responses will be used for educational purposes only.
- The questionnaire consists of five pages including this cover page.
- Please accurately answer all the questions based upon your knowledge and experience of the company and support your answers with examples if any.

- هذا الاستبيان يتم تنفيذه ضِمن مراحل إعداد رسالة علمية للحصول على درجة الماجيستير في إدارة الأعمال من *كلية ماستريخت للإدارة، هولندا*، ويهدف إلى تقييم مدى تبني الشركة لأبعاد المُنظمة المُتعلمة.
- المنظمة المُتعلمة باختصار هي المنظمة التي لديها قدرة قوية على جمع وتخزين ونقل المعرفة، وبالتالي فهي تقوم بتطوير نفسها باستمرار من أجل تحقيق النجاح. كما أنها تُمكّن أفرادها من التعلم حيثما يعملون سواء داخل أو خارج الشركة. ومن العناصر الأكثر أهمية في المنظمة المتعلمة هو استخدام التكنولوجيا لتحسين كل من التعلم والإنتاجية.
- المقصود بمصطلح "التعلم" في هذا الاستبيان هو الحصول على معارف، مهارات، سلوكيات أو قيم جديدة أو تطوير الحالية.
- كما هو الحال في جميع الاستبيانات، فإن إجابتك على أسئلة هذا الاستطلاع هو أمر تطوعي تمامًا، وجميع إجاباتك سوف تبقى سرية ولن تتم الإشارة إلى هويتكم بأية حال، سيتم استخدام الإجابات المُجمَّعة لأغراض تعليمية فقط.
- يتكون هذا الاستبيان من خمس صفحات من ضمنها هذه الصفحة الافتتاحية.
- من فضلك أجب بدقة وموضوعية على جميع النقاط معتمدًا على خبرتك ومعرفتك بالشركة، مع دعم إجاباتك بأمثلة إن أمكن.
- Please complete the following questionnaire by placing a sign in the appropriate box
- من فضلِك، ضع علامة أمام الاختيار المناسب (اختيار واحد فقط لكل نقطة)

القسم الأول: البيانات الشخصية

Section 1: Personal Data

Educational Level المستوى التعليمي	Higher Education دراسات عليا	Bachelor's Degree مؤهل جامعي	Advanced Diploma دبلوم متوسط	Diploma or below دبلوم أو ثانوية عامة، أو أقل
	○	○	○	○
Organizational Level الدرجة الوظيفية	Senior Manager and above مدير أول فأعلى	Assistant, Deputy manager or manager مساعد، نائب مدير أو مدير	Specialist – Supervisor - Engineer أخصائي، مشرف أو مهندس	Foreman – Technician ملاحظ أو فني
	○	○	○	○
Total years in the company إجمالي سنوات الخبرة في الشركة	0- Less than 5 من 0 إلى أقل من 5	5- less than 10 من 5 إلى أقل من 10	10- less than 15 من 10 إلى أقل من 15	15 and above 15 سنة فأكثر
	○	○	○	○
Age السن	20-29	30-39	40-49	50-60
	○	○	○	○

القسم الثاني: الاستبيان

Section 2: Questions

Questions	Strongly Agree موافق بشدة	Agree موافق	Not Sure غير متأكد	Disagree غير موافق	Strongly Disagree غير موافق بشدة	
البعد الأول: خلق فرص للتعلم المستمر Dimension 1. Continuous learning						
1. In my organization, people help each other learn. في شركتي، يساعد الأفراد بعضهم بعضًا في عملية التعلم	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
2. In my organization, people are given time to support learning. تتيح الشركة وقتاً كافٍ لعملية التعلم	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
3. In my organization, people are rewarded for learning. في شركتي، يتم مكافأة الأفراد الذين يَحرصون على التعلم (حوافز، ترقيات، دعم معنوي)	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
البعد الثاني: تشجيع الاستعلام والحوار Dimension 2. Dialogue and inquiry						

Questions	Strongly Agree موافق بشدة	Agree موافق	Not Sure غير متأكد	Disagree غير موافق	Strongly Disagree غير موافق بشدة	
4. In my organization, people give open and honest feedback to each other. في شركتي، يقدم الأفراد المشورة والرأي بأمانة لبعضهم البعض	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
5. In my organization, whenever people state their view, they also ask what others think. في شركتي، عندما يقوم الأفراد بإبداء أرائهم في أمر ما، فإنهم أيضًا يَحرصون على معرفة وجهات نظر الآخرين في هذا الأمر	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
6. In my organization, people spend time building trust with each other. يهتم الأفراد في الشركة ببناء الثقة المتبادلة فيما بينهم	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
البعد الثالث: تشجيع التعلم والتعاون الجماعيDimension 3. Team learning and collaboration						
7. In my organization, teams/ groups have the freedom to adapt their goals as needed. تتمتع فرق العمل في الشركة بالحرية في تحديد أهدافها حسب حاجة العمل	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
8. In my organization, teams/ groups revise their thinking as a result of group discussions or information collected. تحرص فرق العمل على تصحيح طريقة تفكيرها كنتيجة للمناقشات الجماعية أو المعلومات التي يحصل عليها فريق العمل	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
9. In my organization, teams/ groups are confident that the organization will act on their recommendations. لدى أعضاء فريق العمل قناعة أن توصياتهم واقتراحاتهم سيتم العمل بها من قِبَل إدارة الشركة	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
البعد الرابع: تطوير أنظمة لحيازة ومشاركة التعلمDimension 4. Embedded systems						

