

THE IMPACT OF ISO 9001 ON EMPLOYEE ENGAGEMENT

Shirin Yazdani

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Shirin Yazdani

Abstract

In the past few decades, ISO 9001 quality management and human resources are major issues in business and management research, due to their potential impact on a range of individual and organizational outcomes. In this regard some analysts believe that only a combination of human resource management and ISO 9001 quality management will enable the organization to survive in the future. Given the relevance and usefulness of employee engagement for organizational performance and the recent spread of the ISO 9001 standard, this thesis argues and explores the effect of ISO 9001 adoption on three components of engagement, namely employee empowerment, competency and recognition. In order to test the hypotheses raised, a sample of 600 respondents among the employees of five pharmaceutical companies in Iran (1. Razi Vaccine and Serum Research Institute, 2. Daine Daru, 3. Pasteur Institute, 4. Abidi Pharmaceutical Company, and 5. Razak Laboratory) were selected. The responses were collected during the months of February to April 2018. To this end, following the evaluation of validity and reliability of the designed questionnaire, the relationship between variables were investigated based on structural equations and partial least squares (PLS). The results of testing the hypotheses showed that ISO 9001 has a significant effect on employee empowerment and employee recognition. However, the impact of ISO 9001 on employee competency is not significant. In addition, employee recognition and employee competency had significant impact on employee engagement.

Keywords: ISO 9001, Employee engagement, Employee empowerment, Competency, Employee recognition, Iran

Resum

En les darreres dècades, la norma ISO 9001 de gestió de la qualitat i els recursos humans han estat qüestions importants en la xiiiompetenciaxiiin empresarial i de gestió, a causa del seu potencial impacte en una sèrie de resultats individuals i organitzatius. En aquest sentit, alguns xiiiompetenc creuen que només una combinació adequada de gestió de recursos humans i gestió de qualitat ISO 9001 permetrà a les organitzacions sobreviure en el futur. Donada la rellevància i la utilitat del compromís dels empleats per al rendiment organitzatiu i la recent difusió de la norma ISO 9001, aquesta tesi argumenta i explora l'efecte de l'adopció de la norma ISO 9001 en tres components del compromís: l'empoderament, la xiiiompetencia i el reconeixement dels empleats. Per tal de contrastar les xiiiompetenc plantejades, es treballa amb una mostra de 600 enquestats d'entre els empleats de cinc companyies farmacèutiques a l'Iran (1. Razi Vaccine and Serum Research Institute, 2. Daine Daru, 3. Pasteur Institute, 4. Abidi Pharmaceutical Company I 5. Laboratori Razak). Les respostes es van recollir durant els mesos de xiiiompete a abril de 2018. Després de l'avaluació de la validesa i fiabilitat del qüestionari dissenyat, es va investigar la relació entre variables utilitzant equacions estructurals i mínims quadrats parcials (PLS). Els resultats van mostrar que la norma ISO 9001 té un efecte significatiu en l'empoderament i el reconeixement dels empleats. Tot i això, l'impacte de la norma ISO 9001 sobre la xiiiompetencia dels empleats no és significatiu. A més, els resultats mostren que el reconeixement i la xiiiompetencia dels empleats van tenir un impacte significatiu en la xiiiompetenciaxiiin dels empleats.

Paraules clau: ISO 9001, Participació dels empleats, empoderament dels empleats, xiiiompetencia dels empleats, reconeixement dels empleats, Iran.

Resumen

En las últimas décadas, la norma ISO 9001 de gestión de la calidad y los recursos humanos han sido cuestiones importantes en la investigación empresarial y de gestión debido a su potencial impacto en una serie de resultados individuales y organizativos. En este sentido, algunos analistas creen que sólo una combinación adecuada de gestión de recursos humanos y de gestión de calidad ISO 9001 permitirá a las organizaciones sobrevivir en el futuro. Dada la relevancia y utilidad del compromiso de los empleados para el rendimiento organizativo y la reciente difusión de la norma ISO 9001, esta tesis argumenta y explora el efecto de la adopción de la norma ISO 9001 en tres componentes del compromiso: el empoderamiento, la competencia y el reconocimiento de los empleados. Para contrastar las hipótesis planteadas, se trabaja con una muestra de 600 encuestados de entre los empleados de cinco compañías farmacéuticas en Irán (1. Razi Vaccine and Serum Research Institute, 2. Daine Daru, 3. Pasteur Institute, 4. Abidi Pharmaceutical Company y 5. Laboratorio Razak). Las respuestas se recogieron durante los meses de febrero a abril de 2018. Después de evaluar la validez y fiabilidad del cuestionario diseñado, se investigó la relación entre variables utilizando ecuaciones estructurales y mínimos cuadrados parciales (PLS). Los resultados mostraron que la norma ISO 9001 tiene un efecto significativo en el empoderamiento y el reconocimiento de los empleados. Sin embargo, el impacto de la norma ISO 9001 sobre la competencia de los empleados no es significativo. Además, los resultados muestran que el reconocimiento y la competencia de los empleados tuvieron un impacto significativo en la participación de los empleados.

Palabras clave: ISO 9001, Participación de los empleados, empoderamiento de los empleados, competencia de los empleados, reconocimiento de los empleados, Irán.

Chapter 1: Research Outline

2.2. Personal introduction

Obtaining a PhD in business economics will not only provide me with more specific knowledge and research opportunities in the academy, but it will serve as a foundation for a career in the field of business. An academic career would allow me to continue lifelong research in the field of business economics. Attaining a PhD would also allow me the very special and desired opportunity to teach and counsel others while expanding my knowledge base and continuing the educational process.

I believe that my background in Literature English has prepared me for such a career. The English major has allowed me to maintain high standards of accuracy, clarity and finesse of the language that have helped me in all the workplaces that I have entered. It has also helped me to stretch my thought and analytical skills. I learn what is important and synthesize that information for the use of others. At Andhra University, Dr. Mohan Venkataram directed my honors. At that time, I researched about employee engagement and welfare management.

Throughout my lower division years, I participated in endeavors to expand my research experience, to better acquaint myself with the instructor role, and to participate in an applied counseling setting. I worked as research assistant in Shahre Daroo factory. I was also provided the opportunity to work as a Human Resources manager and a Marketing counselor in a Telecommunication Company since I began my master education. I have committed myself to maintaining a high GPA. Currently my cumulative GPA are 7.2 out of 10 which is mention the first class.

As an Iranian, I personally notice the lack of minority representation in academia. The deficit of Iranian with PhD in business is a motivator for me to seek out a doctorate degree. There should be cultural diversity in academic setting and more diversity in those people researching business economic issues.

I am interested in researching the impact of ISO 9001 on employee engagement. I believe that the application of a quality management system is a strategic decision for an organization and

that it can help the organization improve its general performance and provide a basis for sustainable development. As regards to employee engagement, organizational engagement can create a kind of affective attachment such that highly committed staff will get their identity from the organization, will participate in the organization and will enjoy being a member of the organization. In this direction, staff engagement can be affected by three indices for staff: competency, recognition and empowerment.

Although it is very important to pay attention to human resources, it was considered trivially in previous ISO 9001 studies. The present study aims to examine the effect of ISO 9001 on staff engagement as a PhD thesis. Concerning that scarce research has been conducted in this regard and that only some studies have addressed the importance of human resources in ISO 9001 standards, this research will contribute to the academic literature by analyzing the relationship between ISO 9001 and human resources based on three indices of employees' recognition, empowerment and competency. The results of the study can be effective in the promotion of quality management systems in organizations. Furthermore, concerning the effect of ISO 9001 on employees' engagement, the results of this study suggest that ISO 9001 implementation can lead to an improvement of the quality of services offered by employees to their organizations.

1.2. Introduction

One of the main issues for companies is not just preparing high quality products and services, but also they should attempt to preserve the customers and survive in an evolving environment. The role and status of quality in corporate performance and success in the market has been widely accepted. To this end, in attempt for improving quality, various approaches have been considered for the quality management and ongoing optimization, and accordingly, the scholars have proposed the quality management concept, as the development of an occupational structure for supporting an effective quality improvement. Within quality management, acquiring superior results has a special status among various approaches (Kemenade & Hardjono, 2019). The quality management guarantees the implementation of critical occupational strategies. In fact, the quality change plan initiates from the top level of the business and goes to the lower layers of the business, and if applied properly, it will enhance the flexibility of the business,

increase employee participation, reduce costs, increase customer and employee satisfaction, and ultimately, it will lead to excellence of business (Harter et al., 2002).

The fact is that many organizations have moved in recent years based on the establishment of a quality management system, including ISO 9001. Indeed, ISO is a strong foundation for implementing effective quality management, and the quality system that is in accordance with ISO 9001 will enhance the efficiency and effectiveness of the organization's processes. On the other hand, in the past few decades, ISO 9001 quality management and human resources are major issues in business and management research, due to their potential impact on a range of individual and organizational outcomes (Boon et al., 2007; Bravi et al., 2019). Some analysts believe that only a combination of human resource management and ISO 9001 quality management will enable the organization to survive in the future (Redman and Matthews, 1998; Psomas & Antony, 2015). Research on the theory and practice of the relationship between human resources management and ISO 9001 quality management as well as the relationship between these two and organizational performance is expanding (Boselie and Wiele, 2002). The majority of research works on human resources management and ISO 9001 quality management is focused on the effects of these systems at the organizational level. The previous experimental research works indicate the basic impact of human resources management and quality management on the organizational performance (Boon et al., 2007; Bravi et al., 2019). The significance of a human resources management culture has caused that ISO 9001 quality management grows more than ever because of its impact on the spirit of employees and their occupational engagement. The occupational engagement of employees is probably influenced by various aspects of quality management, which is important due to influencing the organizational performance (Boon et al., 2007; Bravi et al., 2019). Lack of quality in the businesses and lack of occupational engagement among the employees result in some problems such as lack of sustainable goal, absence of cooperation and participation among the employees, emphasis on the short-term goals and attention to the benefits of the business instead of attention to the customer needs and expectations, and negligence to the competencies and performance of employees. On the other hand, considering the lack of adequate research works in relation to the impact of ISO 9001 quality management on occupational engagement of employees and significance of this subject, current research aims at investigating impact of ISO 9001 standard

on the engagement of employees. Particularly, the purpose of current research is identifying effects of ISO 9001 standard on the employee engagement.

In this chapter, firstly the research is described in general, and the problem is stated. Then, the research significance and necessity, goals, and hypotheses are explained. The research statistical population, sampling method, and sample size are described in the next section of this chapter, and finally the operational and conceptual definitions of the terms are provided.

1.3. Statement of the problem

The concept of attitudes is particularly important in social psychology in a way that Allport (1933) stated that concept of attitude perhaps is the most distinctive and most essential concept in contemporary social psychology. It has been assumed that personal attitudes are related to personality, motivation and other processes related to individuals in organizational environment. In fact, attitudes are the desire or willingness of an individual to respond to any type of favorable or unfavorable factor. Attitudes show emotional and evaluating mixture in terms of people, things and concepts. The concept of attitudes has found its place in our mental texture and structure in such a way that it reflects our beliefs about subjects and if it is accurately evaluated and other factors like social norms are also considered, they can show a formidable prediction of behaviors and provide a foundation for our knowledge for interaction with others and the surrounding world (Mitchell, 1977). There are several attitudes in terms of job activities, the most important of them are job satisfaction, organizational engagement and job involvement. In this regard, the greatest volume of research has been in terms of job satisfaction and organizational engagement (Sinclair & Tetrick, 1995).

Employee engagement is a type of emotional attachment to organization in a way that employees who are strongly committed take their identity from the organization, have a contribution and enjoy membership in organization (O'Reilly & Chatman, 1986). Generally, the attitude of employee engagement has been defined as the level of engagement and involvement of an employee toward the organization and its values (Anitha, 2014). When employees are engaged in a job, they are aware of their responsibility toward business objectives and motivation of their colleagues for success in the course of organizational objectives. It should be noted that positive attitude is closely related to workplace and value system of organization. This leads employees

toward completion of tasks in a way that, employees help in completion of their tasks and duties beyond the call of duty (Anitha, 2014).

Managers are responsible for identifying useful activities of employees. One of the biggest motivations in the business world is being recognized as a hard worker with excellent performance. On the contrary, one of the biggest complaints in the business world is when people work hard for excellent performance and then managers ignore their achievements (Luthans, 2000; Epstein et al., 2018). Whenever a person does an exceptional task which is higher than the requirements of the job or even has good efforts, manager must make that person known for others in public and private forms. The principle is that: anything which is recognized will be repeated (Luthans, 2000; Epstein et al., 2018).

Recognition of employees has not had systematic concept till now. Thus, with respect to the need of organizations to recognize employees and organizational development challenges in the field of human resource management, quality of workplace and life and employee engagement, have led to the interaction of management and human resources. In fact, employee recognition is known to be a very important factor in engagement of staff and other mentioned parameters (Brun & Dugas, 2008). Moreover, employee recognition is a viable alternative for controlling and compliance measures when human resources management tool exists in an organization (Brun & Dugas, 2008).

One of the other issues which has been important in recent years in the field of employee engagement is empowerment of employees and many researchers have provided valuable results for organizations and companies around the world by evaluating it (see Pinchot, 2000; Seibert et al., 2004; Govender & Ramroop, 2013; Osborne & Hammoud, 2017). Empowerment is a philosophical concept or set of organizational or behavioral practices in which companies lend the power of decision-making or authority to employees (Pinchot, 2000). Empowerment is a set of policies which allows the establishment of autonomous teams as well as employees who have greater activation scope and are responsible for their decisions (Pinchot, 2000). Empowerment is a modified method of success in which employees have authority to act within a defined framework in order to use their skills to achieve organizational objectives (Haunstein, 2000).

On the contrary, models of competency or competence of staff have been used in business and industry environments over the past three decades for employee selection. However, the process

of using employee competency approach in teaching and learning, assessment and staff development is an emerging experience of its kind, and has attracted more attention. McClelland (1973), Boyatzis (1982), Ozcelik and Ferman (2006), Ennis (2014), Tripathi & Agrawal (2014), and studies of Spencer and Spencer (2008), have been among the first to discuss the issue of staff competence and its importance. In this regard, competence is measured in terms of qualifications, as a set of tacit knowledge and explicit knowledge as well as skills and behaviors which are potentially used for effectiveness in staff performance during the completion of duties (Draganidis and Mentzas, 2006).

The use of a competency model in human resource management leads to the integration of human resource activities. Competence will lead to the formation of a common bond among the majority of the human resources sub-system (Pandey & Chandra, 2014) Competence will lead to the formation of a common bond in a way that organizations can act on the creation of relationship in human resource processes, increasing workforce capabilities and achievement of better results using competence (Donzelli et al., 2006). It may also be effective for an organization to consistently predict general fund of knowledge and skills to perform tasks at the workplace. In addition, organizations might be able to more effectively use information on the competence of staff in order to perform the analysis to reduce cost of training and learning, improve hiring practices, and improve the performance of human resources and planning processes for development and positioning of human resources (Gangani et al., 2006).

However, rapid economic growth and globalization in the last two decades has also been associated with significant increase in dissemination of international management in a wide range of economic activities especially quality management system (QMS) based on the ISO 9001 standard (Salgado et al., 2014). The use of a QMS is a strategic decision for organization which helps to improve the overall performance and provides a reasonable basis for sustainable development activities (Withers et al., 1997; Ikram et al., 2019). Hence, obtaining a quality certification has become a common practice in ISO 9001 standards such that QMS is considered as one of the most common standards in the field of design, implementation, maintenance and certification (Marimon et al., 20; Marimon et al., 2010; Honarpour et al., 2017).

It should be noted that ISO 9000 series is published by the International Organization for Standardization. This series includes policies, legislation and activities required to monitor the

quality of products and services offered by an organization and might be provided for any kind of small, medium or large-scale organization whether it is manufacturing or service organization, private or public (ISO 9000, 2005; ISO 9001, 2008; ISO 9004, 2009; ISO 19011, 2011; ISO 9001, 2015). The implementation of ISO 9001: 2015 and its requirements meets the needs of the organization when the organization needs to demonstrate its ability to uniformly deliver products and services that comply with customer requirements and applicable legal requirements. The consistent delivery of products and services means that the organization assures stakeholders that the quality of its products and services will never decline in the future and that the organization is constantly looking for solutions and services that deliver customer satisfaction.

The latest results of the yearly ISO Survey are available, which show that the estimated number of ISO 9001 certificates as of 31 December 2019 is 883,521, representing a 0.5% increase in respect to the previous edition. The scope of the 2019 survey remains unchanged from the previous edition, with a total of 12 ISO management system standards included. A more specific survey on ISO 9001 is currently ongoing. Based on the above information, ISO 9001 QMS and the relationship between employee engagement and type of relations between them, it seems reasonable that ISO 9001 has some effects on employee engagement.

On the whole, based on the importance of employee engagement and organizational performance, in order to justify a special place to improve organizational position, it is necessary to evaluate the special status of employee engagement. In this regard, three concepts of employee recognition, empowerment of employees and competence of employees are argued to affect employee engagement. In addition, the relationship between employee engagement and ISO9001 QMS is greatly important such that it has not been referred to in research literature till now. In this context and based on the importance of issues mentioned above, the objective of this study is to evaluate the Impact of ISO 9001 on employee engagement.

1.4. Research objectives

As mentioned in the preceding sections, one of the most important factors that can influence the status and performance of an organization under the influence of ISO9001 quality management

indicators is the engagement of employees. It is the impact of recognition, competence and empowerment on employees that can lead to the effectiveness of the organization.

The main question of research can be stated as follows:

- 1- ISO 9001 implementation increases real recognition at all levels.
- 2- ISO 9001 implementation increases real employee empowerment at all levels.
- 3- ISO 9001 implementation increases real enhancement of competency among employees
- 4- Determining the effect of employee recognition on employee engagement.
- 5- Determining the effect of employee empowerment on employee engagement
- 6- Determining the effect of employee competency on employee engagement

1.5. Significance of the Study

The study is significant in a number of ways. Firstly, to shade light on how Management or decision makers should consider whether to pursue Implementation of ISO 9001 QMS, or not especially on the areas of employee engagement.

Secondly, the study will offer a significant contribution to existing theoretical and empirical knowledge regarding impacts on implementing QMS ISO 9001 on employee engagement.

Finally, the study may serve as a reference and basis for further research on impacts of implementing QMS ISO 9001 on employee engagement in developing countries.

1.6. Scope of the Study

The current research investigates the impact of ISO 9001 on the engagement of employees on Iran Pharmaceutical Companies during 2018. In order to achieve the research goal, the existing previous studies were reviewed, and an empirical research was carried out gathering information about a collection of variables affecting ISO 9001 and employee engagement (conceptual definitions of these variables are given in chapter 3, section 3.2.2). After identifying the variables and assessing the validity and reliability of the research questionnaires, a questionnaire was used to collect the data. A sample size of 600 was identified and the questionnaires were distributed by email and partly in person. The data collected was analyzed using SPSS 22 software (for demographic and reliability description) and SmartPLS software was used to perform confirmatory factor analysis (investigating measurement model) and exploratory factor

analysis (investigating structural model) in order to examine the fit and overall quality of the model as well as to test the hypotheses.

1.7. Organization of the Study

The thesis is organized into five chapters. Chapter one explains the introduction part. Chapter two presents the theoretical foundation of the thesis. Chapter three describes the research methodology used to carry out the study in which research design, area of the study, population of the study, sampling design and methods of data collection have been discussed. Chapter four provides the findings. Chapter five provides a summary of the findings and discussion and finally, Chapter 6 brings the thesis to an end with a conclusion and recommendations of the study.

Chapter 2: Theoretical Foundations of Research

2.1. Introduction

Organizations are composed of systems that make it perform its activities. The primary goal of every system is the achievement of the respective and desired outcome. The notion that processes must be analyzed and continuously improved is considered as the underlying concept of quality management systems. In recent decades, ISO 9001 International Standards have been introduced to provide a framework for the development of quality management systems. ISO stands for the International Organization for Standardization. Al-Rawahi and Bashir (2011) state that with rising rates of efficiency, competition, and customer satisfaction, most organizations have realized that improving the quality of goods and services is a necessary condition for survival and market presence and global competition, which would not be feasible unless by means of implementing a standard successful quality system in the organization. Nevertheless, human resources play the most important role in implementing quality management (Gotzamani and Tsiotras, 2002). A majority of research works on human resources management and ISO 9001 quality management is focused on the effects of these systems at the organizational level but neglected the employee level. The previous empirical research works indicate the fundamental impact of human resources management and quality management on organizational performance (Boon et al., 2007). Actually, the significance of human resources management culture has caused that ISO 9001 quality management to grow more than ever because of its impact on the spirit of employees and their occupational engagement. Employee engagement is likely to be affected by various aspects of quality management, which is of importance in influencing organizational performance (Boon, et al, 2007). Due to the lack of adequate research on the impact of ISO 9001 quality management on employee engagement, the current study seeks to examine the impact of the ISO 9001 standard on employee engagement from the perspective of employee perceptions. The purpose of this research is identifying the effects of ISO 9001 standard on employee engagement. Although this is a difficult endeavor, this research aims to fill this gap by providing a deeper analysis and insights on the effects of ISO 9001. In this chapter, firstly the theoretical foundations regarding quality management and ISO 9001 will be presented. Then, the theoretical foundations of employee

engagement (section 2.3) and its dimensions are discussed (sections 2.4 to 2.6), and finally theoretical foundations for the development of research hypotheses (section 2.7) are presented.

2.2. Quality Management

Nowadays organizations are inevitable forced to put priority on the improvement and development at all organizational aspects for survival and dynamics in the competitive world. In this path, the employee engagement on the one hand, and satisfaction of the clients, on the other hand, play the key role in the excellence of the organizations in the growing competition era. Furthermore, acquiring confidence about the quality of products and services has a crucial significance in the globalised economy. In other words, the stability and growth of the companies in national and global markets depends on the level of meeting product requirements (quality) from the customer perspective. To this end, quality management systems are appropriate means for providing ongoing and iterative expected level of quality (Alolayan et al., 2013).

The companies that focus on the implementation of quality management create more value for their customers and improve productivity of the organizational processes (Fuentes et al., 2006). Ongoing improvement of processes and quality of product leads to increased incomes through reliability of the product and cost reduction (through productivity), and in turn, the customer satisfaction results in increased incomes, and enables the organization to achieve a market advantage (Tari et al., 2013; Bernardo et al., 2015).

Quality management implementation is one of the complicated issues for organizations, and its complexity is due the changes that occur in the organizational culture and employees. Results of studies in this regard indicate that quality management activities have a positive correlation with the displacement rate and employee satisfaction (Honarpour et al., 2017). In addition, results of studies by Giumars (1996); Hommeda (2020) indicate that the implementation of total quality management in organizations lead to high employee satisfaction, higher employee participation and engagement and tendency to stay in the organization. The studies by Mc Adam R., Bannister A (2001) show that the implementation of total quality management provides an appropriate physical and non-physical environment in the organizations, which is accompanied by reduced employee absenteeism. In another study by Boselie P., Van der Wiele T (2002) it is reported that

the perception of employees about various activities of quality management leads to high satisfaction, low absenteeism and high organizational engagement.

The quality management process in the organizations includes a collection of planning, organization, coordination, and orientation activities for achieving customer satisfaction. The quality management systems essentially seek to meet customer needs and expectations, and it is the greatest mission that can be perceived for the quality management systems (Kalra and Pant, 2013).

The term quality management system can be explained as follows (Mungara, 2010):

- System: A set of interrelated processes that result in the production of a product or service.
- Management: Planning, organizing, directing and controlling
- Quality: Quality has different definitions, but from a standard standpoint, quality means meeting the requirements (legal requirements, customer requirements, standard requirements, etc.).

When it comes to quality management systems, it means planning, organizing, directing and controlling a system or organization by taking into account quality (the quality that is defined in ISO 9001).

An organization that decides to implement a quality management system must implement quality throughout its organization. This quality should lead to the production of a product or service that meets the requirements and demands, especially the demands of the customer. When deployed in an organization, ISO 9001 or a quality management system, involves all processes of the organization (ISO, 2016), including:

- Main processes of the organization such as production, purchasing, quality control, customer relationship, etc.
- Management processes such as human resource management, training, recruitment, etc.
- Support processes such as warehousing, maintenance and repair of machinery, etc.

The aim and purpose of the ISO 9001 standard is to improve the quality of products in addition to keeping them at a constant level of accomplishment. A quality management system can be a great solution for an organization that is interested in following the path of improvement. It should be

kept in mind, however, that this standard, and even other standards, will only work when senior management have a strong engagement, which is also supported by its partners and staff. In addition, we must acknowledge that the effectiveness of this standard requires several months of implementation within the organization before the results can be tangible and visible (Tari et al., 2013).

A Quality management system in its basic concept is quite simple. It seeks to recognize the external quality related requirements specified in Licenses to Trade, guidelines, specified customer requirements, and the chosen management system standard(s) and it has to comply with the following conditions (ISO, 2016):

- Ensure that all requirements (the practical approach to meet ISO 9001 requirements is designed at each organization individually; there is no one “single approach” that must be used) have been documented within the management system in the appropriate location in terms of the defined specific system requirements.
- Confirm that employees receive applicable training in the quality system requirements
- Outline performance processes (The performance management process is a collaborative, communication-based process where employees and management work together to plan, monitor and review the employee’s objectives, long-term goals, job trajectory and comprehensive contribution to the company), where applicable, to the quality system requirements.
- Produce records or evidence that system requirements have met.
- Measure, monitor and report the extent of compliance with these performance procedures.
- Continually monitor and analyze changes to the requirements and confirm that all changes reflected in the changes to the specific requirements when necessary.
- Execute the auditing and analyzing the system processes and correct them when necessary.
- Include processes that will help continually improve the quality management system.

2.2.1 Quality Concepts

Quality control, as the first concept of quality, is related to the administrative operation of meeting quality requirements, while quality assurance is for creating confidence both inside and outside of the organization, for the customers and other external stakeholders. Quality management covers both quality control and quality assurance. In addition, it also includes concepts of quality policy, quality planning, and quality improvement, and works through the whole quality system. These concepts can be extended to all sectors of the organization.

ISO 9001 Standard includes quality management which implies quality control, quality assurance, quality policy, quality planning, and quality improvement. Total quality management adds to the above concepts, a comprehensive long-term management strategy, and participation of all members of an organization to serve the interests of the organization, its members, its customers, and the entire community.

The concept of quality control is only product-oriented and has a highly specialized position in the field of quality control. While the ISO 9000 standard is product-oriented and process-oriented, it emphasizes the principle of quality compliance and systematic and documentary organization of the quality system. In turn, total quality management is customer-oriented, emphasizes that all products and processes should be tailored to the needs and the desire of domestic and foreign customers, stands that the responsibility of quality lies with everyone, and that organization and self-control should be continuously developed in the quality system (Chiarini, 2011; Chiarini et al, 2020).

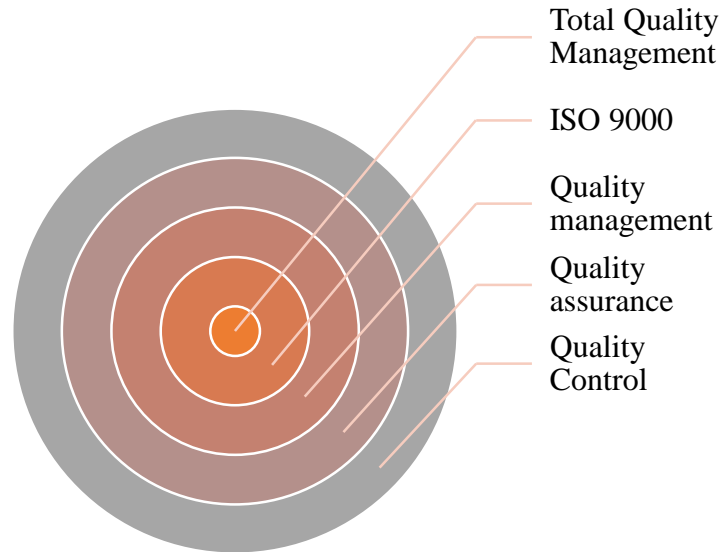


Figure 2.1. The Relationship between Quality Concepts (Institute of Standards and Industrial Research of Iran, 1995)

2.2.2. Total Quality Management

The term ‘total quality management’ is composed of three terms: total, quality, and management. Analysis of these constituents helps its better and deeper understanding. The term ‘total’ means that the total quality management covers all individuals and organizational affairs. The term ‘quality’ means what is expected and needed by the customers, and the term ‘management’ means that the quality is managed in the organization rather than just preservation by inspection and control (Zhang, 1997; Jayashree & Faisal,2017).

Boaden (1997) points out that the issue of defining comprehensive quality management has not received much attention, and each author accepts a definition that suits his or her point of view. Wilkinson & Witcher (1990) provides an interpretation of the concept of total quality management into three parts, thereby the ‘total’ refers to the individuals involved in this process (including customers and suppliers), ‘quality’ refers to the specific needs of the customer, and ‘management’ refers to the committed top management. Indeed, total quality management is a customer-oriented process, which seeks for an ongoing improvement and meeting customer needs (Sahaney et al., 2004). Total quality management is the art of management of the whole collection for achievement of the best. It could be proposed total quality management could be explained as follows: ‘Treat others in such a way that you like to be treated. (Shalhaf, 2014).

Total quality management is something beyond the major values. It is a management system that is composed of interconnected components. These components cooperate to achieve the system goals. According to Hellsten, U., & Klefsjo, B (2000), one of these components includes the major values of the organization. The major values constitute the basis of the culture of every organization. A second component is the set of techniques, that is, the methods of working in the organization for achievement of the values. Techniques include the activities that are implemented based on a specific order. The third component includes the tools, that is, the relatively tangible and explicit elements that sometimes have a statistical basis. Based on which data analysis is facilitated and decision-making is enhanced. These three constituents of total quality management are interdependent and support each other (Klefsjo & Hellsten, 2000; Androniceanu, 2017).

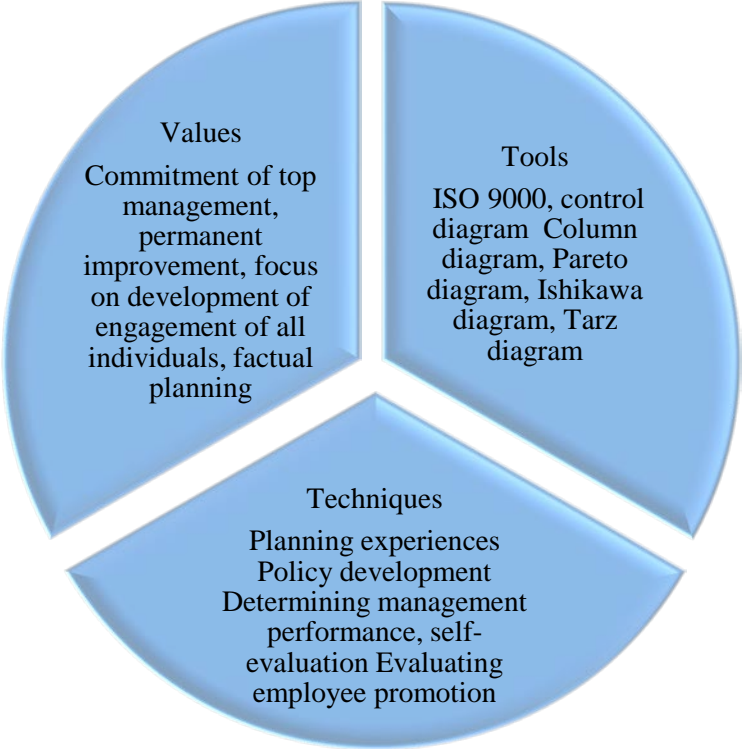


Figure 2.2. Definition of Total Quality Management by Hilston and Kelifesju (2000)

Total quality management is an attitude based on which the organization’s management with participation of all employees, customers, and suppliers, attempts to constantly improve the quality that leads to customer satisfaction. According to Riahi (2002), Total quality management is a management philosophy that is extensively applied in the companies. It is widely discussed in the

academic papers, and its analysis denotes that most organizations and authors have a specific definition of it. Lamei (2002) states that total quality management is a process that is focused on the customers, quality, based on the facts, reliant on the teams, which are directed by the top management in order to achieve organizational strategic goals through continuous promotion of processes. Other authors conceive total quality management as a collection of management processes and systems the purpose of which is attracting customer satisfaction through employee empowerment, achievement of higher income, and lower costs (Juran & Godfrey, 1999; Alghamdi, 2018).

According to the definition of the American DOD institute, total quality management is regarded as a philosophy and a set of principles and guidelines for the continuous improvement of the organization through human resources, quantitative methods for improving material, services, and all processes existing in the organization to meet the current and future needs of the customer (Wilkinson & Witcher, 2007).

Overall, this thesis considers that total quality management can be defined as “the intelligent, calm, and continuous action to meet the organizational goals, that ultimately results in customer satisfaction, increased efficiency, and enhancement of market competitiveness, by means of synergistic actions.” Therefore, three main points are embedded in total quality management:

- Determining priorities of the customer need (customer taste)
- Production according to the customer taste (ultimate quality)
- Determining customer need (market) (Wilkinson & Witcher, 2007).

In order to TQM, models have been proposed, some of which are mentioned below.

2.2.2.1. EFQM model

Webster (2016) argues that “organizational excellence is delivering, and sustaining the delivery of, outstanding value to all key stakeholders”. And according to experts from EFQM: “Excellent organizations are those that achieve and sustain outstanding levels of performance that meet or exceed the expectations of all their stakeholders” (EFQM, 2012). Anyway, excellent organizations have some facets as sustainability, profitability, social responsibility, reputation and good governance. In Europe, The EFQM Excellence Model is the most known and implemented version

of BEMs throughout the years. The original version of The European Model for TQM was upgraded by repeatedly way and next-to-last version from 2012 (EFQM, 2012) was fully accepted by management community (not only in Europe!) as the most advanced tool for achieving a long term success and excellent level of an organizational performance. The latest version of this model has been designed from years of experience in changing markets to understand the benefits of organizational analysis, future forecasting and predictive intelligence in driving true transformation. It was launched in November 2019 to replace version from 2012 (Nenadal, 2020).

The EFQM Excellence Model (EFQM, 2012) has comprised three integrated components:

- The Fundamental concepts of Excellence. They were about eight core principles of organizational excellence: adding value for customers, creating a sustainable future, developing organizational capability, harnessing creativity and innovation, leading with vision, inspiration and integrity, managing with agility, succeeding through the talent of people, sustaining outstanding results.
- The Criteria as a framework to help organizations convert fundamental concepts into practice (9 main and 32 partial criteria were included into this framework).
- The RADAR logic as dynamic assessment framework that allows to calculate overall organizational excellence level (maturity) through pointing and discovering areas for next improvement of the management system.

On the contrary, The EFQM Model (EFQM, 2019) does not comprise concepts of excellence explicitly, but they are hidden and integrated into all new sections of the model. The RADAR logic is mostly kept there in original way, also as natural part of the model. Such simplification of overall model's structure wants all managers to perceive as beneficial feature with regard to its practical implementation (Nenadal, 2020).

Let us suppose a framework of criteria, so typical for previous The EFQM Excellence Model is commonly known (see EFQM, 2012; Kanji, 2015) and many others. In comparison, the new model is based on completely changed framework. Now, it consists of three key sections:

- Direction (Why do it?);
- Execution (How do it?);
- Results (What is achieved?).

See Figure 2.3, the logical linkages among these three sections are evident and they seem to be easy to understand for all, who are engaged in practical development of management systems.

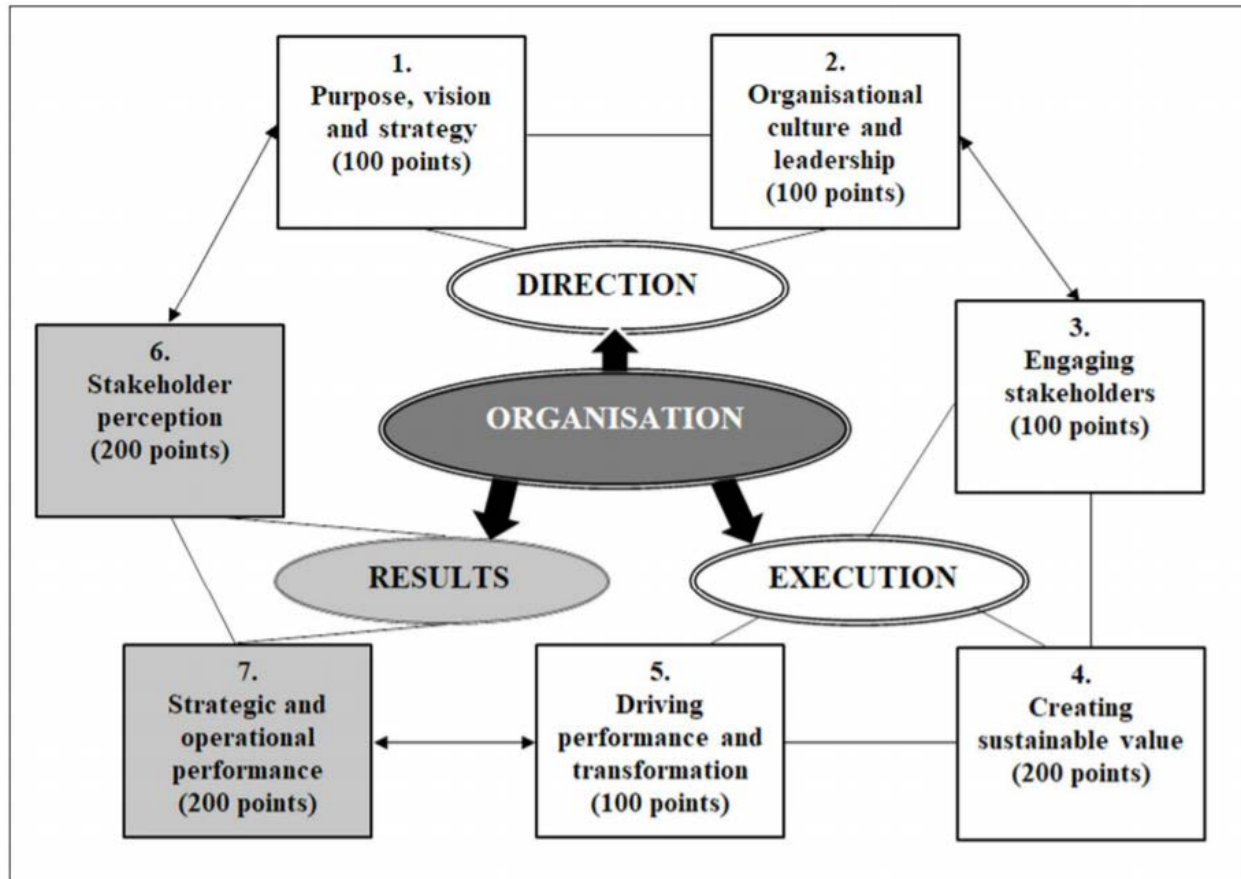


Figure 2.3. Structure of the EFQM Model (Adapted According to EFQM, 2019)

2.2.2.2. Malcom Baldrige National Quality Award (MBNQA)

Given the paucity, until recent years, of evidence suggesting what the elements of effective quality management programs are, the Malcolm Baldrige National Quality Award (MBNQA) has been used by many organizations in the U.S. as a framework for developing quality initiatives and awards. This award was instituted by the United State Department of Commerce in 1987 with the goals of stimulating awareness of quality by business organizations, providing a framework which organizations could use to evaluate quality improvement efforts, and rewarding and publicizing the efforts of successful organizations. The award assesses an organization's quality management efforts in seven areas (Figure 2.4) using a comprehensive evaluation process (Ghosh et al., 2003).

Up to five awards may be given each year in each of five categories: manufacturing companies, service companies, small businesses, educational institutions, and healthcare organizations. The intuitive appeal of the process and of the underlying constructs of quality it examines is such that in addition to award applicants, numerous organizations with no intention of applying for the award have used the award framework for self-assessment purposes. The Baldrige award criteria are in fact now called “The Criteria for Performance Excellence” (Ghosh et al., 2003). Moreover, the dimensions of quality obtained by Ghosh et al., (2003) are derived from components of the MBNQA, and closely resemble dimensions obtained in other studies. This suggests that in the absence of definitive guidelines for implementing quality programs, the MBNQA framework may be an appropriate surrogate.

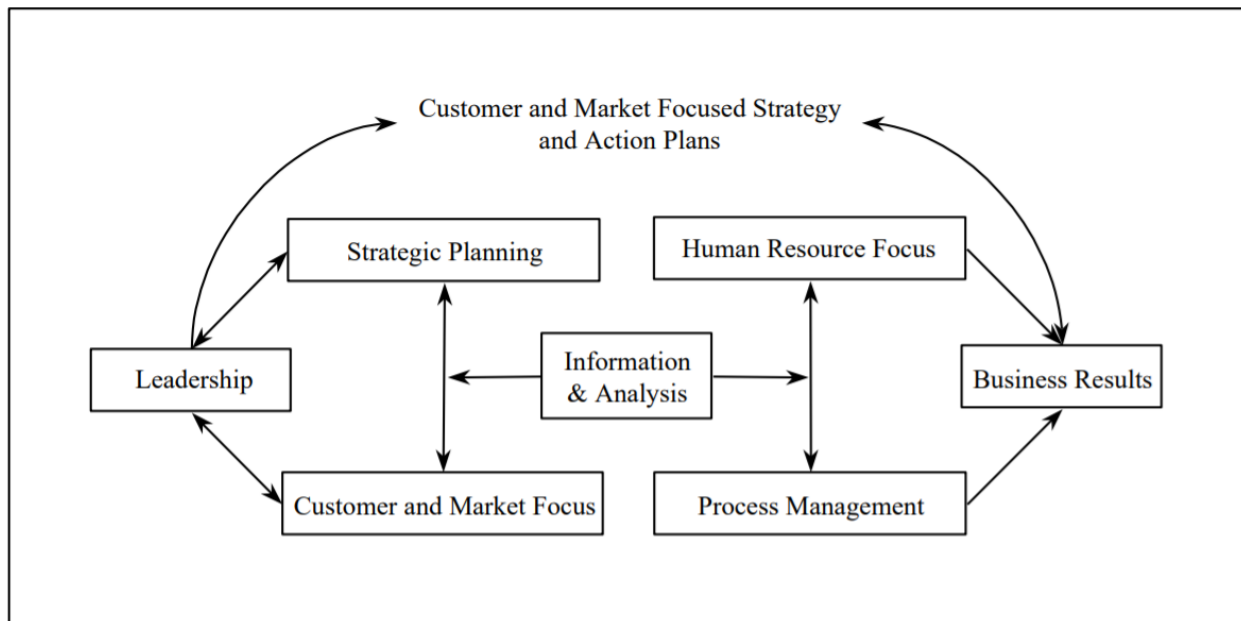


Figure 2.4. The Baldrige Award Criteria Framework: A Systems Perspective

2.2.2.3. Deming Prize

Applicant organizations and divisions of companies sought after new approaches to quality management that met the needs of their business environment and challenged for the Deming Prize. Those organizations developed effective quality management methods, established the structures for implementation and put the methods into practice (Taddese & Osada, 2010; Breja et al., 2016).