Questions	Strongly Agree موافق بشدة	Agree موافق	Not Sure غير متأكد	Disagree غير موافق	Strongly Disagree غير موافق بشدة	
10. My organization creates systems to measure gaps between current and expected performance. توجد بالشركة أنظمة لقياس الفجوة بين الأداء الحالي والأداء المأمول	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
11. My organization makes its lessons learned available to all employees. تتيح الشركة خبراتها ودروسها المستفادة لجميع العاملين للاستفادة منها	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
12. My organization measures the results of the time and resources spent on training. تهتم الشركة بقياس نتائج التدريب في ضوء الوقت والموارد المستثمرة في هذا التدريب	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
البعد الخامس: تمكين العاملينDimension 5. Empowerment						
13. My organization recognizes people for taking initiative. تُقَدّر الشركة وتهتم بالمبادرات التي يقدمها الأفراد (الاقتراحات الجديدة والابتكارات)	○	○	○	○	○	Please give an example ادعم إجابتك بمثال (إن وجد) …… ……
14. My organization gives people control over the resources they need to accomplish their work. تُعطِي الشركة للأفراد الحق في استخدام موارد الشركة التي يحتاجونها لإنجاز الأعمال	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
15. My organization supports employees who take calculated risks. تُعطِي الشركة حرية للأفراد لاتخاذ قرارات ذات مخاطر محسوبة	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
البعد السادس: الترابط بين الأنظمة المختلفة Dimension 6. Systems connections						

Questions	Strongly Agree موافق بشدة	Agree موافق	Not Sure غير متأكد	Disagree غير موافق	Strongly Disagree غير موافق بشدة	
16. My organization encourages people to think from a global perspective. تُشجّع الشركة العاملين على التفكير بمنظور عالمي (الاستفادة من خبرات شركات عالمية، مقارنة الأداء بالمعدلات العالمية)	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
17. My organization works together with the outside community to meet mutual needs. تحرص الشركة على العمل مع المجتمع الخارجي لتحقيق أهداف مشتركة (الحكومة، المحليات الهيئات الاجتماعية، البيئة، الغرف التجارية)	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
18. My organization encourages people to get answers from across the organization when solving problems يَحصُل الأفراد على إجابات من مختلف إدارات وأقسام الشركة أثناء حل المشكلات	○	○	○	○	○	Please give an example ادعم إجابتك بمثال …… ……
Dimension 7. Strategic leadership البعد السابع: القيادة الاستراتيجية						
19. In my organization, leaders mentor and coach those they lead. تهتم قيادة الشركة بتعليم وتدريب وصنع القادة	○	○	○	○	○	Please give an example ادعم إجابتك بمثال (إن وجد) …… …… …… ……
20. In my organization, leaders continually look for opportunities to learn. تسعى قيادات الشركة إلى اقتناص فرص التعلم حيثما أمكن (السعي بشتى الطرق لتطوير وتحسين أداء الشركة والعاملين)	○	○	○	○	○	Please give an example ادعم إجابتك بمثال (إن وجد) …… …… …… ……

Questions	Strongly Agree موافق بشدة	Agree موافق	Not Sure غير متأكد	Disagree غير موافق	Strongly Disagree غير موافق بشدة	
21. In my organization, leaders ensure that the organization's actions are consistent with its values. تحرص قيادات الشركة أن يكون هناك تطابق بين أقوالها وأفعالها على أرض الواقع	○	○	○	○	○	Please give an example ادعم إجابتك بمثال (إن وجد) …… …… …… ……

- Please state any comments or suggestions deem appropriate regarding the process of learning in your company
- من فضلك، اذكر أي ملاحظات أو اقتراحات قد تراها مناسبة فيما يتعلق بعملية التعلم في شركتك

……
……
……

THANK YOU FOR YOUR CONSIDERABLE TIME AND EFFORT
شكرًا جزيلاً لك على وقتك وجهدك،

APPENDIX B: STATISTICAL ANALYSIS

FREQUENCY TABLES

- **Frequency Tables of Organizational Level**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Senior Manager and above	3	.7	.8	.8
	Assistant, Deputy manager or manager	32	7.9	8.0	8.8
	Specialist – Supervisor - Engineer	93	22.9	23.3	32.0
	Foreman – Technician	272	66.8	68.0	100.0
	Total	400	98.3	100.0	
Missing	999.00	7	1.7		
Total		407	100.0		