Commonly, those who have challenged for the Prize share the feeling that they have had a valuable experience and that the management principle of achieving a business success through quality improvement has really worked. Through witnessing the success of these organizations, many other organizations have been inspired to begin their own quest for quality management. Learning from those who went before them, the new practitioners are convinced that quality management is an important key to their business success and that the challenge to attain the Prize can provide an excellent opportunity to learn useful quality methodologies. Thus, quality management has spread to many organizations, its methods have evolved over the years and the methods contributed to the advancement of these organizations' improvement activities (Taddese & Osada, 2010).

This mechanism that encourages each organization's self-development comes from the examination process of the Deming Prize, though the very process has invited some criticism that the marking criteria for the Deming Prize is unclear. To make the examination process more transparent and to communicate the intentions of the Deming Prize more clearly, the evaluation criteria and the judgment criteria for passing are now presented. However, the Committee's basic stance on the examination criteria remains unchanged. Namely, the criteria should reflect each applicant organization's circumstance (Taddese & Osada, 2010).

The Deming Prize examination does not require applicants to conform to a model provided by the Deming Prize Committee. Rather, the applicants are expected to understand their current situation, establish their own themes and objectives and improve and transform themselves organization-wide. Not only the results achieved and the processes used, but also the effectiveness expected in the future are subjects for the examination. To the best of their abilities, the examiners evaluate whether or not the themes established by the applicants were commensurate to their situation; whether or not their activities were suitable to their circumstance and whether or not their activities are likely to achieve their higher objectives in the future (Taddese & Osada, 2010; Breja et al., 2016).

The Deming Prize Committee views the examination process as an opportunity for "mutual-development," rather than "examination." While in reality the applicants still receive the examination by a third party, the examiners' approach to evaluation and judgment is comprehensive. Every factor such as the applicants' attitude toward executing Total Quality Management (TQM), their implementation status and the resulting effects are taken into overall

consideration. In other words, the Deming Prize Committee does not specify what issues the applicants must address, rather the applicants themselves are responsible for identifying and addressing such issues, thus, this process allows quality methodologies to be further developed (Taddese & Osada, 2010; Breja et al., 2016).

2.2.3. Quality Management Standards: ISO 9000 series

Organizations consist of a set of systems that are necessary to carry out the organization's mission. The primary goal of any system is to achieve the desired result. The notion that processes must be analyzed and continuously improved is considered the underlying foundation of the concept of a quality management system. International ISO standards have been proposed in the recent decades for paving way to develop quality management systems. Sohal et al. (2000); García-Alcaraz et al (2019) state that with rising rates of efficiency, competition, and customer satisfaction, most organizations have realized that improving the quality of goods and services is a necessary condition for survival and market presence and global competition, which would not be feasible unless by implementing a standard successful quality system in the organization (Triantafyllou, Ballas, 2010).

Most organizations and companies in the public and private sectors perceive achievement of this system as an undeniable necessity for their survival (Triantafylli & Ballas, 2010). Anyway, implementation of quality management in the organization requires pursuing a coherent, consistent, and regular formulated process. Various models have been proposed by the international and national organizations in order to achieve this goal, one of the main of which is ISO 9000 quality management system (Ho et al., 2001). There are many incentives to apply ISO standards in the organization, including improving company image, improving efficiency of the quality system, fulfilling customer requirements, realization of government demands, improving product service quality, improving productivity, and costs reduction (Triantafylli & Ballas, 2010).

In the 1970s, the Technical Committee 176 of the International Organization for Standardization (ISO) was established to develop standards for quality management and quality assurance. Its creation was due to the urgent need of countries to ensure the uniformity and consistency of the quality concepts in the world, the need for specific criteria in international commercial contracts, and a standard for issuing quality certificates and use by authorized organizations (third parties).

ISO is a non-governmental organization that was established in 1967, and it is located in Geneva. Since establishment, this organization has published over 10,700 international standards including ISO 9000 family of standards. ISO 9000 family of standards provides a framework about quality management and assurance for all product and service production and delivery processes (Johri, & Kumar, 2021). ISO 9000 standards are not standards for products or services, rather they are quality management standards. In other words, these standards specify the criterion and pattern for different activities within a manufacturing or service unit. ISO 9000 standards are managerial standards that express basics of quality management system. In other words, ISO 9000 standards are not standards of the product rather they present executive strategies for reaching the desirable quality of products and satisfaction of consumers (Ferguson, 1996). Therefore, that observation of these standards results in production of products or services with the desired quality. Accordingly, these standards are known as quality assurance standards (Institute of Standards and Industrial Research of Iran, 2008).

ISO 9000 series of standards are used as the international basis and reference in commercial contracts, orders for the purchase of goods or services, and internal and external transactions. In addition, all manufacturing units can, in accordance with their own conditions, select and establish these standards as their own quality system, and use them in their manufacturing and commercial relations. These standards have been used in Germany under the title of DIN ISO 9000, in England under the title of BS5750, and since 1990 in Europe, under the title of 29000 EN.

ISO 9000 was first published in 1987 by ISO (International Organization for Standardization) (Dick, 2000). It was based on the BS 5750 series of standards from BSI that were proposed to ISO in 1979 (Dick, 2000). However, its history can be traced back some twenty years before that, to the publication of the United States Department of Defense MIL-Q-9858 standard in 1959. MIL-Q-9858 was revised into the NATO AQAP series of standards in 1969, which in turn were revised into the BS 5179 series of guidance standards published in 1974, and finally revised into the BS 5750 series of requirements standards in 1979 before being submitted to ISO. Such standard is the foundation of other standards of quality management including, General motors quality standard, Federal code for nuclear industries CFR5010 and so on. It is noteworthy that 9000 refers to the number of standards that had been formulated in that time.

It is noteworthy that ISO 9000 standards version 1987 was not highly welcomed because such standards expressed basics of a quality assurance system while the world at that time was dealing with quality management system and exclusive quality management (Hoyle, 2001; Kee and Aye, 2020). In 1994, ISO 9000 standards were firstly revised but not many changes were included, only a few changes were placed in order to convert it to a quality management standard (Hoyle, 2001). After the application of such changes, the ISO 9000 standards was welcomed worldwide, but the application of the standard did not become more widespread, indicating a defect in the standard. On the other hand, advanced countries such as the USA believed that it was inadequate and dated back to 60s decade (Boulter & Bendell, 2002). For example, General motors, Chrysler and Ford companies used ISO 9001:94 standard and added a series of requirements and guidelines to it. Then, they formulated quality management standard QS 9000¹ (Van Houten, 2000). Concerning feedbacks of ISO 9000 standards, TC 176 committee held meetings for revision of ISO 9000 standards in 1998. As a result, such standards were published in 1998??with great changes compared to the previous version (Vouzas F, 2007).

The ISO 9000 standards have become four major standards (Kumar & Balakrishnan, 2011).

- ISO 9000: Quality Management System - Fundamentals and Terms
- ISO 9001: Quality Management System - Requirements
- ISO 9004: Quality Management System - Performance Improvement Guideline
- ISO 9011: Guidelines for Environmental and Kent Auditing

These series of standards are reviewed every five years. The world standard body revised ISO 9001:2008 to ISO 9001:2015 in September 2015. Associations had a transition period up to September 2018 to travel to ISO 9001:2015 (ISO, 2016). Its main goals are to upgrade items and management according to client and administrative prerequisites, accomplishment of consistency, improves the system to care more about consumer loyalty or to include consumer loyalty in the framework (ISO, 2016).

¹ QS9000 was a quality standard developed by a joint effort of the "Big Three" American automakers, General Motors, Chrysler and Ford. It was introduced to the industry in 1994. It has been adopted by several heavy truck manufacturers in the U.S. as well. Essentially all suppliers to the US automakers needed to implement a standard QS9000 system, before its termination .

As already said before, the last version of ISO 9001 standard was published in 2015 (ISO 9001, 2015). This standard is currently widely used in the world, such that 1.1 million organizations in 180 countries are currently using this standard (Raweni, 2018). Based on the studies of Ikram et al., (2020), ISO 9001 certification is considered as one of the most modern tools used for improvement of quality management system. In this regard, many companies are interested in using quality management principles presented by the International Organization for Standardization on a daily basis due to the rapid growth of this standard (Ikram et al., 2020).

ISO/TC 176 maintains a database of approved interpretations of the ISO 9001 standard. It is noteworthy that ISO 9001 refers to the number of standards. ISO 9004, “Managing for the sustained success of an organization – A quality management approach”, is used to extend the benefits obtained from ISO 9001 to all parties that are interested in, or affected by, your operations. Interested parties include your employees, owners, suppliers, partners and society in general. ISO 9004 is recommended as a guide for organizations whose top management wishes to extend the benefits of ISO 9001 in pursuit of systematic and continual improvement of the organization’s overall performance. However, it is not intended for certification or contractual purposes.

ISO 19011, Guidelines for auditing management systems, covers the area of auditing of quality management systems and environmental management systems. It provides guidance on audit programmers, the conduct of internal or external audits, and information on auditor competence. ISO 19011 provides an overview of how an audit programmer should operate and how management system audits should take place. Effective audits ensure that an implemented QMS meets the requirements specified in ISO 9001. The nature of your organization and your specific needs will determine how you apply these standards to achieve your goals and objectives. Useful hints and tips for conducting audits have been developed by the ISO 9001 Auditing Practices Group. Information on third-party auditing has also been compiled by the joint ISO-IAF (International Accreditation Forum) Accreditation Auditing Practices Group (ISO 2015).

Organization that receive ISO 9001 confirmation have encountered changes in their financial related and non-financial performance owing to this accreditation (Psomas et al., 2013). These associations ordinarily encounter positive engagements on their execution (Muturi et al., 2015). Non-financial related execution is the accomplishment of all the desirable goals of an association that can't be measured using financial accounting strategies. These objectives include: organization

culture, competitiveness, organizational strategic orientation, quality and duty of workforce, consistence to the administrative and administrative structure, advertising, modern accepted procedures, advancement, client devotion and consistence to biological necessities (Hussain and Hoque, 2002).

ISO 9001 emphasis gives a diagram to quality administration framework that determines a company's execution change. It covers every one of the actives of an association, for example, distinguishing proof of key hierarchical procedures, illustrating parts and duties, strategies, targets and requirement for documentation (Mulela, 2013). It is a system that is pertinent to any type of organization, running from small family ventures to worldwide corporations (Morris, 2006). The advantages of ISO 9001 confirmation include: concentration on accomplishing arranged outcomes, adaptability for archived data, upgraded hazard administration, enhanced process control prompting better execution, increased consumer loyalty, client maintenance and reliability, improved image and reputation, etc (Okwiri, 2013). The other advantages of ISO 9001 are, documentation of procedures, highlighting wasteful aspects and conveying them to the consideration of administration, which altogether bring about a cost decrease and an expansion in quality (Morris, 2006). This affirmation is intended to assess different frameworks and methods of an organization and not the particular products or administrations that the organization offers (Levine & Toffel, 2010).

Regarding the ISO 9000 standards, especially the quality management system (ISO 9001 standard), new viewpoints have been created for effective productivity from human resources (Vouzas, 2007). In the dedicated ematic literature and in direction of standard certificate issuance, human resource quality improvement program and human resource designs have been changed basically and a correct perception of human resource performance has been outlined in organizations (Hart and Schlesinger, 1991; Blackburn and Rosen, 1993). According to Wilkinson et al (1991), the quality of the human source element has been ignored in the literature, as well as organizations tend to have a manufacturing perspective. It should be noted that there is limited research on strategic management of human resources in direction of quality management systems (Hart and Schlesinger, 1991; Blackburn and Rosen, 1993; Beaumont et al., 1994; Baruch, 1997; Conti et al, 2002; Soltani et al., 2004; Vouzas, 2007). In fact, such research indicates that human sources can be at the center of quality management to increase participation and engagement of

employees and they are necessary for implementation of high quality designs and application of successful programs and techniques. It is argued that quality management cannot be applied without human resources and their role in improvement of quality management systems (Vouzas, 2007). The studies of Wilkinson et al. (1991) and the IPM (1993) show that performance of human resources plays an important role in designing and implementing phases of quality management system.

Furthermore, in the literature, it was found that in many organizations the human resource function plays an important role in the design and implementation of a quality assurance system (Blackburn and Rosen, 1993; Wilkinson et al., 1991). On the other hand, there are cases in which a quality assurance system had been implemented within the HR department. Its integration with human resource management (HRM) is increasingly recognized as all managers' and employees' engagement is a major component of success. Another striking finding is that HR professionals are willing to digest and implement the fundamental principles and practices of quality into their HRM practices. They also strongly believe that quality improvement efforts and the ISO 9001 series certification is one of the major challenges in their job (Lawler, 1994; Ahmed & Idris, 2020).

Research evidence shows that when quality management evolves from quality control or quality assurance, it tends to focus on the "process" (technical) aspects of quality rather than on the "human" aspects (IPM, 1993; Kufidu and Vouzas, 1998). Thus, organizations being engaged in a quality assurance approach to quality improvement, do not usually allow sufficient room for staff contributions, and training is targeting only towards people involved in the production process. The personnel department usually is a peripheral function with a very traditional role. The IPM study shows that organizations placing emphasis on a "process" approach to quality tend to exclude human resource department from the design and implementation of quality assurance system such as ISO 9000 series. In most of the cases its role is limited and oriented towards increasing the awareness of the quality standard and handling the administrative aspects of quality efforts (IPM, 1993).

2.2.4. ISO 9001 Quality Management Principles

For the successful leadership and administration of an organization, it is necessary that the organization is directed and controlled in a systematic and transparent way. The success may result

from the establishment of a management system that has been designed for continuous performance improvement, and at the same time, pays attention to all needs of the involved parties. Management of organizations includes management of quality among other areas of management. To this end, the eight management principles are recognized as the main principles in every organization, observation of which causes growth and excellence of organization (West, 2000). The three main principles in ISO 9001 are customer focus, process approach, and continuous improvement. Customer focus requires the organizations to perceive present and future needs of the customers, and meet them. Process approach requires the organizations to manage the activities and resources as the process for efficiency improvement. The third principle, continuous improvement, requires the organization to consider a permanent promotion of total performance of organization as the main goal. Implementation of these principles on the one hand requires control, which often is acquired by standardization of processes, and on the other hand, it requires continuous improvement (Adler et al., 1999; March & Simon, 1958; Nelson & Winter, 1982). The eight management principles are described in the following (Figure 2.5) and a further analysis is offered in the following eight subsections.

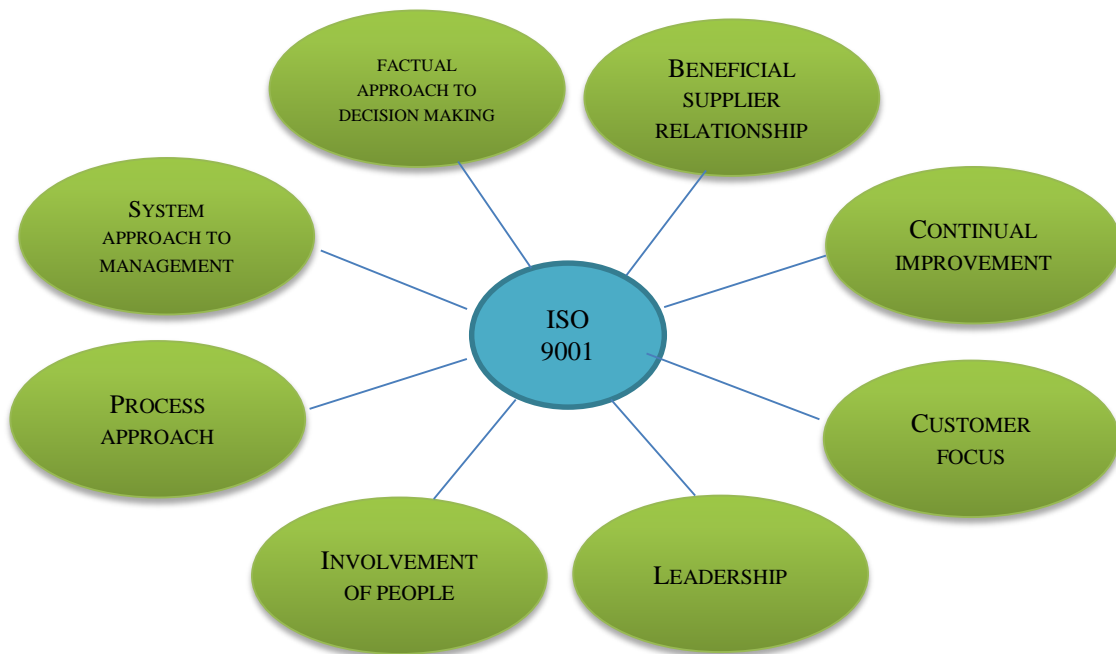


Figure 2.5. ISO 9001 8 Quality Management Principles

2.2.4.1. Customer-Orientation

Organizations are dependent on their customers, and thus, they should perceive the present and future needs of customers, meet their demands, and attempt for going beyond their expectations. Professor Noriaki Kano, the renowned world-class theorist defines quality in the following way: “Meeting the needs, expectations, and demands of customer, and going even beyond his satisfaction, thereby providing customer satisfaction, sustained production and, consequently, long-term profit” (Adam et al., 1997: 2005). Employees have an important role to play in this regard. The position of any organization is the result of the appropriate selection of people who are chosen to perform its key tasks. Hence, the significance of employees is primary to that of customers, because it is a good employee that is able to attract the customers for organization, and achieve their satisfaction (Sun and Cheng, 2002). Thus, it can be stated that customer-oriented employees cause customer satisfaction and profitability in the organization. Profitability motivates them, and the virtuous cycle is repeated (Noble et al., 2002; Mady, 2020).

2.2.4.2. Leadership

Leadership can be defined as determination of goals and creating motivation in individuals to attempt for achievement of organizational goals. The managers should inspire employees verbally and practically to work and improve their organization. They should draw a precise vision of the organization's future goals for employees, be stable in achievement of organizational goals, and provide an environment in which employees can work well (Powell, 1994).

The leadership concept includes the term of leader that stimulates individuals so that they strive to achieve the desired result. The term ‘management’, which is derived from the task, is associated with the decision-making for what we should do and how to realize the decision using the resources (Armstrong, 2014). There are various leadership styles such as autocratic, bureaucratic, democratic and free economy (non-intervention), transitional, transactional (Burns, 1987), inspirational, interpersonal democratic, leading leadership, coaching, creative, reformer, change, intelligence, participating, educating, serving, communicating, targeted (Armstrong, 2014). Different styles are needed for different situations and working environments and leadership needs to know when to

use which leadership style, and when he or she should integrate the leadership styles. Leadership styles are different and at the same time are similar in certain features (Armstrong, 2014). Hence, some scholars have found certain features that, when the leader gets involved and is committed to the organization, shows confidence and flexibility, provides opportunities for career development and progress leading to employee engagement (Harter et al., 2002). When the leader has a clear vision about the future success and specifies the organizational goals, this fact increases employee engagement. Such leaders support and care for the employee (Kahn, 1990), give independence to him or her, hold systematic educational feedback sessions, care for employee's health, and recognizes him or her (Tower Perrin, 2003). Therefore, communication and cooperation with the leader acts as the major effective factor on the employee engagement.

To this end, the top leadership roles in the organization are described as follows (Etzioni, 1961):

- a) To formulate the mission, vision, values, and ethics of the organization and themselves act as the role model of the excellence culture.
- b) To personally ensure development, establishment, and application of management systems and their continuous improvement.
- c) To interact with the customers, partners, and representative of society.
- d) To reinforce culture of excellence among employees.

On the whole, leaders perceive and support the organizational transformation.

2.2.4.3. Employee Participation

Participation is regarded as a social mechanism, plays a key role in all living areas, and causes prosperity and excellence. Participatory management, in turn, means providing such a space and system by the management where all employees of the organization cooperate and participate in decision-making and problem-solving process. The main emphasis of this type of management is on the voluntary cooperation and participation of employees and managers. The managers want to use the employees' ideas, recommendations, innovations, creativity, and technical and specialized capacity in solving organizational problems for continuous improvement of organization's activities (Henderson, Daley, 2009).

The philosophy and theoretical foundations of participatory management include human need for respect and equality, support for one's ideas and achievements, continuous perfection-seeking, human resource development in participation process, consulting with others, directing toward the best decision with gaining more ideas, engagement to good and forbidding, and improving human relationships between management and employees (Black and Porter, 1996). In order to succeed in participating in organizations, it is essential to provide a preliminary basis so that the meaning and concept of participation is well analyzed and people believe in its accuracy and usefulness. In addition, a number of different participatory programs can be implemented in an organization with different aims such as (Rao et al., 1997; Samson and Terziovski 1999; Anderson and Sohal, 1999):

- Advice and consulting with others
- Accepting and review of suggestions
- Qualitative chains
- Independent working groups
- Mutual decision-making

With the implementation of a participation system, human resources of organizations are developed, which is the basis for any organizational development. Such achievements as increased service quality, waste reduction, continuous improvement of activities, increased client satisfaction, and ultimately, finally, by increasing productivity in the organization, human resources have expanded.

2.2.4.4. Process Approach

ISO 9001 standard explains process-orientation as follows: any activity or set of activities that converts inputs into outputs with spending some resources is regarded as a process. From the systemic perspective, it can be stated that process constitutes the basic part of every system, which accomplishes the primary task of this system that is turning input into output. According to ISO 9001 standard, dynamics control is one of advantages of process-orientation, which is applied on the relationship between distinct processes in the system and their combination and interaction (Sun and Cheng, 2002). Application of this attitude in the quality management system is an emphasis on understanding and meeting requirements, paying attention to processes in terms of their added value, obtaining performance outcomes, and effectiveness of the process and

continuous improvement of processes based on objective measurements (Flynn et al., 1994). Improving performance in the organization as well as improving processes are the main goals of any management system, including ISO 9001 standard based quality management systems. Given the above material and the necessity of improving the effectiveness and efficiency at organizational level, it is necessary to emphasize the recognition of organizational processes and their improvement. It is so important that today the re-engineering and modification of structure of organizations based on the processes has become one of the dominant tendencies in the organizational structure design and improvement. The reason for this attention is the fact that effectiveness of every organization is really confined to effectiveness of its processes (Sun and Cheng, 2002).

2.2.4.5. Systemic Attitude

Process and system are interwoven. Process constitutes the basic part of every system. An organized system is shaped from the sum of input, process, and output elements. Since the existence nature of every process is turning one or more input into one or more output, the connection and unity of process and system concepts becomes more evident. Considering the facts above, only when a systemic attitude is provided it is possible to be really process-oriented and view every phenomenon as a process.

The positive role of a process-orientation in the improvement of processes of organizations and their performance is that it helps perceive this correlation and connection, evaluate the effect of change in each of processes and their elements as independent variable in other processes and variables. Also select the best design and combination for the connected processes and systems using such perception and evaluation, and preserve flexibility and initiative of organization against unpredictable changes of environment, or promote it and control the changes (Reisi et al., 2009).

2.2.4.6. Continuous Improvement

The desire for continuous improvement and promotion in all aspects and the realization of it, has been one of the prominent trends and manifestations of societies and socio-economic organizations at all times. Kelly (2009) argues that total quality management systems are able to provide a framework for continuous improvement, and can assure the organization and customers that the

organization is able to offer such products and services that uniformly meet their requirements and demands. In other words, total quality management can cause employee occupational engagement in the organization using specific tools and process-orientation.

Continuous improvement also constitutes one of the quality management principles in ISO 9001 series of standards. There exist two basic approaches for continuous improvement (Mohrman et al., 1995; Adina-Petruța & Roxana):

- Transcendental and macro projects that lead to the revision and improvement of existing processes, or provide new processes, which are often carried out by the teams composed of members of different units and out of current trend of activities.
- Gradual improvement activities through small steps within the existing processes by employees themselves, leading to continuous improvement.

These approaches should include the following steps: the reason for improvement, current status analysis, identification of possible solutions, evaluation of effects, implementation and standardization of the new solution, evaluation of process defectiveness, and efficiency with complimentary measures.

2.2.4.7. Realistic Approach in Decision-Making

Having measurement data is crucially important for factual-based decision-making. Thus, in order to ensure the organizational performance and attract satisfaction of involved parties, the top management should make sure about the data measurement, collection, and validation. Effective decision-making is achieved on the basis of data analysis. Therefore, the performance of the organization should be measured and analyzed (Solis et al, 2000); there should be a proper information system and the performance of the organization should be compared with the models. Some examples of measurement of organizational process performance include the following tasks (Sila, 2007):

- Measurement and evaluation of organization's products and services
- Measurement and evaluation of capability of processes
- Measurement of goal achievement and project implementation
- Measurement and evaluation of customer satisfaction and of other parties

2.2.4.8. Mutual Useful Relationship with Supplier

Satisfying the end consumer is the common goal of the organizations and suppliers. Therefore, the higher the quality of supplier's work, the more likely that the supplier is to preserve its position better and longer, and the organization's quality will be increased with increasing quality of the supplier. Since the organization and supplier both have limited resources, they should have collaboration for gaining highest profit and capital return. Partnership is a long-term engagement among two or more organizations in order to achieve the aims and special commercial goals through optimization of the effectiveness of their resources. This relationship is based on trust, aiming at the realization of ideals and shared goals and based on the understanding each other's values and expectations. Trust brings about such benefits as better quality, higher efficiency, lower price, more innovation opportunities, and continuous improvement of the products and services (Saraph et al., 1989). Partnership is a multifaceted relationship that requires ongoing training for achievement of continuous improvement and increased profitability. Using quality management systems organizations are more capable of planning internal activities and enhance their ability to meet the customer requirements. Effective quality management systems help develop customer satisfaction. Quality management is the attempt of an organization in creating confidence of meeting customer requirements in the administrative approaches of the organization. Moving from single-purpose processes to comprehensive perspective, facilitates management, measurement, and improvement of internal processes. This is the first step in movement toward the continuous improvement of business (Ahire et al., 1996; Rao et al., 1997).

According to ISO 9001: 2008, there are 8 principles to the quality management standard, but in ISO 9001: 2015, 7 principles are defined for the quality management standard. However, given that the study was conducted in 2018, the benchmark for this study is 8 principles of ISO 2008. In fact Instead of the seven ISO 2015 principles, the eight ISO 2008 principles will be used. Therefore, first the ISO 2008 is explained in the next section, and finally the difference ISO 2008 and ISO 2015 is described. Because currently ISO 9001: 2008 is being used by companies under review in Iran.

2.2.5. ISO 9001: 2008

ISO 9001 International Standard was officially published in July of 2008 for the public use. It happened after publication of the standard draft version in September 2007 and the receipt and investigation of comments by May 2008. The reforms often include providing more and adequate explanations for better understanding of the standard requirements as well as greater ease of use of this standard in all business sectors. The main objectives of the changes in this standard were as follows (Kumar & Balakrishnan, 2011):

- Improvement in standard content based on the results of examining the requests of users of this standard to obtain an explanation and interpretation for the requirements of the ISO 9001: 2000 standard.
- Higher match with other ISO 9000 family standards.
- More coordination with ISO 14001 standard: 2004.

ISO always tried to stress that “output matters” but it should be acknowledged that there are organizations that look into ISO 9001 and the certification of their Quality Management Systems more due to external reasons than using the system as a real and effective business improvement model that in fact can be (Levine and Toffel, 2010). ISO 9001:2008 is based on a PDCA (Plan-Do-Check-Act) approach (Figure 2.6) and on the eight quality management principles that formerly identified, with the possibility to be used by top management to lead the organization towards improved performance (ISO 9000:2005 International Standard).

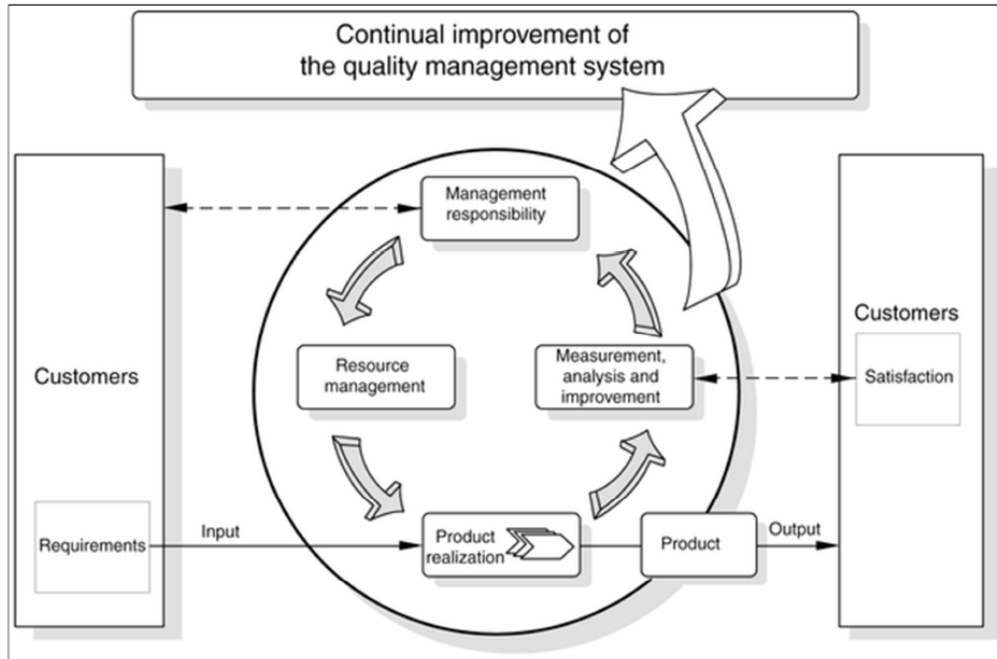


Figure 2.6. Representation of the structure of this International Standard in the PDCA cycle

Source: ISO 9001:2008 International Standard

The PDCA cycle can be briefly described as follows:

- **Plan:** establish the objectives of the system and its processes, and the resources needed to deliver results in accordance with customers' requirements and the organization's policies, and identify and address risks and opportunities;
- **Do:** implement what was planned;
- **Check:** monitor and (where applicable) measure processes and the resulting products and services against policies, objectives, requirements and planned activities, and report the results;
- **Act:** take actions to improve performance, as necessary.

As per Figure 2.7, ISO 9001:2008 International Standard has achieved great international visibility with more than 1 Million organizations with ISO 9001 certified Management Systems all over the world accordingly to ISO Survey 2013 (ISO, 2014).

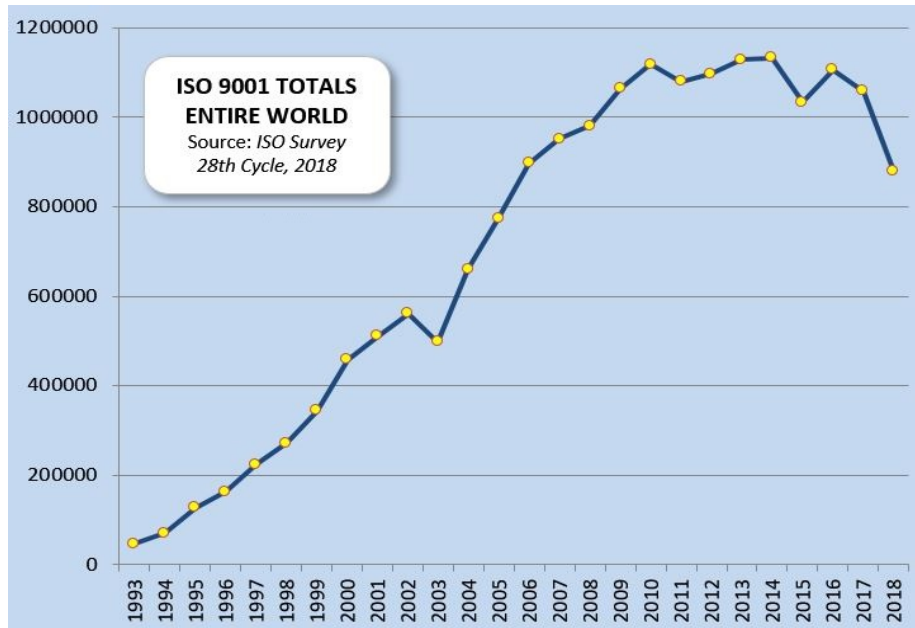


Figure 2.7. ISO 9001 Certified Organizations Survey Trends (2018)

Karapetrovic, Casadesus and Heras (2008) identified 115 empirical studies that employ surveys with the purpose of studying the impact of ISO 9000 standards worldwide. Scientific studies (Boiral, 2012), have linked the success in the implementation of ISO 9001 Quality Management Systems (QMS) to the organization motivations, with most significant results when the motivations are internal rather than external, and to the way the standard is interpreted and implemented. Levine and Toffel (2010) analyzed 1000 organizations of which 500 with QMS implemented and certified and 500 without QMS implemented and certified. They concluded that the first presented a set of indicators significantly more favorable than the others: 9% higher sales volume and consequent additional profits; more employment (10%) and better wages (7%) due to higher sales volumes and profitability, and in combination with ISO 14001 (Environmental Management Standard), less waste and incidents, being these effects are more pronounced in small organizations. These considerations fully support Heras and Boiral (2013) position that “further critical and rigorous empirical studies are necessary in order to analyze the real perceptions of the various stakeholders (consumers, managers, suppliers, intermediary clients, workers and public administration) regarding the adoption of meta-standards and their effects”.

2.2.6. ISO 9001: 2015

2.2.6.1. General

The ISO 9000 family standards were created to address various aspects of quality management and to improve the level of management quality of organizational management throughout the globe. Moreover, the aim of the standards was also to provide guidance and tools to a variety of companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is improved. The ISO community produced many of the ISO's best-known standards. The most famous and known is ISO 9001 standard series. The ISO 9001:2015 which is the fourth and last version of the ISO 9001 series (published in October 2015) to replace the previous version (ISO 9001: 2008). This last version focuses on the identification of risk and risk control. Moreover, it requires top management to take a more active role in aligning quality policies with business needs (ISO, 2014).

The new version of QMS ISO 9001:2015 was officially issued on September 15, 2015 and it has a completely new structure through revolutionary and radical changes on its clauses compared with the previous issued version. It defines common requirements for all management systems and it is mandatory for all new standards and also, for the revision of the existing management system standards. Moreover, it is necessary, for any organization that wishes to maintain its certification to ISO 9001, to upgrade its quality management system to the new edition of the standard and seek certification to it. In a three-year transition period from the date of publication (September 2015), organizations were urged to move to the 2015 version. This means that, after the end of September 2018, a certificate to ISO 9001:2008 would no longer be valid.

Implementation of ISO 9001: 2015 and its requirements meet the organization's needs when the organization needs to demonstrate its ability to uniformly deliver products and services that comply with customer requirements and applicable legal requirements. By providing a consistent product and service, the organization assures the stakeholders that the quality of its products and services will never decline in the future, and that the organization is constantly looking for solutions and services that deliver customer satisfaction.

In comparison to the previous issue of ISO 9001, the 2015 edition, risk-based thinking, understanding of internal and external factors, as well as organizational knowledge have been added.

The potential benefits to an organization of implementing a quality management system based on this International Standard are:

- a) The ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements;
- b) Facilitating opportunities to enhance customer satisfaction;
- c) Addressing risks and opportunities associated with its context and objectives;
- d) The ability to demonstrate conformity to specified quality management system requirements.

This International Standard can be used by internal and external parties. It is not the intent of this International Standard to imply the need for:

- Uniformity in the structure of different quality management systems;
- Alignment of documentation to the clause structure of this International Standard;
- The use of the specific terminology of this International Standard within the organization.

The quality management system requirements specified in this International Standard are complementary to requirements for products and services.

This International Standard employs the process approach, which incorporates the Plan-Do-Check-Act (PDCA) cycle and risk-based thinking. The process approach enables an organization to plan its processes and their interactions. The PDCA cycle enables an organization to ensure that its processes are adequately resourced and managed, and that opportunities for improvement are determined and acted on.

Risk-based thinking enables an organization to determine the factors that could cause its processes and its quality management system to deviate from the planned results, to put in place preventive controls to minimize negative effects and to make maximum use of opportunities as they arise.

Consistently meeting requirements and addressing future needs and expectations poses a challenge for organizations in an increasingly dynamic and complex environment. To achieve this objective,

the organization might find it necessary to adopt various forms of improvement in addition to correction and continual improvement, such as breakthrough change, innovation and re-organization.

In this International Standard, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission;
- “can” indicates a possibility or a capability.

2.2.6.2. Quality management principles

This International Standard is based on the quality management principles described in ISO 9000. The descriptions include a statement of each principle, a rationale of why the principle is important for the organization, some examples of benefits associated with the principle and examples of typical actions to improve the organization's performance when applying the principle.

The quality management principles are:

- Customer focus;
- Leadership;
- Engagement of people;
- process approach;
- Improvement;
- evidence-based decision making;
- Relationship management.

2.2.6.3. Process approach

This International Standard promotes the adoption of a process approach when developing, implementing and improving the effectiveness of a quality management system, to enhance customer satisfaction by meeting customer requirements. Understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its intended results. This approach enables the organization to control the

interrelationships and interdependencies among the processes of the system, so that the overall performance of the organization can be enhanced.

The process approach involves the systematic definition and management of processes, and their interactions, so as to achieve the intended results in accordance with the quality policy and strategic direction of the organization. Management of the processes and the system as a whole can be achieved using the PDCA cycle (see 2.2.6.3 A) with an overall focus on risk-based thinking (see 2.2.6.3 B) aimed at taking advantage of opportunities and preventing undesirable results.

The application of the process approach in a quality management system enables:

- a) Understanding and consistency in meeting requirements;
- b) The consideration of processes in terms of added value;
- c) The achievement of effective process performance;
- d) Improvement of processes based on evaluation of data and information.

Figure 2.8 gives a schematic representation of any process and shows the interaction of its elements. The monitoring and measuring check points, which are necessary for control, are specific to each process and will vary depending on the related risks.

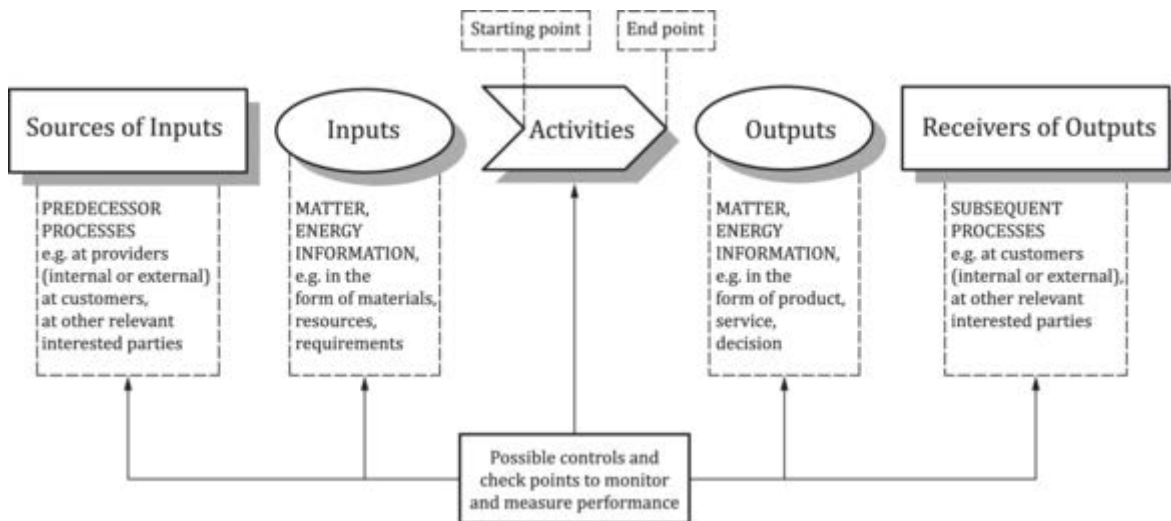


Figure 2.8. Schematic representation of the elements of a single process

A) Plan-Do-Check-Act cycle

The PDCA cycle can be applied to all processes and to the quality management system as a whole. Figure 2.9 illustrates how Clauses 4 to 10 can be grouped in relation to the PDCA cycle.