- **Frequency Tables of Business Units**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	EFS	140	34.4	34.4	34.4
	ES	136	33.4	33.4	67.8
	Corporate	44	10.8	10.8	78.6
	DRI	26	6.4	6.4	85.0
	ERM	61	15.0	15.0	100.0
	Total	407	100.0	100.0	

- **FREQUENCY TABLES OF QUESTIONS**

1. In my organization, people help each other learn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	113	27.8	27.8	27.8
	Agree	226	55.5	55.7	83.5
	Not Sure	36	8.8	8.9	92.4
	Disagree	19	4.7	4.7	97.0
	Strongly Disagree	12	2.9	3.0	100.0
	Total	406	99.8	100.0	
Missing	999.00	1	.2		
Total		407	100.0		

2. In my organization, people are given time to support learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	79	19.4	19.5	19.5
	Agree	212	52.1	52.3	71.9
	Not Sure	57	14.0	14.1	85.9
	Disagree	36	8.8	8.9	94.8
	Strongly Disagree	21	5.2	5.2	100.0
	Total	405	99.5	100.0	
Missing	999.00	2	.5		
Total		407	100.0		

3. In my organization, people are rewarded for learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	39	9.6	9.6	9.6
	Agree	115	28.3	28.3	37.9
	Not Sure	99	24.3	24.4	62.3
	Disagree	87	21.4	21.4	83.7
	Strongly Disagree	66	16.2	16.3	100.0
	Total	406	99.8	100.0	
Missing	999.00	1	.2		
Total		407	100.0		

4. In my organization, people give open and honest feedback to each other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	87	21.4	21.6	21.6
	Agree	218	53.6	54.1	75.7
	Not Sure	58	14.3	14.4	90.1
	Disagree	29	7.1	7.2	97.3
	Strongly Disagree	11	2.7	2.7	100.0
	Total	403	99.0	100.0	
Missing	999.00	4	1.0		
Total		407	100.0		

5. In my organization, whenever people state their view, they also ask what others think

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	57	14.0	14.1	14.1
	Agree	229	56.3	56.8	71.0
	Not Sure	64	15.7	15.9	86.8
	Disagree	43	10.6	10.7	97.5
	Strongly Disagree	10	2.5	2.5	100.0
	Total	403	99.0	100.0	
Missing	999.00	4	1.0		
Total		407	100.0		

6. In my organization, people spend time building trust with each other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	74	18.2	18.5	18.5
	Agree	213	52.3	53.3	71.8
	Not Sure	69	17.0	17.3	89.0
	Disagree	35	8.6	8.8	97.8
	Strongly Disagree	9	2.2	2.3	100.0
	Total	400	98.3	100.0	
Missing	999.00	7	1.7		
Total		407	100.0		

7. In my organization, teams/ groups have the freedom to adapt their goals as needed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	65	16.0	16.1	16.1
	Agree	187	45.9	46.3	62.4
	Not Sure	84	20.6	20.8	83.2
	Disagree	55	13.5	13.6	96.8
	Strongly Disagree	13	3.2	3.2	100.0
	Total	404	99.3	100.0	
Missing	999.00	3	.7		
Total		407	100.0		

8. In my organization, teams/ groups revise their thinking as a result of group discussions or information collected

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	65	16.0	16.2	16.2
	Agree	200	49.1	49.8	65.9
	Not Sure	89	21.9	22.1	88.1
	Disagree	40	9.8	10.0	98.0
	Strongly Disagree	8	2.0	2.0	100.0
	Total	402	98.8	100.0	
Missing	999.00	5	1.2		
Total		407	100.0		

9. In my organization, teams/ groups are confident that the organization will act on their recommendations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	38	9.3	9.5	9.5
	Agree	146	35.9	36.4	45.9
	Not Sure	119	29.2	29.7	75.6
	Disagree	63	15.5	15.7	91.3
	Strongly Disagree	35	8.6	8.7	100.0
	Total	401	98.5	100.0	
Missing	999.00	6	1.5		
Total		407	100.0		

10. My organization creates systems to measure gaps between current and expected performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	38	9.3	9.5	9.5
	Agree	143	35.1	35.7	45.1
	Not Sure	114	28.0	28.4	73.6
	Disagree	65	16.0	16.2	89.8
	Strongly Disagree	41	10.1	10.2	100.0
	Total	401	98.5	100.0	
Missing	999.00	6	1.5		
Total		407	100.0		