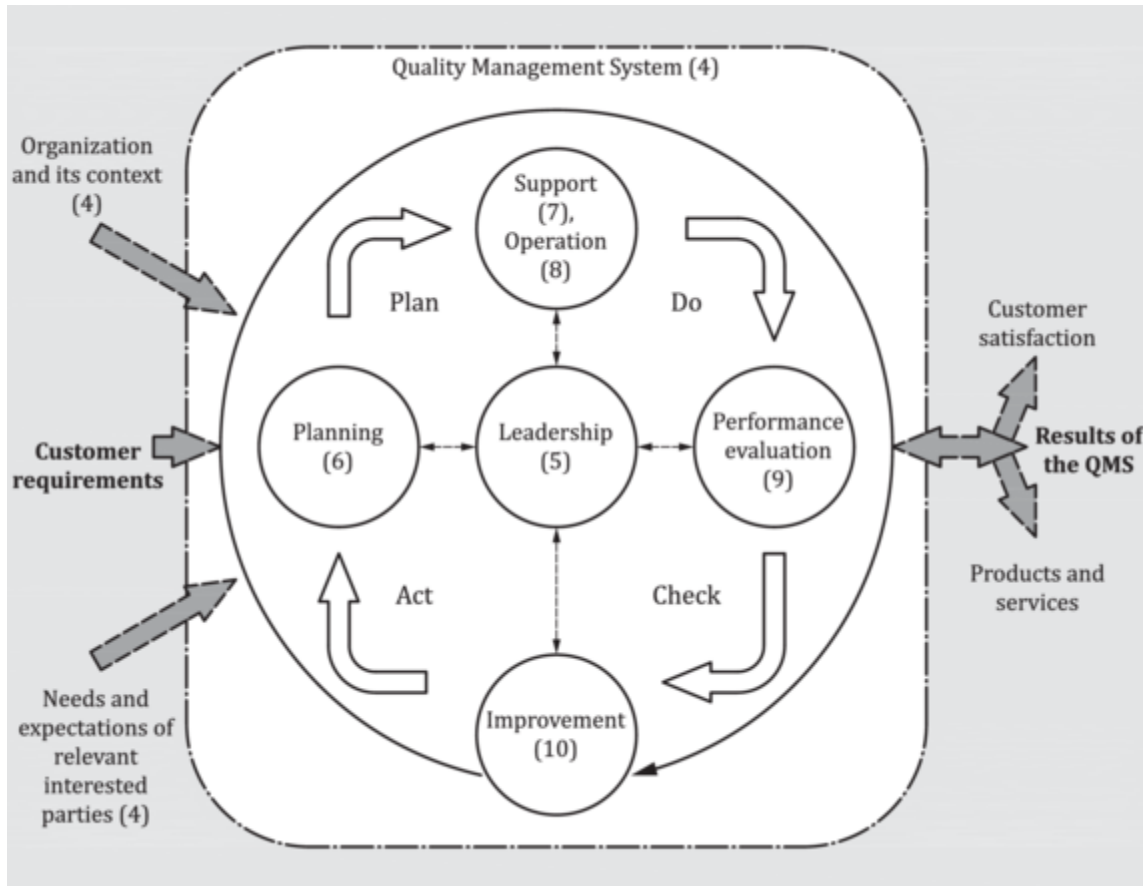


Figure 2.9. Representation of the structure of this International Standard in the PDCA cycle

NOTE: Numbers in brackets refer to the clauses in this International Standard.

The PDCA cycle can be briefly described as follows:

- **Plan:** establish the objectives of the system and its processes, and the resources needed to deliver results in accordance with customers' requirements and the organization's policies, and identify and address risks and opportunities;
- **Do:** implement what was planned;

- **Check:** monitor and (where applicable) measure processes and the resulting products and services against policies, objectives, requirements and planned activities, and report the results;
- **Act:** take actions to improve performance, as necessary (Figure 2.10)

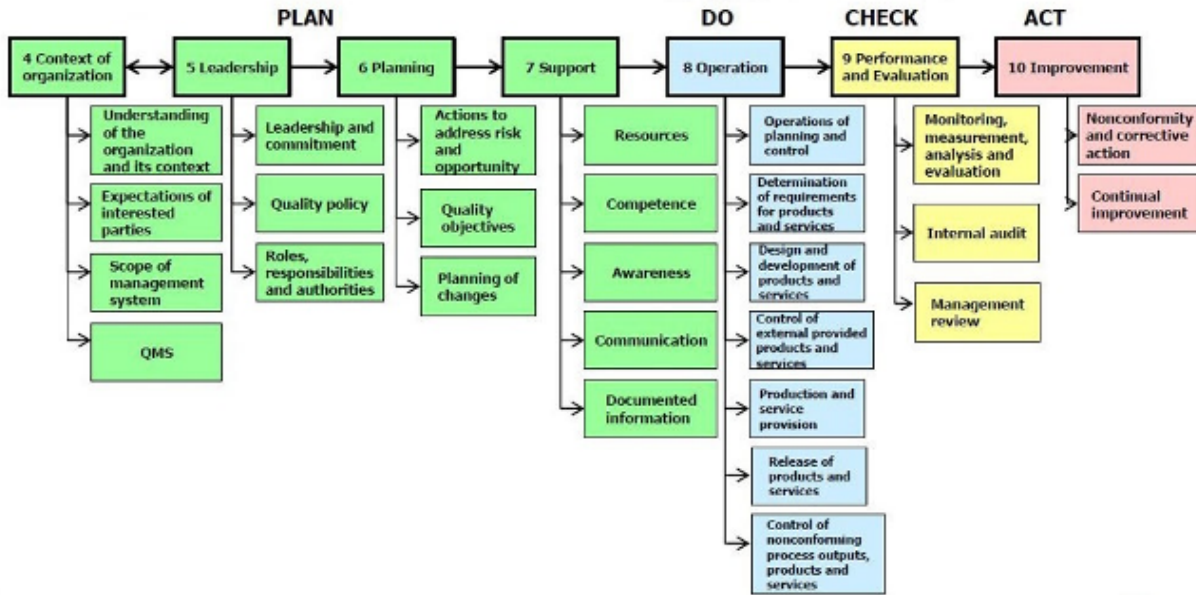


Figure 2.10. The seven ISO 9001:2015 in PDCA cycle

B) Risk-based thinking

Risk-based thinking (see Clause A.4) is essential for achieving an effective quality management system. The concept of risk-based thinking has been implicit in previous editions of this International Standard including, for example, carrying out preventive action to eliminate potential nonconformities, analyzing any nonconformities that do occur, and taking action to prevent recurrence that is appropriate for the effects of the nonconformity.

To conform to the requirements of this International Standard, an organization needs to plan and implement actions to address risks and opportunities. Addressing both risks and opportunities establishes a basis for increasing the effectiveness of the quality management system, achieving improved results and preventing negative effects.

Opportunities can arise as a result of a situation favorable to achieving an intended result, for example, a set of circumstances that allow the organization to attract customers, develop new products and services, reduce waste or improve productivity. Actions to address opportunities can

also include consideration of associated risks. Risk is the effect of uncertainty and any such uncertainty can have positive or negative effects. A positive deviation arising from a risk can provide an opportunity, but not all positive effects of risk result in opportunities.

2.3. Employee Engagement

Today many organizations have realized of the significance of human resources as an important source for gaining competitive advantage and have introduced welfare programs and attention to employees for recruiting and retaining human capital. These organizations have realized that they may benefit from investing in improving employee welfare and support because the employees who feel being supported are more committed and satisfied with the work, have less absenteeism, and do not easily leave the organization. All of these factors can improve an organization performance and help in the achievement of its goals.

The concept of employee engagement was introduced in 1989 and entered in the management literature from psychology, welcomed by both organizational researchers and executives. Now that three decades have passed since the beginning of research on this topic, the importance of employee engagement is increasing day by day, and now the scope of research in this area is rapidly expanding.

Employee engagement is a kind of motivation, enthusiasm, and energy that influence endeavors of individuals in their working activities. The occupational engagement of employees can be observed in their attempt for serving the customers, or by means of their loyalty to the organization. An engaged employee does always his or her best and is committed to the organization's values and goals. Engagement is an emotional connection; employees choose how much they want to work for the company based on their “heart” more than their “brain”.

Employee engagement is not limited to emotional communication with the company; rather it is a psychological stimulation and knowing that there is an opportunity for growth. To create employee engagement, trust and a positive relationship between employees and management is necessary. For engagement, employees should know the meaning of their work and the contribution that their work makes for the company (Business Dictionary, 2017). Cook (2008) summarized the employee engagement in three dimensions considering the extent to which employees:

- have a positive feeling about the organization
- think positively about the organization
- are they eager to help the organization achieve its goals for its customers, partners, and other stakeholders Cook, 2008).

Figure 2.11 depicts employee engagement (Cook, 2008) based on. Three dimensions of feeling, thought, and action.

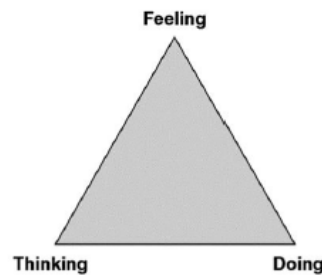


Figure 2.11. Employee engagement (Cook, 2008)

As stated by Cook (2008) there are differences between a committed, satisfied, and loyal employees. For example, an employee that has been working for a company X for more than 15 years feels loyal to the company because of his or her long working relationship, while he or she may not agree with the decisions made by the management or other policies of the company. A loyal employee, in turn, stays in the company, but does not something beyond what he or she is expected to do, and the customer may have a boring and even unpleasant experience from interaction with a loyal but non-committed employee (Cook, 2008). Lastly, the third type of employee is one who is eager and satisfied in his or her work and feels that there is a way for improvement (self-promotion), although this does not necessarily mean that the employee is satisfied with the organization or agrees with the organization's decisions (Cook, 2008).

2.3.1. Definitions of Employee Engagement

Employee engagement has been defined in various ways, which makes its measurement difficult (Ferguson, 2007). According to Saks (2006), some authors have adopted a similar approach and gained similar results in defining employee engagement and its promotion. Authors like Shuck and Wollard (2010), believe that employee engagement not only influences employees' outcomes,

but also financial and organizational achievements. The organizations have also realized of the significance of employee engagement since the engaged (participating) employees act more efficient than non-engaged (non-participating) ones. The first formal study on employee engagement was conducted by Kahn (1990) where employee engagement was defined as the 'voluntary participation in the job role'. He also argued that in employee engagement, individuals serve themselves and demonstrate it in their role performance physically, psychologically, and emotionally. In this perception, employee engagement means high activity in work and awareness about working environment, feeling, and view toward the employer and working conditions.

Shaufeli et al. (2002) and Na-Nan et al. (2020) defined employee engagement as the positive, satisfactory, work-related spirit that is accompanied by energy, endowment, and attractiveness. By energy, they mean a high level of employee energy, endowment means sense of pride and passion, and attractiveness means a desire to focus entirely on duty. Thus, most scholars define employee engagement as the individuals' affective and psychological engagement (Croston, 2008; Saks, 2006; Shaufeli et al., 2002; Na-Nan et al 2020).

Employee engagement is reflected by the positive feeling of employee about his or her job, organization, and employer, and showing loyalty and additional efforts for the organization's success (Aon Hewitt, 2011; Tower Perin, 2003), being this engagement focused on the organizational outcomes (Shuck & Wollard, 2010). In addition, it can be logically concluded that for gaining successful commercial results, the organization should increase contribution of its employees' participation and commitment. In fact, such higher participation means a positive perspective by the employees toward the organization and its values. This is realized when the engaged employee is aware of the business context and works with the colleagues to progress in their jobs to benefit the organization.

Therefore, in order to improve the business, organizations must be willing to engage and train their employees, what requires a mutual relationship between the employee and the employer (Macleod & Clark, 2009).

2.3.2. Why Is Employee Engagement Important?

There are two reasons for the importance of employee engagement; the increasing power of customer and the increasing power of employees.

An engaged employee that provides service to the customer respects the organization, and today we as the customer have more power to choose where we buy our products or services. Growing competition and internet power have increased the expectations of customers. Money and time are almost equally important, and customers prefer to trust their friends' recommendations for shops and products, rather than looking for a store or getting advice from sales staff. Successful organizations are those that can make businesses easy and fast for customers (Cook, 2008).

The two main factors that affect customer preferences for location are economic costs, including time, money, effort, and emotional costs, comprising brand feeling and feeling about product and employees (Cook, 2008). Humans often tend to prefer emotion to logic, that is, if we get poor customer service, but receive a symbolic product or from a well-known brand, we are likely to ignore our bad experience with customer service. If the organization treats the customers highly positively but the product is not completely as expected by the customers, the customers tend to give one more chance to the organization. If the product and services are poor, customers will probably speak negatively about the product or customer service of the organization. Nevertheless, if both the product and the customer service are in line with the customer's expectations, customers will be the supportive and sponsors of the organization. Organizations need fans who actively promote the product and the organization.

As regards to customer's decision to purchase a service or product, it is affected by several factors (Cook, 2008):

- Pre-purchase experience, such as the advice of others, advertising, and, for example, the organization's website.
- Real purchase experience that includes the variety of choices, services provided, shopping environment, product delivery, and services and service providers.
- After-purchase experiences and services, such as product or service quality, service retrieval, and loyalty programs.

Organizations that emphasize the importance of customer service recognize the importance of the impact that even an employee can bring to the customer. Organizations should perceive the importance of the overall experience of customer including all three factors as well as the employees that provide services. The number of company customers and therefore of sales, depends on the services and feelings that the employees provide. 'The employees that tend to help and provide effective services create trust among customers' (Cook, 2008: 153).

2.3.3. Importance of Employee Engagement in an Organization

An organization is an institution that is constituted for achieving a specific goal through collecting efforts of individuals working in or for the organization. Organizational structure is the basis of organizational activities. That is, this structure provides a framework for doing the works that have order lines and formal and informal communication ways (Armstrong, 2014). Organizational culture is the system of measures, values, and beliefs shaped in the organization that direct the members' behavior (Schermerhorn et al., 2012). Employee engagement is the main motive for any organization to succeed because the organization relies on individuals and requires a engagement from employees who want to be committed to work and not employees who need to be part of the organization (Castellano, 2015).

According to Macleod and Clarke (2009), good leadership can develop strong, transparent, and clear organizational culture. This gives employees a perspective that is highly focused on their work and understands the strategic goals of the organization and actually considers themselves part of the organization. (Boswell & Boudreaus, 2001). When employees participate in the work and see the value of the work they do, they gain decision-making power, providing the organization with opportunities for development and progress, and acting responsibly. Employee engagement depends on the way of shaping the culture of an organization by the leader (Castellano, 2015). Therefore, it can provide organizational space¹ that is an aspect of organizational culture, where the shared feeling of organization's members about the organization and its environment is often identified as the organizational spirit (Schermerhorn et al., 2012).

¹ Organizational space describes the influence of the spatial environment on the health, the mind, and the behavior of humans in and around organizations. It is an area of scientific research in which interdisciplinary is a central perspective.

According to MacLeod and Clark (2009), the companies with high level of employee engagement are more effective and efficient. They argue that these employees are more motivated and do their best when they are engaged. The other major impact of engaged employees for the organization is that they use sick leave less, are more focused on the customer, are more creative, and tend to spend more of their free time on activities related to organizational goals.

Ultimately, the most important factor from the point of view of the organization is that employee engagement has a direct impact on organizational performance (Clarke & Macleod, 2012). Tower Watsons (2014) analyzed the data collected from over 664,000 employees from over 50 companies covering a wide range of industries and sizes. He measured the engagement level along with other business performance during more than 12 months. Companies with high job engagement increased their operating income 19.2% over a 12-month study period, and companies with low levels of engagement experienced a decline in their operating income of 32.7% over the same period. The same relation was used for net income growth: firms with high levels of engagement had an increase of 3.8% in a year, compared to a 3.8% decrease in companies with a low level of engagement., They also found that companies with high levels of engagement had three times as much profit margin as companies with low-level engagement (Tower Watsons, 2014).

Clarke and Macleod (2012), supported the previous study of Gallup Company (2006). In this research, 174 retail stores were studied for over two years. During this two-year study, the profits of retail store, which increased their employee engagement annually, increased by 3.8%. In addition, retail stores with lower employee engagement showed a profit reduction of 2%.

The meta-analysis conducted by Gallup (2006) showed the companies with higher engagement level showed higher success rate by 94 percent in the absenteeism rate, which means less absenteeism probability. They showed higher success in customer satisfaction by 103 percent, and they had higher rate of workflow (78%) and profitability (50%) (Gallup, 2006).

The more recent study of Gallup (2013) was carried out in 70 countries including Finland. In this study, which was known as global status of business, 11 percent of Finnish employees had job engagement, and 76 percent were not engaged, and 13 percent were actively engaged (Gallup, 2013). Therefore, some scholars believe that employee engagement is not especially important and it is regarded as irrelevant in today world (e.g Baroch et al, 2012). Ideas of pros and cons are given in the following section.

2.3.4. Two opposite Perspectives on Employee Engagement

2.3.4.1 Is employee engagement nowadays irrelevant?

Some new scholars believe that employee engagement is unnecessary and does not require research. Baroch (2012) believes that the nature of labor relations has changed dramatically over the last three decades, according to recent trends in the reduction of organizations, such as the re-engineering process. And consequently, the employee's engagement to the organization is irrelevant. He also acknowledges that the importance of employee engagement as a major concept in management and organizational behavior is declining, and this trend continues. Baroch's argument is that engagement is an important prerequisite for employees, but it is not the most important of them. Organizations have been reluctant or unable to hire employees with the same engagement to the organization in recent years, given their downsizing activities. Even Drucker (2011), a most prominent writer of management, is pessimistic about the companies that state they value their employees because the contrary has been proved. Drucker states that all organizations every day admit that employees are their greatest asset, but in practice, they do not act as what they say, let alone believe it. If organizations believe that as the organization's engagement to the employee decreases, the employee's engagement to the organization is expected to decrease; thus, it can be stated that logic of Baroch is correct given the today conditions of organizations. On the other hand, studies indicate that organizational support for employee is clearly related to the employee engagement in organization. In addition, there is plenty of evidence indicating that some organizations retire their employees in order to reduce the costs, and therefore, they can increase their ability for competition in global markets. Emshof (2009) estimated that over 90 percent of large companies have downsized. Regarding changes in working environments, the New York Times estimated that three million jobs were eliminated in USA during 1979 to 1995. Most jobs created in this period had been lost now. This figure proves that employees leaving their jobs, and such disorder may aggravate the negative impact on employee engagement.

Moreover, it has been found that companies do not just retire their employees at times of bankruptcy and recession, but also they do this at times of profitability and prosperity. Doing so, they provide positive signs for financial analysts, and hence, it is used as a trick for increasing short-term stock value. For example, as stated by Panacci et al. (2017), Xerox Co. announced plans to reduce its employees during a profitability period, particularly to reach only 10,000 employees

in 1993, which resulted in a 7% increase in the stock of the company the following day. It would be surprising if the engagement of employees to Xerox was not reduced as a result of such an action. Baroch also mentioned some mergers and corporate ownership of another company, which also probably reduced employee engagement because a larger and more complex organization makes it more difficult for employees to feel identified and engaged with more complex and probably uncertain future plans. For example, it is not automatic that a worker who is engaged to McDonald Douglas Co. easily transfers his or her engagement and engagement to Boeing Co, when the former was integrated in the latter in 1997.

2.3.4.2 Is employee engagement nowadays very relevant?

It is possible to evaluate Baroch's argument on irrelevance of employee engagement as a management tool. There is evidence indicating that most organizations follow minimization and cost reduction strategies. It seems that creating a high level of employee engagement is regarded as a non-important strategy for gaining economic success by these organizations. Therefore, based on the real observation of management, scholars may argue that employee engagement is irrelevant because fewer organizations continue strategies for increasing employee engagement. In this view, Baroch may be right somehow. However, despite this perspective, there is evidence indicating that organizations seek for increasing employee engagement for having better performance and appropriate strategies, which may bring about more economic profit for them. From this point of view, employee engagement is not irrelevant, but on the contrary it can lead to competitive advantage and success of organizations. In fact, the engagement in this view may be regarded as a key for competitive advantage. In this perspective, employee engagement as a competitive strategy is not irrelevant at all, contrary to the Baroch's argument (Morry, 2009).

2.3.5. Tools for Increasing Employee Engagement

Previous studies on increasing employee engagement (e.g., Macey & Schneider, 2008; Gruman & Saks, 2011) suggest several strategies to increase employee engagement, such as the following:

- Increasing the emotional attachment of employees and involving more of them with the goals of the organization
- Participation of employees in decision-making

- Removing work barriers
- Independence to perform duties
- Describing goals and missions of the organization
- A suitable field for creating creativity and employee innovation
- Delegating higher levels of responsibility to individuals to carry out their jobs.

2.3.6. Dimensions of Employee Engagement

Today competitive market has quick and many changes in the delivery of very wide range products with high quality. The root of these changes is the change in needs and demands of customers. Thus, the manufacturing and service companies attempt to utilize quality management systems such as ISO 9001 for the achievement of their goals and having optimal response to the abundant and various needs of customers as well as to increase the chances of success in the market.

All the systems formulated in the quality area aim to achieve strategic goals and competitive advantage. However, the important point here is the significance of human resources in these systems and its role in the realization of the respective goals. A deep attention to human resources as one of the most salient factors for competitive advantage has a key role in the differentiation of organization, and its entrepreneurship.

It should be noted that human resource management means relationship with the individuals. That is, relationship with a most important source of organization that is the main input in every organization and company in all organizational activities. This force is nowadays commonly referred as the human capital of the organization, and it is its stimuli since the treatment, behavior, and performance of this human capital directly influences the quality of products and services.

Many organizations allocate many resources to attract and maintain employees to be able to compete with other companies (Huey-Ming, 2004). In the current era, if an organization possesses the best technology and has the best facilities but lacks adequate human resources or is unable to properly and efficiently manage the existing resources, then it would not be able to influence the environment and act successfully in the competition. Human resource contributes to process other resources and create the services and goods that are the foundations of organization establishment (Houg & Ones, 2009). Thus, nowadays human resources should be considered as one of the most

important capital in organization, playing a key and major role in the achievement of organizational goals.

One of the main tasks of human resource management is human resource planning. An engaged employee every day does his or her best and is committed to the organizational goals and values. Employee engagement as an attitude is able to provide useful insight for the planning of organizations, increasing efficiency and performance, reducing absenteeism and delay for the managers (Arshadi and Hayati, 2013). On the other hand, engaged human resources pave the way for development and growth of organization, while human resources with low level of engagement and engagement are indifferent toward its job and organizational problems, and fail the organization in achievement of its Ideals. Thus, increasing employee engagement brings about improved occupational performance¹ (Kalkavan & Katrinli, 2014).

On the other hand, though engagement can be effective for the improvement of employee performance, it seems rather possible that it requires additional an appropriate mechanism for best manifestation. This mechanism is the professional competency, which can be defined as skills, knowledge and attributes that are specifically valued by the professional associations, organizations and bodies connected to your future career (Karami et al., 2017). In this regard, Sami Jha (2011) concluded that there is positive significant relationship between competency and organizational engagement. Haiyan (2013) in a study showed that increasing the competencies of individuals increases their engagement and engagement to their jobs. Lotunani et al. (2014) investigated the impact of competency on engagement and performance. The results of this research showed that competency has a positive and significant effect on employees' engagement and performance. Shukla (2014) investigated the relationship between teaching competencies, professional engagement, and job satisfaction. The results of this study showed that there is a positive and significant relationship between all three variables. Kertahadi et al. (2013) showed that professional competencies and organizational engagement of human resources have a positive and significant effect on their job performance. In addition, other scholars have confirmed the relationship between competency and engagement (Preeti, 20011; Bogler & Somech, 2004).

¹ The ability to choose, organize, and satisfactorily perform meaningful occupations that are culturally defined and age appropriate for looking after one's self, enjoying life, and contributing to the social and economic fabric of community (Ikiugu & Ciaravino, 2007: 30)

Another dimension within employee engagement is employee empowerment, one of the factors leading to prosperity, loyalty, and engagement of employees to work and organization. According to Grimsley (2018), empowerment is endowing autonomy, decision-making, and independence to employees in relation with their work and organization. When the employee is empowered, there is no need that the decisions are made by top management; rather they can also be made by lower level employees. Barou & Duclos (2003) maintain that employee empowerment requires that employees receive specific goals from the organization and that the organization educates them on how to achieve these goals, and this certainly will lead to higher engagement of employees in their workplace. The probability of leaving the organization by highly committed employees is very low because of the psychological attachment created by engagement. As Kanter (1993) states, empowerment allows employees to independently make decisions. Another theory that can be useful is social exchange theory. Social interaction theory (Homans, 1954) assumes that if the organization shows it values, and employees adopt them in their jobs, they will stay in the organization and do their best for it. This theory states that people analyze their social relations according to the threats and benefits created by these relations. If the threats are more than the benefits of relations, it causes recession and stagnation because according to social interaction theory, the value of employees' job engagement is not understood by the organization.

The other factor affecting organizational engagement is recognition. Employee recognition is nothing but the acknowledgment of an individual or team for their hard work, efforts, and accomplishments that go with the organization's goals and values, and considered as an essential component of employee motivation and engagement to work (Herzberg et al., 1959; McGregor, 1960; Vroom, 1964; Porter and Lawler, 1968). Porter and Lawler (1968) proposed a specific model of internal characteristics and external motivation in the world of work. They acknowledged that organizational performance is determined by obtaining internal and external rewards. In addition, various studies have been conducted based on the theory that the rewarding motivation leads to prediction of organizational performance (Deci and Ryan, 2000). However, the purpose of research on motivation is not anymore confined with achievement of better performance. This concept has evolved to respond to management's concerns about employee engagement (Meyer and Herscovitch, 2001). Nelson & Winter, (1982) studied the turnover variable in their study. In another study Locke (1997) examined the mental health at work place. Employee recognition considered in study by in Browne 2000 studies; Franco et al., 2004; Saunderson 2004 was

considered. Also, Nelson, in his book "1001 ways to reward employees," looked at the importance of employee recognition and rewards for motivating employees. Brun et al. (2004) showed that failure to recognize employees was the second most important risk factor for distress and mental imbalance in the workplace. According to some authors, one of the most important sources of organizational unity and organizational engagement is the recognition of employees (Wills et al., 1998; Tremblay et al., 2000). Recognizing employees plays a significant role in the success and continuity of organizational change (Atkinson 1994; Fabi et al. 1999; Evans 2001). Bennet et al. (1999) in a survey of construction industry in the United Kingdom, identified the recognition of employees' efforts as the most important factor for human resource management. This growing need for employee recognition is partly due to the social and organizational context. Brun and Dugas (2002), based on social and organizational structures, defined, and modeled the approach to employee recognition according to four criteria of ethical, humanistic, and ontological, psychological, and behavioral perspectives.

In the following sections, three dimensions of employee engagement including employee competence, employee recognition, and employee empowerment are described.

2.4. Employee Empowerment

2.4.1. Definition of Employee Empowerment

Elmuti (1997) states that employee empowerment is an idea for allowing employees to have both control and talent so that they can make decisions and work for the organization to increase their personal motivation and organizational productivity. A person is empowered when is self-employed and can assess and influence his or her own personal success. When a person is employed, empowerment should allow to do similar things. Empowerment means power and authority are given to the employee with the relevant duties and expertise required (Klagge, 1998). Most authors agree that the main foundation of empowerment is delegating authority of decision-making in some related tasks. Meyerson and Dewettina (2012) emphasized that employee empowerment is a motivational process for rising output through increasing opportunities for participation in decision-making. In fact, it is realized by trust, inspiration, participation in decision-making, and getting rid of the constraints between workers and managers at the highest

level. Employee empowerment implies a transfer of power and responsibility from the employer to the employee (Randolph, 1995). According to Conger and Kanungo (1988), many researchers have defined empowerment in two ways. First, with a relational approach, which on one hand, is a managerial measure, and on the other hand, it means a transfer of authority from the managers to workers to get them involved in decision-making. Secondly, there are psychological approaches, which mostly neglect delegation of decision-making. These approaches view employee empowerment as the perceptual psychological processes that cause internal motivation.

Lashley (2000) states that employee empowerment is a philosophy that helps employees make decisions about their work and enables them to be the owners and to be responsible for its outcomes, despite of hierarchical constraints. Bogler and Somech (2004) argued that for a successful empowerment, management should develop a structure for preserving the whole process.

According to Raquib, employee empowerment is the situation by which employees are allowed to completely own their tasks and control them. In the organization with empowered employees, the tasks traditionally known as managerial ones are delegated to the employees (Saleh, 2013). Employees can also decide about the significant or non-significant affairs of organization depending on their competency level delegated by the company. In some cases, employee empowerment is actually employee training so that they are given the decision-making authority (Ramesh, 2014). It has been proved that empowered employees are hard-worker and more motivated than other employees are.

Lockwood (2007) reported that employee empowerment is a multifaceted concept, and especially it can be structural or psychological. Psychological empowerment focuses on the intellectual process of employees in organizations and their perspective about their work. For example, meaning: 'The work I do is meaningful to me'; competence: 'I have mastered the skills necessary for my job'; self-determination: 'I have significant autonomy in determining how to do my job'; and impact: 'I have a great deal of control over what happens in my department'. Structural empowerment is associated with empowerment of employees by means of giving them access to information, support, resources, opportunities, and using these for achieving a specific goal (Kanter, 1993). According to Menon (2001), empowerment enables employees to independently think and work. Lockwood et al. (2007) stated that employee empowerment methods lead to higher

productivity among employees, better customer service, job satisfaction, and overall engagement to the organization. By reviewing the literature of management and organization, the definitions of human resource empowerment can be divided into three categories, as the following subsections will present.

2.4.1.1. Empowerment as Delegation of Authority

- As Fetterman (2005) states, empowerment is a fundamentally different way of how human beings work with others, meaning that Employees feel that they are not only responsible regarding their duties, but also regarding the whole organization.
- Working teams continuously cooperate for improvement of performance and achievement of higher levels of productivity.
- The structure of organizations is designed in such a way that individuals perceive they work for the realization of their work's outcome, not merely for performing the duties.

Avolio et al. (2004) argued that those who control the life and environment are ready for authority delegation. Organization's management should determine whether the organization is ready for the delegation of authority. For this purpose, Willis (1991) proposed the following questionnaire to evaluate the degree of readiness, which is helpful to understand the preconditions for empowerment:

1. Is top management really committed to performing authority delegation?
2. Is there any expectable change in management?
3. Do employees have experience of working with each other?
4. Are resources and time available for real delegation of authority?
5. Are employees recently so busy that they cannot meet each other, exchange ideas, and discuss about their plans?
6. Do employees have technical knowledge for criticism?

2.4.1.2. Empowerment as Development of Motivation

Karakoc (2009) considered empowerment as the process of increasing self-efficiency feeling in individuals through identification and elimination of conditions that caused their inability. In their work entitled "Empowerment process: unity of theory and practice" they introduced empowerment

as a motivational process meaning being able. Thus, empowerment includes the process of increasing feeling of self-efficacy among employees through identification and elimination of conditions that lead to their inability (Fetterman, 2005).

In fact, the empowered organization wants to utilize knowledge and experience of individuals. Therefore, the most logical investment is to help others' transformation. In addition, it means to help also transformation of its groups. Growth and change of managers is originated from the opportunities given for taking responsibility of new challenges and learning with cooperation of others. Indeed, change in an organization originates from change in individuals, groups, and managers. The tool through which an organization is empowered, progresses in performance, communicates, and changes is leadership. When reliable leaders can absorb confidence of empowered individuals, all parties win. When there is low participation of individuals in an organization, they will have less confidence in their managers, their primary reaction may be quitting empowerment opportunities based on the logic of "this just a job for me, I do not feel any responsibility toward it" (Foy, 1997).

2.4.1.3. Psychological Empowerment

Thomas, Velthouse (1990), in his article entitled "Cognitive Elements of Empowerment: An Analytical Model of Internal Job Motivation," described psychological empowerment as a multifaceted concept and defined it as the process of increasing internal motivation. With the completion of Carter's motivational model (2009), they do not consider the concept of empowerment just as a driver of motivation, but rather they describe it as a driver of internal job motivation. Other works provide a more complete definition of psychological empowerment as a set of motivational cognitive domains, which in addition to self-efficacy, which cover also three other cognitive domains: the right to choose autonomy, meaningfulness and effectiveness (Judge et al., 2001).

2.4.2. Goals of Empowerment

The organization is subject to challenges from many sources, both internal and external. Externally, severe competition at global level, quick unbelievable changes, and new demands for service quality and resource constraints require quick response of the organization. Internally, employees may feel they are not honestly treated, they may become disappointed, and perceive

that organizations is constantly raising its expectations and changing the rules of the game. At the same time, employees expect a meaningful work, more sincerity and truth, self-esteem and self-discovery from their job. Any organizations should adopt changes, grow, and learn new ways to accomplish its mission (Carter, 2009).

Therefore, empowerment goals can be summarized as follows:

1. Enhancement of organizational performance through more perfect use of knowledge, skill, experience, and wisdom of employees. Empowerment intends to release intellectual resources available in the organization and focus on performance and its improvement.
2. Utilization of the competencies of employees in order to adopt the best possible decisions and find ways for adopting better decisions. The long-term goal of empowerment is continuous improvement in the overall performance of the organization, and its immediate goal is the utilization of competencies available in organization's members (Loveridge et al., 2004).
3. Providing the best relevant intellectual resources related to organizational performance. In addition, it intends that the most competent employees have the highest influence in the most appropriate ways (Loveridge et al., 2004).

2.4.3. Strategies for Employee Empowerment

Spreitzer et al. (1997), Laschinger et al. (1999) proposed that organizations use empowerment strategies to achieve highly committed and enthusiastic employees, to achieve the best individual and organizational performance and increased employee autonomy in their work, high quality work, and a reduced absenteeism rate of employees. Participation in decision making, delegation of authority, training for achieving high competency, communication to share views and goals, providing resources and building trust based friendly relationships are among the empowerment strategies that organizations can use. Honold (1997) introduces several strategies for employee empowerment, which are analysed below.

Training: To effectively use empowerment, it is necessary to train employees accordingly, so that they have the necessary skills. It also implies adequately delegating adequate authority, so that employees can decide about their tasks. Authority and responsibilities should be symmetrical and should not be misused.

Regulating individuals' vision: The personnel should have a clear perception of the work's outcome and there should be compatibility between their skills and the respective work. In this case, employees will be empowered by providing wider perspective of risk, vision, imagination, and strategic planning by institute.

Changing in work definitions: The work content, i.e., achievements of solving the problems should be increased. Also, new works be determinate that contents is a tool for empowerment. It can be appropriate to the responsibility and vision of company, and achieved through strengthening techniques, increasing employee authority, and work tools.

Granting information: Providing adequate information and resources is a means for empowerment as well Employees should be provided with the correct information and necessary resources so that they can do their best in their assignments. In addition, increasing managers' skill by educational programs, recruitment systems, and empowerment of external resources is suggested (Spreitzer et al, 1997).

Developing self-confidence: Employers should provide opportunities for growth by giving them challenging duties. This helps employees to personally progress and enhances organizational growth too. Employers should demonstrate that they trust the ability of their employees for performing the duties, and support them. Cross learning is also suggested since employees can learn different skills and knowledge from each other.

Performance assessment: It helps employees see their poor skills and spend their energy on areas in which they are skilled.

Providing positive feedback: Employers should demonstrate positive feedback on the work done by their employees and guide them about the best practices, because it strongly encourages employees. Controlling the workforce is easier for the empowered employees because they are working both to achieve personal goals and to achieve organizational goals. Powerful employees are more satisfied, they suffer less stress and anger, and they are not thinking about abandoning their work. Placing the right employee in the right position at the right time and training them is an important step that needs to be done, and then managers should hire a team of professional workers with a coherent and comprehensive vision.

Onboarding and Positioning Program: It plans to create an onboarding process by which new employees can learn about the activities, organization style, staffing, and progression along with continuous discussion, goals, and the possibility of asking questions and issues faced by employees. Counseling programs that link new employees with advisers are a good idea because they provide the views of experienced employees to newly hired employees.

Coping with change: Organizations must continuously notify their employees about changes, so that employers do not have trouble when they want to make major changes in the organization (Half, 2018).

2.4.4. Components of Employee Empowerment

According to Lawler (1986), empowerment is accomplished when organizations implement strong participation management systems. To this end, it suggested that more decision-making authority is delegated to baseline employees, appropriate training is provided for them, access to strategic revisions related to them is given, and they are rewarded for their outcomes. Dimensions of empowerment in this study are as follows:

Table 2.1. Components of Employee Empowerment

Dimension	Definition
EFFICIENCY IN PERFORMING WORKING DUTIES	SHOWING CONSCIENTIOUSNESS AND SKILL IN PERFORMING INDIVIDUAL DUTIES AND RESPONSIBILITIES
ATTEMPTING FOR PROGRESS IN WORKING DUTIES	REVIEWING INDIVIDUAL'S WORKING DUTIES AND CREATING CHANGES FOR BETTER PERFORMING DUTIES OR MAKING ONE'S WORK MORE USEFUL
EFFECTIVE COOPERATION	COOPERATION WITH COLLEAGUES IN ORDER TO GUARANTEE OPTIMAL PERFORMANCE OF GROUP FOR DOING SHARED WORKING DUTIES
ATTEMPTING FOR PROGRESS IN WORKING GROUPS	REVIEWING PERFORMANCE OF WORKING GROUP AND TAKING MEASURES FOR IMPROVING GROUP EFFICIENCY
PARTICIPATION AT ORGANIZATIONAL LEVEL	PARTICIPATION IN ORGANIZATION FOR RESERVING AND IMPROVING EFFICIENCY AT ORGANIZATIONAL LEVEL

Source: Lawler (1986)

2. 5. Recognition of Employees

To date, the recognition of employees at organizational level has not completely been solved in a satisfactory manner. Given the increasing 1- demand of employees for being recognized at their

workplace, 2- the growing organizational challenges regarding human resource management, 3- quality of workplace and living place, and 4- employee engagement, in all of which recognition is an important factor, it is necessary to have better understanding of this concept. Moreover, when workplace is regarded as human resource management tool, recognition provides a suitable alternative for control and obedience-oriented procedures.

According to the reviewed literature, the concept of recognition is related to acknowledging the work of employees. The purpose of this section is to determine and specify the concept of employee recognition and to provide a foundation for an intellectual, purposeful, and meaningful discussion of this concept.

2.5.1. Significance of Employee Recognition

Many authors have investigated the impact of working motivation on performance in order to respond to constraints of re-engineering of working processes or requirements of organizational productivity and efficiency (Herzberg, Mauser & Snyderman, 1959; McGregor, 1960; Vroom, 1964; Porter & Lawler, 1968). These studies emphasized the significance of employee recognition as an important component of motivation. In addition, Porter and Lawler (1968) proposed a model of internal and external motivation in the work world. They acknowledged that organizational performance is importantly determined by gaining internal and external rewards. There are several consistent studies that refer to motivation as a predictor of organizational performance (Deci and Ryan, 2000). However, the objectives of studies on motivation are not focused solely on achieving working performance, but they seek to respond to new managerial problems related to employee engagement (Meyer & Herscovitch, 2001), job turnover (Richer, Blanchard & Vallerand, 2002), mental health at work (Locke, 1997) and recognition (Brown, 2000; Franco, Bennett, Kanfer & Stubblebine, 2004; Saunderson, 2004).

Some authors have emphasized the importance of employee recognition as a factors of motivation (Dutton, 1998; Applebaum & Kamal, 2000; Saunderson, 2004; Grawitch Gottschalk & David, 2006), identity (Dejours, 1993), and a component of meaningful work (Mow, 1987; Morin, 1996, 2001). Of course, employee recognition acts as an individual progress factor, as well as a stabilizing and dynamic factor in industrial relations. Indeed, Brun et al. (2004) indicated that lack of recognition is regarded as the second risk factor for psychological distress at workplace. For

example, it seems that recognition is a factor for tolerance of mental pressure by managers and a basic element in their ability to control difficult specialized situations (Dany & Livian, 2002). Recognition is one of the main organizational mobility and participation resources (Wills, Labelle, Guerin & Tremblay, 1998; Tremblay, Gay & Simard, 2000) and plays a key role in success and continuity of organizational change (Atkinson, 1994; Fabi, Martin & Valois 1999; Evans, 2001). Additionally, recognition promotes in-service training which is training that is given to employees during the course of employment (Lippit, 1997), and it is the foundation of a learning organization (one that provides learning opportunity for individuals by means of its structure and strategy). Finally, with the help of job satisfaction, employees positively influence organizational productivity and performance (Applebaum & Kamal, 2000). Most employees certainly express the need for being recognized by managers, colleagues, and customers regardless of their job position and type (Brun, 1999-2000). In this regard, in a construction industry questionnaire, respondents rated recognizing their efforts as the most important method or criterion for their motivation (Bennet, Davidson & Gale, 1999). However, both quantitative and qualitative data indicate a discrepancy between recognition and HRM measures at workplace. Of course, recognizing their efforts are highly based on controlling and overcoming the organizational and individual behavior model (Linhart & Linhart, 1988). This growing need for recognizing among workers is partly due to a specific social and organizational context as the next sections will further present.

Recognition should be viewed from an interactive perspective, which embraces the concept of mutual action and the mutual nature of all human relationships. Such a vision is based on the fact that the declaration of recognition requires establishment of a mutual relationship between two or more individuals at the workplace, which is consequently expressed by one of the parties. Recognition can be two-way or one-way or not at all between the parties, however, has it represented a form of message that each person sends to another. Recognition (whether or not present) is expressed through various types of interaction, whether the truth is not expressed or fully understood from the heart of industrial relations.

2.5.2. Social Context

The dominance of economic considerations over social ones is a characteristic of modernism is (Chanlat, 1998; Meda, 1995), which is also accompanied by a prevalence of individualism, the

violation of social networks, and a weakening social spirit (Therriault, 2000). In addition, in the opinion of Giddens (1991), the modern context, by purging daily life of many of its human dimensions and placing the individual before a set of dilemmas to resolve, throws up roadblocks to the process of individualization. This prevailing environment of demands and the more ambiguous nature of individual and group references, amplified by the loss of traditions, forces people to identify anchor points and personal meanings to guide their lives. Work is liable to represent one of these seats of existential meaning (Morin 1996). Work also realizes a wide range of individual's needs and wishes. Although work is the second priority after family, it is yet very important for the people as a value and area in life (Bourcier & Palobart, 1997; Baret et al.2020). Work seemingly has replaced old social relations, and has turned into the central point of social bonds (Carpentier-Roy, 1995-2000). For most people, work has gained an excessive significance as an attempt for obtaining identity and individual satisfaction (Brun, 1999). Therefore, cognitive expectations are much more in their life.