11. My organization makes its lessons learned available to all employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	91	22.4	22.5	22.5
	Agree	213	52.3	52.7	75.2
	Not Sure	44	10.8	10.9	86.1
	Disagree	41	10.1	10.1	96.3
	Strongly Disagree	15	3.7	3.7	100.0
	Total	404	99.3	100.0	
Missing	999.00	3	.7		
Total		407	100.0		

12. My organization measures the results of the time and resources spent on training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	68	16.7	16.8	16.8
	Agree	190	46.7	46.9	63.7
	Not Sure	84	20.6	20.7	84.4
	Disagree	50	12.3	12.3	96.8
	Strongly Disagree	13	3.2	3.2	100.0
	Total	405	99.5	100.0	
Missing	999.00	2	.5		
Total		407	100.0		

13. My organization recognizes people for taking initiative

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	72	17.7	17.9	17.9
	Agree	176	43.2	43.7	61.5
	Not Sure	96	23.6	23.8	85.4
	Disagree	41	10.1	10.2	95.5
	Strongly Disagree	18	4.4	4.5	100.0
	Total	403	99.0	100.0	
Missing	999.00	4	1.0		
Total		407	100.0		

14. My organization gives people control over the resources they need to accomplish their work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	94	23.1	23.4	23.4
	Agree	210	51.6	52.4	75.8
	Not Sure	54	13.3	13.5	89.3
	Disagree	33	8.1	8.2	97.5
	Strongly Disagree	10	2.5	2.5	100.0
	Total	401	98.5	100.0	
Missing	999.00	6	1.5		
Total		407	100.0		

15 .My organization supports employees who take calculated risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	35	8.6	8.7	8.7
	Agree	133	32.7	33.0	41.7
	Not Sure	129	31.7	32.0	73.7
	Disagree	76	18.7	18.9	92.6
	Strongly Disagree	30	7.4	7.4	100.0
	Total	403	99.0	100.0	
Missing	999.00	4	1.0		
Total		407	100.0		

16. My organization encourages people to think from a global perspective

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	58	14.3	14.4	14.4
	Agree	167	41.0	41.5	56.0
	Not Sure	96	23.6	23.9	79.9
	Disagree	56	13.8	13.9	93.8
	Strongly Disagree	25	6.1	6.2	100.0
	Total	402	98.8	100.0	
Missing	999.00	5	1.2		
Total		407	100.0		

17. My organization works together with the outside community to meet mutual needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	94	23.1	23.4	23.4
	Agree	160	39.3	39.8	63.2
	Not Sure	115	28.3	28.6	91.8
	Disagree	21	5.2	5.2	97.0
	Strongly Disagree	12	2.9	3.0	100.0
	Total	402	98.8	100.0	
Missing	999.00	5	1.2		
Total		407	100.0		

18. My organization encourages people to get answers from across the organization when solving problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	51	12.5	12.8	12.8
	Agree	197	48.4	49.4	62.2
	Not Sure	71	17.4	17.8	79.9
	Disagree	61	15.0	15.3	95.2
	Strongly Disagree	19	4.7	4.8	100.0
	Total	399	98.0	100.0	
Missing	999.00	8	2.0		
Total		407	100.0		

19. In my organization, leaders mentor and coach those they lead

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	110	27.0	27.2	27.2
	Agree	196	48.2	48.5	75.7
	Not Sure	48	11.8	11.9	87.6
	Disagree	34	8.4	8.4	96.0
	Strongly Disagree	16	3.9	4.0	100.0
	Total	404	99.3	100.0	
Missing	999.00	3	.7		
Total		407	100.0		

20. In my organization, leaders continually look for opportunities to learn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	96	23.6	23.9	23.9
	Agree	178	43.7	44.4	68.3
	Not Sure	80	19.7	20.0	88.3
	Disagree	30	7.4	7.5	95.8
	Strongly Disagree	17	4.2	4.2	100.0
	Total	401	98.5	100.0	
Missing	999.00	6	1.5		
Total		407	100.0		

21.In my organization, leaders ensure that the organization's actions are consistent with its values.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	75	18.4	18.6	18.6
	Agree	151	37.1	37.5	56.1
	Not Sure	82	20.1	20.3	76.4
	Disagree	59	14.5	14.6	91.1
	Strongly Disagree	36	8.8	8.9	100.0
	Total	403	99.0	100.0	
Missing	999.00	4	1.0		
Total		407	100.0		

BIOGRAPHY

The researcher is graduated from faculty of commerce and business administration, Helwan University in 2005. Since then, the researcher has been working in the fields of learning and development, project management, performance management and business process management at Ezzsteel.

On the academic side, the researcher completed an academic diploma in political researches and studies in 2011 and another professional diploma in project management in 2013 and started his MBA journey in December 2014.

The researcher's next learning step is to get into DBA journey along with obtaining the certificate of CPLP, Certified Professional in Learning and Performance.