In addition, deep changes altering the world of work challenge the foundation of individuals' values and employees' success in organizations. Thus, organizational context have entered several key factors that should be taken into account.

2.5.3. Organizational Context

The phenomena of globalization, international competition and technological change have an impact on the organization, pace and nature of work, the definition of professions, as well as the boundaries between previously distinct spheres of life (Gagnon 1996; Lebaube 1997). Companies themselves are also undergoing major changes. Whether in the form of acquisitions, restructuring, process re-engineering, cultural transformation or leadership succession (Fabi et al. 1999), these changes are now part of the organizational landscape. The effects of these transformations, which are often carried out to develop a competitive advantage or enhance corporate profitability, are not always positive. For example, consider feeling tension among workers as a result of the unpredictability of these changes and the risk of job loss (remaining syndrome). The poor sense of attachment to the organization, the low respect for management, and the underestimation of the relationship between employees and employers following the violation of the contract connecting

them are among the negative results of this new economic and organizational order (Rondeau, 1999).

In addition, the modern working environment provides managers and employees to respond to unfamiliar and often contradictory demands, which are real challenge for achieving the procedure stability and balance (Forest, 2001). While employees need to carry out tasks and revisions which become to perform tasks that become more complex and heavier, they require more real recognition of their effort (Collerette, Schneider & Legris, 2001).

Faced with the human costs of these transformations and the challenges posed by current economic conditions, many organizations are working to reforge their ties with employees and stepping up their efforts to devise new HR management models (Rondeau 1999). The declared strategic objective consists of adapting HR practices so that they help facilitate workplace change and contribute to retaining – and engaging – staff. The purpose is developing skills in employees and improving quality of their working life (Canadian HR Development, 2001). To this end, managerial measures that lead to higher participation of employees in decision-making process, flexible payment, teamwork, and educational motivation are considered as promising solutions. Of course, initiatives like these in some organizations are replacing controlling-mastering and supervisory management procedures. In these cases, the concept of employee recognition is considered since its purpose is acknowledging individuals’ achievement for the organization and for the own development of the employee. Nevertheless, we could still wonder what actually employee recognition is. As a central point for multifaceted dimensions, recognition is a distinct concept, a concept with multiple meanings that uses a multiplicity of approaches, and it is obviously a complicated matter as Figure 2.12 presents. The following sections will further the analysis of the concept.

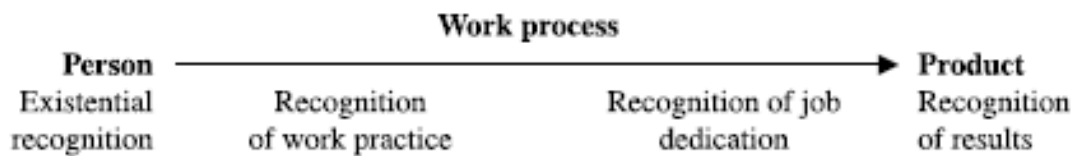


Figure 2.12. Four measures for employee recognition

The analysis and review of related literature provided four non-exclusive approaches for employee recognition: 1) the ethical perspective; 2) the humanistic and existential view; 3) the work psychodynamics school, and 4) the behavioral view. These four perspectives can be translated into four measures of employee recognition, namely: 1) existential recognition; 2) recognition of work practice; 3) recognition of job dedication, and 4) recognition of results. These employee recognition measures respond to two broad employee needs. On the one hand, recognition as complete individuals and, on the other, being admired as workers who are committed to work, so that time and energy are spent on people, in order to perform their duties in a rigorous manner and obtain objective results.

2.5.3.1 Ethical Perspective

The ethics of human resource and organizational management are specifically related to the organization's strategy. This branch of ethics influences every sector, every function, and every process in the organizational world, and there is no exception in the field of industrial relations (Lapointe, 2003). Hence, it is not surprising that an ethical perspective provides grounds for thinking about employee recognition. This ethical discourse promotes the idea that recognition is questioning human dignity and social justice, and it is not merely related to organizational performance or issues related to mental health at workplace (Brun, 2000). The concept of human dignity is based on the belief that every person has his or her own purpose, thus, he or she should not be considered merely as a means or tool for the company (De Konink, 1999). Human dignity and the indivisible and non-reducible nature of the individual are related to each other. In this perspective, the worker cannot be considered as a number, file or folder. The concept of equality between individuals, in which people are known to be human beings, is related to the issues of employee recognition. Employee recognition has become the task of modern companies, especially in the highly expecting environment in which workers work (Bourcier & Palobart, 1997; Baret et al.2020). Overall, recognition creates a collective responsibility that is shared by all members (Brun, 2000). Thus, recognition is associated with the concept of attention to others, attention to results and impact of the actions taken (Brun, 1999).

Finally, the people facing crisis with meaning or belief (Lefebvre, 2000) in the modern world need managerial ethics that can meet employees needs for having meaning, being accepted, and feeling

a sense of attachment (Pauchant, 2000). Moreover, ethical factors are required for a meaningful work (Morrin, 2001).

At ethical level, recognition is also related to the concept of organizational justice. In social justice, in its distributive, syntactic, and interactive forms (Aquino et al., 1999), the following actions are transferred to an organization:

- Top management should specify organizational standards in relation to reward distribution, and treat workers fairly according to the standards and useful and effective helps of groups and individuals.
- Administrative managers should be supportive when their employees feel danger or are influenced by difficult decisions.
- Managers should consider human and ethical components of their decisions in the organization.
- Managers in general should accept their past mistakes and negative impact of their poor decisions about employees.

Overall, when recognition is looked from an ethical perspective it includes the correction of wrong actions that have annoyed employees due to specific management decisions. It also reflects openness to individual and organizational values. Some practical examples obtained from previous studies identified several measures to obtain the best of recognition (Brun & Dugas, 2002):

- Providing specialized services to deployed employees to simplify the transition period and help them find new jobs or change their jobs.
- Creating an organizational culture that respects individual values and relates these values to organizational values.
- Assignment of projects to individuals avoiding conflict with their beliefs and aspects that are valuable in their work.

2.5.3.2 Humanistic and Existential view

The humanistic and existential view is very close to the ethical perspective, and it is related to organization of individuals, their existence, uniqueness, and distinctive characteristics. The

essential trust in humanity and potential of individuals and communities is the belief behind this perspective. The belief underlying this perspective is a fundamental trust in humanity and the potential of people and communities. Here the notion of justice is not central. The theory states that if you provide people with the proper working conditions – financial and material, of course, but chiefly in the area of relationships, communications, power and independence – it will be easier for them to approach their work positively and align themselves with organizational objectives. They also would work more creatively to achieve work goals (Martin, Lenhardt & Jarrosson, 1996). According to this view, spending time to get familiar with individuals who we work together with, respecting them, and giving meaning to them through recognition is crucial (Bourcier & Palobart, 1997; Baret et al).

In humanistic and existentialistic terms, recognition means considering employees or business groups as individuals with intelligence, emotions, and expertise (Jacob, 2001). In particular, this point of view involves a deductive recognition, that is, everyone is immediately recognized on the basis of the principle of equality among individuals for the sake of their common humanity, which is expressed in their interpersonal daily relationships and behaviors. In Bourcier and Palobart (1997)'s 'indifference–compensation' continuum, it appears to represent an advanced form of consideration. In our view, it should serve as the foundation of all other recognition practices.

With an existentialist recognition approach, individuals are granted the right to voice their opinions about and influence decision-making, as well as the course of their own and the organization's actions. In summary, they are authorized to be witnesses and performers of important affairs of the company. For employees, the criterion for an existentialist recognition is that others acknowledge their existence (employees) and consider their needs, and they feel respected as complete human beings that possess unique physical, emotional, psychological, and cognitive characteristics.

Although this kind of recognition can be expressed through formal ways, it is usually informal. In practice, there are several ways of existentialist recognition such as the following:

- Regular informing about goals and strategies of the organization to employees
- Consulting and making them participate in designing different steps of project control
- Providing scope for decision-making to employees in their work.

- Being accessibility as managers.
- Encouraging employees to support each other.

2.5.3.3 Work Psychodynamics School

The work psychodynamics school deals with the personal experience of individuals at the workplace and personal and group defense strategies that are used for preserving psychological balance under disturbed working conditions. The consideration of suffering and pleasure is also in this area.

According to the work psychodynamics school theory, recognition is the reward that one expects to receive, and it is mostly symbolic. This theory is composed of two components. In one hand, recognition means acknowledgment, or recognition means reality of individual's contribution to the organization (Dejours, 1993). The reference here is to actual work, rather than the work prescribed by the organization. This type of judgment tends to be frequently resisted by the management chain because it points to deficiencies in work organization. Recognition exists as well in the sense of gratitude, to highlight a worker's contribution to the performance of work. The second form of recognition is less observed at workplace.

Recognition also originates from the judgment about the work performed and its outcomes. This judgment is expressed in two ways. The first type of judgment is the one about profit, which is essentially done by supervisory personnel, customers, or subordinates that assess the social, economic and technical performances of employees. Recognition of results, which was already described, represents this type of judgment. The 'beauty judgment', meanwhile, is mainly pronounced by peers, who are in a better position than anyone else to judge the quality of work performed and the effort put in by the person. In passing judgment, this group recognizes that the person performed his/her work according to accepted practices. This sense of being appreciated by one's peers makes employees feel that they belong to a community. By being acknowledged for their particular way of doing things, their style (Clot 1999), and the characteristics that make them stand out from others (originality, elegance, ingenuity, thoroughness), they begin to feel recognized for the unique contribution they bring to their professional life.

Recognition of performance is focused on the working process of employees, especially their creativity, innovation, and their working approaches. Regarding work process, the main feature of this type of recognition appears when individuals (or groups) feel being recognized for their expertise, skills, intelligence, and specialized competencies in the way of doing tasks and problem solving. These individuals usually gain feeling of self-confidence and personal competency (capability). Some authors propose measures for recognizing working performance (Brun & Dugas, 2002):

- Encourage feedback of colleagues about competencies of employee's expertise.
- Managers should recognize expertise of each of group members, and assign responsibility to each employee according to the individual competency.
- Consider work process in team assessments and employee performance evaluations.
- Reward specialized works and establish programs for rewarding innovation.
- Obtain thanking letters of customers for the services provided by employees.

It should be noted that recognition of working performance mostly focuses on what employees do rather than who they are. The latter aspect is addressed by a second form of recognition vis-a-vis the work process: recognition of job dedication, by which employees are recognized for how hard they work, how well they apply themselves to their duties, and the consistency of their contribution.

Recognition of job dedication acknowledges the level of participation, engagement and contribution shown by an employee or team in the work process, as regards effort. Employees may sometime fail in acquiring the expected outcomes despite of their attempt, knowledge, and skills. However, the quality and energy they spend on work should be recognized, which is often the least seen aspect of real work. Recognition of job dedication is also an opportunity for highlighting the contribution made by employees with lower productivity, and employees that work at back stage, such as technical and administrative supports elements. All of them help with continuous and effective operations in the organization with their daily engagement and engagement. Ultimately, this type of recognition is also about recognising the risks that are incurred by employees so that they can perform their tasks, and spend energy at conditions that sometimes are less than ideal.

These ways for recognition of job dedication make employees feel that their work, regardless of the results, is appreciated and acclaimed. This approach is close to the concept of "pure recognition" defined by Bourcier and Palobart (1997). From our point of view, this recognition must be expressed in such a way as to fit into the work an employee is or could be doing, since this recognition causes honesty, and reduces the room for flattery. According to a comprehensive study of German workers (De Jonge, Bosma, Siegrist, Peter et al., 2000), in the opposite direction, if physical and psychological efforts are compensated improperly, this has an adverse impact on the employees. In the positive side, some examples of constructive recognition are when managers:

- Rank employees for participation in project.
- Recognize the value of employees' ideas even though these ideas are not used.
- Encourage them in meetings to highlight the time and effort they have made in a team project.
- Send messages to employees to appreciate and thank their courage and perseverance in difficult working conditions.

If recognition of work performance and job dedication plays a critical role in work psychodynamics, they are by no means the sole contributing factors. In other words, an organization does not necessarily have to avail itself of this approach to recognize the work performance and job dedication of its employees.

2.5.3.4 Behavioral outlook

The behavioral outlook includes a point of view that is highly different from the described concept. Under these four approach, human behaviour is controlled by its consequences within an effort-reward model (Siegrist et al., 1990 ; Andreoli et al.2020). Recognition has been a way to positively reinforce the actions and behaviors visible in a work that are well liked by the company (Nelson, 2001). In this case, in the recognition model, the results are very important for behavioral management methods. However, positive reinforcement is rarely introduced as the only way to recognize employees' work. Spontaneous, interpersonal expressions of recognition are considered just as important, if not the foundation for all practices aimed at reinforcing worker behaviour.

The behavioral approach is closely related to recognition of results, although this type of recognition is not confined by results.

Recognition of results essentially deals with the end product of employees and their help to achieve organizational goals. Hence, this form of recognition is primarily related to the inductive nature, which is essentially conditional and directly linked to the mission and objectives of the organization.

In terms of expressing opinions, appreciating and thanking the individual or team, the recognition of results is essentially related to the effectiveness, profitability, and value of the work performed. Recognizing results involves performance appraisal, assessment of productivity, and working success and failure of employees. Hence, workers feel that their help in achieving results is recognized, which affects their sense of usefulness. On the other hand, some studies have shown that recognition of results, for example, through salaries (annual salary increases, rewards, incentives, etc.) has little effect on the performance of the employee in the mid or long term (Bishop, 1987).

Recognition of results is often expressed in formal ways such as the following:

- Performance appraisal sessions
- Celebration of special achievements
- Encouraging rewards when they achieve goals.
- Bonus for outstanding contributions

But recognition of results can also be done also in more informal ways, such as:

- Spontaneous congratulations of colleagues to an employee who has come up with a big challenge.
- When managers appreciate a good work done in the team meetings.

Recognition of results, which is recently increasing in working environments, may have adverse impact such as jealousy, inferiority, more competition among employees and ultimately the loss of credibility. For example, in examining recognition methods in a semi-public organization, it was found that annual rewards given to executives entailed a sense of jealousy among those who did not receive this reward and developed a sense of injustice among employees who thought they were more competent than their executives to receive the reward. In addition, an exclusively

results-oriented focus is liable to obscure the reality of the work process, disregarding the effort, emotional investment, risk taking and problem solving that goes on daily. Thus, this form of recognition should be used intelligently complementing other forms of recognition (Appelbaum & Kamal, 2000).

In any event, over and above the approaches and practices by which it is expressed, employee recognition is a phenomenon that exists on various levels, as a function of the sources of recognition and workplace dynamics.

2.6. Employee Competency

In today business environment, competency is based on the performance and approaches that have attracted attention of modern organizations. Globalization, individualism, digitalization, and increased competition have changed the industry image, as we earlier knew. They are continuously targeting the development and improvement of skills and competencies of employees in archiving achieving optimal and long-term performance. The literature has indicated that if employers treat their employees as valuable colleagues, they tend to stay in the organization. For example, to this end, educational organizations provide competitive compensation plans to increase the benefits of their employees (Kaushiki and Manisha, 2014). For more than 30 years, the competency model has been used in business and industry to select employees. The competency movement formerly had been used in business through the leading work (McClelland et al., 1976). Competency is a combination of tacit knowledge, explicit knowledge, behaviors, and skills that have the potential for effectiveness in working performance.

Using a competency model in human resources management integration human resource activities. In fact Competencies are the common link among the majority of human resource subsystems (Byham, 2006). By linking human resources processes to desired competencies, organizations can shape the capabilities of its workforce, and gain better results (Donzelli et al., 2006). In addition, organizations are able to build ongoing snapshots of the overall knowledge capital and skills portfolio of its workforce. Further, organizations may be able to utilize this information to perform individual and organizational analysis, reduce education costs, improve hiring practices, improve retention, improve human resources performance and developmental planning processes, and deploy its human capital more effectively (Gangani et al., 2006). Considering the significance of this subject, the following sections provide further analysis of the concept.

2.6.1. Definition of Employee Competency

Competency (as a synonym of capability) is the term that is specifically mixed with skill. It is because various terms are interchangeably used. The term competence originates from the Latin word 'competentia' meaning "permissible to judge" and "the right to speak" (Caupin et al., 2006). The competency approach to HRM is not a new thing. The old Romans already used a description of competency to describe the features of a "good Roman soldier" (Draganidis & Mentzas, 2006). From a managerial point of view, there are two types of competencies organizational competencies and personal (individual) competencies.

Literature on HRM focuses on individual competencies. McClelland (1973) used this term as a symbolic alternative for the traditional intelligence test. According to McClelland, competency is a characteristic of the individual that is related to better performance and representation of a special skill in practice and use of knowledge required for doing a work.

Boyatzis (2008); Kjellstrom et al (2020) also analyzed managerial competencies, and defined competencies as the characteristics latent in the individuals that can use motivation, character, skill, the person's mental image, social role, or knowledge. These characteristics are evident in the observable patterns and behavior related to working performance, and usually comprise knowledge, skills, and abilities. In other definitions, competencies have been described as the abilities to perform a work role for a defined standard referring to the real workplaces.

Overall, competency is defined as a set of knowledge, skills, and attitudes, which influence considerable part of one's work (a role or responsibility), that correlates with performance on the job, that can be measured against well- accepted standards, and that can be improved via training and development (Ozcelik & Ferman, 2006). Other researchers also added awareness to this definition. According to Dingle (1995), competency is a combination of knowledge, skills, and awareness. In this definition, knowledge relates to the understanding of the basic principles necessary to accomplish the task delegated to the individual, and the skill refers to applying this understanding and the knowledge of the correct use of this skill in accordance with the ideal specialized and corporate approach.

In addition, Patel et al. (2003) differentiated individual competencies from the point of view of epistemology as rationality and objectivity. For rationalism, competence is a specific set of

attributes used to perform a task. Hence, the competency-based division relates to the characteristics of highly qualified employees, such as the motivation and social skills that can be learned through training. In contrast, the task-oriented dimension of competence is related to the behavior of particular individuals and how they operate in an organizational environment. From an objectivity point of view, worker and work are considered as a single element. Therefore, competency is composed of individual's experience and his character in combination with factors related to work originating from formal and informal organization. Thus, this approach focuses on the interaction between the individual and the job, thereby, taking into account what the individual brings to the job and the characteristics of the job itself.

In addition, there is an alternative for describing competency based on the results that the competent individual should acquire, and thus, definition of general standards of performance for specific activities. This procedure considers competency as the input, and focuses on competency outcomes, quality, and decision-making.

Along with the literature on human resource management that is focused on employees, there is also a line of research about strategic management (SM), which views competency as the feature of organizations in the form of a complete set with special emphasis on core competencies and dynamic competencies. According to this organizational perspective, competencies belong to organization, and they are latent structures and processes that tend to stay in the organization even when the individuals leave it.

At organizational level, major competencies may provide the organization with competitive advantage, and can be defined as the combined use of strategic resources of the organization that are the result of collective learning in the organization. Distinctive competencies lead to distinctive abilities of the organization, which are the basis for creating value added that may produce a competitive advantage that drives a superior performance, which is sustained if such competencies are difficult to imitate. Competencies refer to the abilities and skills that employees are expected to have or develop as well as the processes required for achievement of success. In addition, at corporate level, these major competencies are crucial for survival and progress of company. On the other hand, a dynamic capability (the term is preferred to the one of competency) is the company's ability for modifying its abilities over the time, and it is highly related to important resources for change.

From a holistic view, competence is a combination of tacit and explicit knowledge, individual and collective knowledge, ability, behavior and skills that lead to efficiency, effectiveness, and excellent performance.

The present thesis focusses on individual competencies from a HRM point of view. Though many researchers claimed there is strong relationship between individual and organizational competencies. This claim is essentially because of the fact that organizations have realized that the use of this ability and knowledge of workforce is an important factor for the achievement of sustainable competitive advantage (Ozcelik & Ferman, 2006). Additionally, the concept of competency is a central concept for HRM, because it provides a basis for most processes such as selection, performance appraisal, training, reward management, Further, competency is also crucially related to the organization's strategy, values, business processes, and performance results among others (Ozcelik & Ferman, 2006; Hecklau et al, 2017).

2.6.2. Approaches to Competency

In this section, three approaches to competency will be analysed following Özçelik (2006; Hecklau et al, 2017)

Behavioral Approach: In this approach, competency is defined based on behavioral terms and main personal characteristics such as habits, personality, knowledge, skills, and motivation in business and job, and in general, it is applied to behaviors associated with top performance.

Standards Approach: In this approach, based on analysis of occupational function or organizational position, the minimum performance standards at managerial positions are introduced for assurance of a certain quality at the job. This approach is essentially related to the definition of a minimal acceptable performance in a specific job or occupational position, where the real output of job is emphasized. It seems that a standards approach is less used compared to the previous behavioral approach.

Contingency Approach (or situational): In this approach, those factors are discovered that may affect the competencies required. Culture, values, and changes are among the factors mentioned. Situational factors are so many that it seems impossible to provide a general list of management competencies that are commonly used in most management positions. The purpose of this

approach is to introduce the relationship between certain situational factors and competencies required for top managerial performance (Ozcelik and Ferman, 2006; Hecklau et al, 2017).

2.6.3. Levels of Competency

Most experts from educational and technical areas believe that a separation of competency levels is necessary for providing meaningful evaluation. Competency levels may have various functions. Its most important application is identifying the current competency level of individuals and determining the competency level required for employee positions. It is clear that not all individuals at different managerial positions require all the competencies. In addition, when preparing a competency model for each position of managers, it is necessary to do so based on one of levels or a combination of their performance (Özçelik and Ferman, 2006; Hecklau et al, 2017). Competency can be distinguished at two levels (Torner and Grawford, 1994):

1. Individual level: competencies include skills, attitudes, motivational characteristics, capacities, and competencies of the employees.
2. Organizational level: Competency includes a special method in combining various resources of organization with each other. In other words, competency is combining the knowledge and skills of employees with other sources of the organization, such as the knowledge of systems, current affairs, procedures, and technological productions. The core competencies at this level provide a strategic competitive advantage to the organization (Mitchell and Boak, 2009)

These two categories are not completely independent. Individual competencies can form the way of doing things with the culture existing in the organization. In addition, organizational competencies can determine the type of individual competencies that are more suitable for the organization.

2.6.4. Types of Competency

Apart from the differences between levels, there are also differences within the same levels. For example, employee-level competencies can be divided into technical and behavioral competencies. Technical competencies contain knowledge and skills related to the job, while behavioral competencies refer to attitudes with personal features (Sinnott et al., 2002). In fact, technical

competency is mostly related to the technical knowledge of doing work. In other words, it addresses the issue of what the work is. Therefore, the list of technical competencies is very long, and highly vary depending on the different jobs. On the contrary, behavioral competencies consider the way of doing job, and are mostly similar in different jobs. For example, a customer-oriented behavior is a kind of behavior that can have the same definition in different jobs, so the list of behavioral competencies is shorter. Technical competencies are the cases that can be extracted from the job descriptions of organizations and can be improved with training courses. Of course, these two types of competencies - technical and behavioral - cannot be completely separated from each other. It should be noted that human behavior is influenced by knowledge and technical characteristics. For example, understanding of the environment, organization, market mechanisms, and other related issues has a significant impact on customer behavior (Rankin, 2004).

2.6.5. Hierarchy of Competency

A competency model is a list of competencies being obtained by observation of satisfactory performance with expected performance of employees for a certain job (Draganidis & Mentzas, 2006). In other words, competency models include the main competencies that really influence performance (Cochran, 2009). The purpose for formulating competency model in every organization is providing a model for integrating human resource performance. The model also can be useful in analysis of skill and comparison of available and required competencies of individuals and organization (Draganidis & Mentzas, 2006). Since the beginning of the leak of competencies, from the early 1970s to the present century, various scholars and organizations have developed a variety of competencies for managers. For example, according to Sherman (2001), the competencies needed by managers include leadership skills, training, resource allocation and management, employee supervision, program control and reporting, professional development measures, and social participation. Among the interesting models in management competencies is the model proposed by Freudenberg (2004), which considers a hierarchical status for competencies. He categorizes competencies into seven categories and considers the competencies of the lower class to be a prerequisite for a higher class. As a result, achieving the highest level of competency requires having competencies of the previous levels. The seven levels of competencies are (Figure 2.13):

1. Competency of reasoning: competencies required for learning, use of information, and purposeful and rational performance
2. Occupational competency: knowledge and skills related to a class of jobs that are acquired through education and experience
3. Competency of individual effectiveness: competencies that facilitate effective application of individual skills and abilities
4. Competency of communication: competencies that facilitate information exchange
5. Inter-personal competency: competencies that create and maintain effective working relations
6. Group competency: competencies that help create group, group work, and effectiveness.
7. Organizational competency: competencies that help overall effectiveness of organization and system

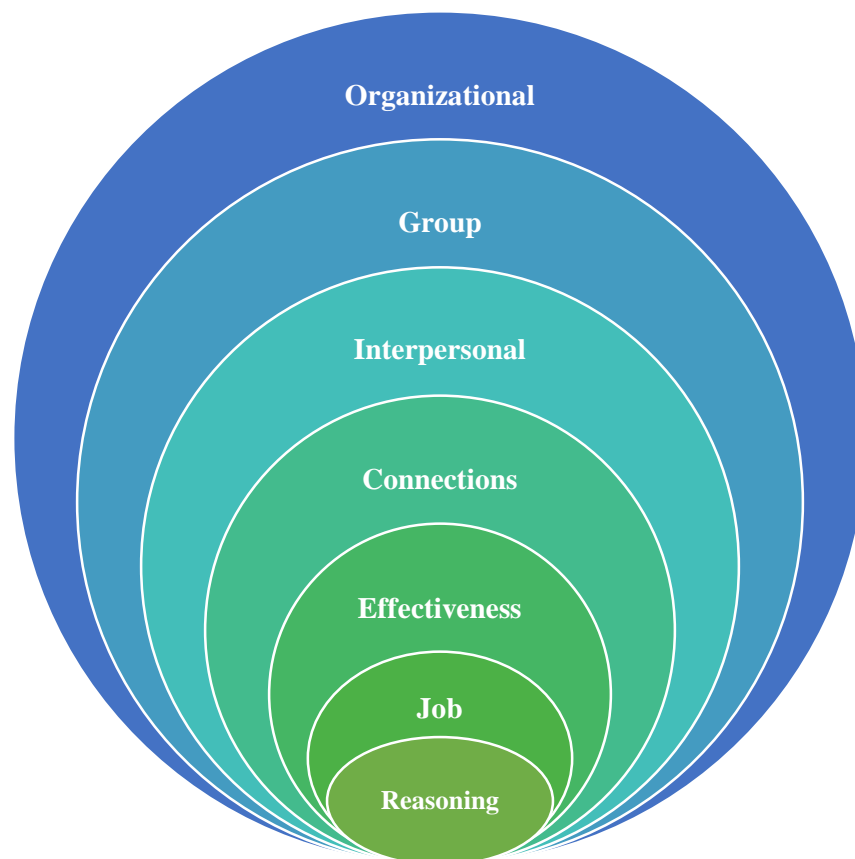


Figure 2.13. Hierarchy of Competency (Freudenberg, 2004)

2.6.6. Components of Organizational Competency

McClelland (1973) described competency (capability) as the basic feature of top performance. He is reputable for introducing idea of “competency” in HR literature. He attempted to improve approaches of USA Information Organization (Draganidis & Mentzas, 2006). Boyatzis (1982) defined competency (capability) as the main characteristics of individual, which is related to effective performance of organization as the principle of ‘change in one variable causes change in the other one’. KSA (knowledge, skill, ability) framework is well-known in defining concept of competency (capability). Competency (capability) is a set of skills, relevant knowledge, and attributes (Figure 2.14) that allow one to perform his or her activities or duties (UNIDO, 2002).

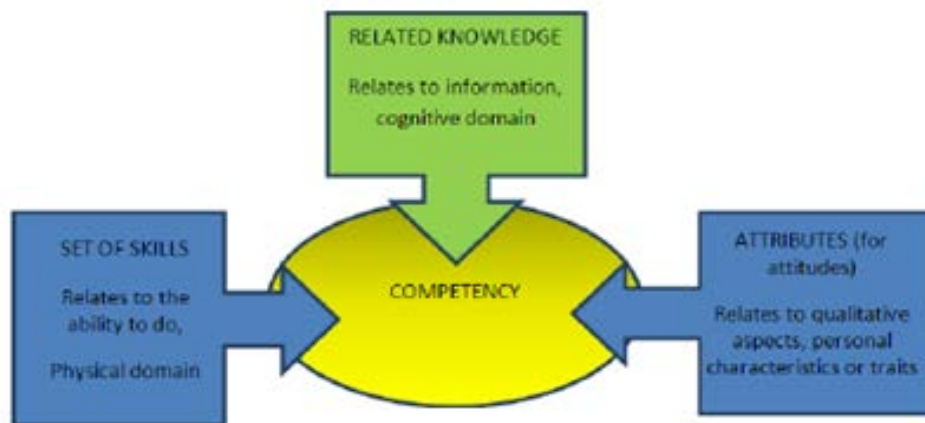


Figure 2.14. Indicates KSA (knowledge, skill, ability) framework for competency (capability).

Knowledge: development of knowledge and theoretical awareness is usually acquired through education in university. Knowledge development is regarded as the foundation of development of skills and attitude, and does not alone influence development of managerial competencies (related to information and knowledge).

Skill: it is the ability to use science in practice. Skill is obtained through repetition of knowledge application in the real environment. Skill development leads to development of performance quality. Without development of skill, in most cases, the knowledge would not be much effective (related to capability of doing work and physical cases)

Ability: it is a stable and extensive feature, which helps one achieve goals and optimal performance in physical and intellectual jobs. In fact, ability and skill are similar, and their difference is that skill is a specific capacity for doing physical works, while ability specifies the capacity of doing

intellectual works (related to qualitative aspects and personal characteristics) (Yusefi and Erfani, 2009).

2.6.7. Advantages of Competency

Given competency revolution, Mc Namar (1999) expressed advantages and reasons for acceptance of competency at 21th century, including: 1. The best way for understanding performance is observing what really individual do for success rather than emphasizing on such characteristics as intelligence, 2. The best way for performance assessment and prediction is having individuals that perform key aspects of competency to be evaluated, rather than running test for evaluating characteristics and tendencies, 3. Competencies can be learned and developed over time, unlike features and tendencies that are inherent and unchangeable, 4. Competencies should be observable and available for individuals so that they can perceive and develop required levels of performance, rather than emphasizing on features and intelligence that are latent, 5. Competencies are related to meaningful results of life, which describe the way of doing works by individuals in the real world, rather than emphasizing on confidential mental characteristics that can be perceived just by psychologists.

2.6.8. Application of Competency

This question may be raised that why competencies are necessary and what is their application? It should be stated that actually competencies could serve as a common language for different functions of human resources (Freudenberg, lavy, 1994 ; Gong & Liu,2020). If the human resource systems of organizations are reviewed it is clear that there is not required connection and communication in most cases among its different sub-systems such as education, performance appraisal, and recruitment, and it leads to inefficiency of human resource system. In other words, presence of strong communication and overlaps among different sub-systems of human resource system is necessary for strengthening sub-systems by each other and subsequently making human resource system dynamic and systematic, which is mostly neglected in today organizations. One of the best and most appropriate approach for this purpose is competency approach in human resource management. In fact, as stated by V.M. Cumberfom (2002), competency models can be used as a method for integrating various HR measures.

This means that any human resources management subsystem can be designed based on competency and in fact, competency is the core of all human resource activities of the organization. This has created a paradigm in the literature of human resource management known as competency-based human resource management, which is briefly referred to as "CBHRM". This paradigm is of great interest to today's experts and business owners; so much emphasis is placed on human resources in today's literature. Among the scholars and organizations that have considered this approach are the following: Cooper et al. (1998), Kravets (1997), Plum International (2001), Schoonover (2003), Haunstein (2000), Moinat (2003).

Most of these experts have tried to capture human resource sub-systems and competencies as the moons around, and placing competencies in the center, and the only difference between these experts is in the number of human resource subsystems associated with competencies. For example, Freudenberg, lavy (2004) proposed four subsystems of performance management, recruitment and selection, development and classification, and payment. The Plum International (2001) model is similar to this one. However, Kravets (1997) additionally adds career element.

Cooper et al. (1998) reported that competency models provide an integrated approach for designing HR system design including designing recruitment systems, performance improvement, employee development, work planning, success planning, performance appraisal, and payment. Thus, investment of organization in development of competency model would bring about many benefits for organization. It is attempted to describe each of these systems based competency in the following:

1. Competency-based recruitment and selection system

Applying competency models lead to facilitation of work for managers regarding selection and recruitment since these models represent competencies that should be possessed by the job owner. In other words, as mentioned by Byham (2006), competencies often create basis of selection and promotion systems because they clearly specify which areas of behavior, knowledge, skill, attitude or motivation should be evaluated so that it can be determined if the candidate are qualified for the position or job or not. Those selection systems that are not based on competencies have the potential to have information that does not relate to job success, which could have adverse effects in terms of non-compliance with justice and create a challenge for the organization.

2. Competence-based performance management system

Qualifications provide a platform for assessing the knowledge, skills and motivation of job owners, which helps effectively evaluate performance (OSI, 2003).

In other words, the important point in performance appraisal is identification of strengths and weaknesses of one's behaviors, and implementing development programs for turning weaknesses into strengths. Competency model specifies knowledge, skills, and abilities, and actually, device performance appraisal standards and evaluation based on these criteria can be done with higher accuracy and speed.

3. Competency-based payment and reward system

Payments can be connected to organizational competencies. To this end, higher payment is given to employees that show more competencies (Moinat, 2003). The organizations currently attempts to discover appropriate fair systems for rewarding so that individuals are rewarded according their values for the organization rather than based on organizational resources over which these individuals have control. Competency-based payment approach can be an appropriate solution for this.

4. Competency-based education system

The competency model in an education system can be used in different ways, such as for finding educational needs of individuals, preparation, and evaluation of educational curriculum, efficiency evaluation, educational effectiveness, and ultimately planning for growth and progress (Byham, Moyer, 2005). In fact, this means that the whole process of designing a training system can be based on competency. Certainly, a competency-based education system has a set of attributes that distinguish it from other educational planning approaches. Norton mentions five essential elements for competency-based education:

1. The competency that should be achieved during the program must be identified and validated.
2. Criteria that should be used in evaluating progress
3. Educational programs that should be used for individual development and evaluation of specific competencies

4. Competency evaluation
5. Progress of participants through educational programs based on their speed by indicating special competency

2.7. Research Hypotheses Development

2.7.1. ISO and Employee Engagement

Given the mentioned materials, quality management is continuous improvement thereby an organization establishes a better foundation for providing services to the customers. Quality management is an extensive initiative that covers the customers and suppliers; it is supported by the top management, and implemented from the highest organizational level to the lowest level. In other words, quality management means changing operations of the organization for focusing on the customer and involvement of the employees in the subjects related to them (Mehmet & Nevzat, 2012). In this attitude, the employees are respected and taken into account. The criterion for their assessment is their attempts for doing the affairs in a better manner, their perspective is evaluated, and thus, innovation, creativity, and presenting new ideas are developed.

It is clear that the organization should be directed and controlled in a systematic and transparent way so that successful leadership and administration is achieved. This success can be due to the establishment and maintenance of a management system that is designed for continuous improvement of the organization, while at the same time addressing the needs of both inter-organizational and outsourced customers. Most employees of the organization have enough information and knowledge about foreign customers with end-users, while they may not pay attention to the internal customers of the organization and their satisfaction. The key to the success of an effective quality management program in an organization is its focus on the customer. While the best point to start is to keep internal customers satisfied. Internal customer (employees) satisfaction and their attempt to have optimal performance will ultimately lead to more satisfaction of external customers (clients).

In this regard, the ISO 9001 standards have been designed to help organizations, in whatever type and in any size, contribute to the deployment and effective implementation of quality management systems. Implementing the requirements of a quality management system in any organization will

estimate its ability to deliver products and services that are desirable to the customer, and the goal of deploying this system is to increase customer satisfaction, improve organizational and employee performance. ISO 9001 has been implemented in over one million organizations around the world and has become the most common standard of ISO 9001 quality management system. ISO 9001 brings about more tendency of employees in relation with quality management system (QMS). The first goal of ISO 9001 is guaranteeing customer need with the goods and services that may lead to the standard process. The next goal is continuous improvement for continuous promotion of quality (ISO, 2014). Therefore, the work with structured processes, which is in accordance with ISO 9001, should be part of everyday plan of employees. The employees should be aware that these processes are necessary, and should match with their daily activities. On the other hand, ISO 9001 requires quality management system to promote continuously. Hence, employees should recognize and confirm the progresses (ISO 2012). To this end, one of eight quality management principles in ISO 9001 is employee engagement. Moreover, this standard specifically requires the organization to ensure that the personnel are aware of the relevance and significant of their activity and their contribution in achievement of quality goals (ISO, 2008). Some studies actually point out significance of allocation and participation of employees in implementation of ISO 9001. Prajogo and Sohal (2003) found that ISO 9001 quality management system could increase organizational efficiency, because this system facilitates development of processes, and provides guidelines that can be easily followed by employees. It leads to improvement of transfers, training, and faultfinding processes. In addition, they reported that the listed companies could develop educational systems, and make their employees positively satisfied and motivate them. Research findings in this area (Guimaraes, 1996) indicate that TQM implementation in organizations leads to high satisfaction of employees, their higher participation in their job, higher engagement to organization, and tendency to stay in the organization. Mc Adam and Bannister (2001) showed that implementation of total quality management provides appropriate physical and non-physical environment in organizations leading to reduced employee absenteeism. In the other study by Boselie, P., & van der Wiele, T (2002) it is reported that perception of the employees about various activities of quality management leads to high satisfaction and low absenteeism and high organizational engagement.

Therefore, in new and contemporary management, the employee engagement is of high importance because engagement and adherence can have many positive consequences. Employees with a job

commitment and engagement have more discipline in their work, stay longer in jobs, and work more, and this will increase productivity and expand market orientation (Cook, 2008 ;Wang et al 2020). On the other hand, awareness of the level of employee engagement to the jobs can be a good basis for decision of managers at the various stages of the human resources management process. Therefore, quality management should be considered not only as a set of technological engineering changes, but also as part of the organizational macro strategy. In this case, the organizations can achieve high performance by the help of designing quality of goods and services, and assure the quality during process using methods of prevention of product wasting, control tools, fair use of quality information such as customer feedback, modeling, etc. In order to implement these strategies, the organization should be customer-oriented, and preserve competencies of its employees. It should have reliable and flexible suppliers and enhance participation and engagement of employees in decision-making process through training and empowerment. Koch and Stears (1978) maintain that measurement and understanding occupational commitment provides useful information for occupational planning by the managers, and helps coordination and integration of the individual and business resources. The managers must maintain the commitment and engagement of the employees to the organization, and it would be realized by using employee participation in decision-making and providing a satisfactory level of job security for them.

In the previous section, the ISO 9001 quality management has been briefly explained, and employee engagement will be described in the following.

2.7.2. ISO 9001 Quality Management and Employee Empowerment

Optimal utilization of human resource is task of HR managers, and real investment in human resource and implementation of HRM measures may lead into increased performance and organizational effectiveness. Findings by Hongyi (2000) indicated that HRM measures directly do not influence performance of organization, rather these measures help enhancement of characteristics in human resource, and ultimately, leads to value creation in organization. Today the organizations require individuals that can have the best use of advanced technology, discover innovations, and improve their products and services (Cook, 2008). Thus, empowerment is needed for having such individuals. Empowerment refers to an internal feeling in individuals that causes

they independently adopt their decisions in their working process. Human resource empowerment is one of the most amazing approaches of human resource development, which leads to human resource literacy and prosperity of organization. It is argued that increasing speed and accuracy in the achievement of practical measures in the transformation of human resources into a powerful engine for driving organizational excellence is recommended to leaders and executives of organizations (Half, 2018).

On the other hand, the organizations have recently adopted quality management so that they can well utilize ability of employees in administrating affairs and improve employee effectiveness. In fact, quality management (ISO 9001) is regarded as improvement in traditional ways of doing works and business for assurance of survival in the current competitive world (Antony et al., 2002). Quality management (ISO 9001) requires participation of all employees in delivery of product or service to customer, and it has been accepted as a management paradigm by most organizations throughout the world. It is one of the quality-oriented approaches through which the organizations are able to control, administer, and supervise production, delivery, and sale processes (Zehir et al., 2012).

Quality management (ISO 9001) is one of the novel concepts that has been raised in socioeconomic studies in the modern communities, and resulted in the theories that are basis for management studies (McDonald et al., 2010). Quality management (ISO 9001) is the way of doing works based on cooperation, and utilizes capability and talents of managers and employees for continuous improvement of productivity quality in organization. Thus, it can be expected to be one of the factors affecting employee empowerment in organization.

It can also be argued that the establishment of total quality management and involvement of professional, creative, and motivated employees in implementing it will increase the efficiency of employees and the effectiveness and efficiency of the organization and will provide better service to the customer and increase their satisfaction. When ISO 9001 is implemented in an organization, all its employees view themselves as experts, capable, efficient and effective, and consider themselves contributing in improving the quality and effectiveness of the organization. They should look at the organization with a qualitative vision and strive to maintain the quality of its organization's performance at the optimum level by providing executive strategies. This means that, basically, any empowerment program can lead to productivity, better service, and customer

absorption. Employees also need to feel that they are looking at the organization with a qualitative vision and their performance is evaluated, and this has a significant impact on increasing their competency.

Glover et al. (2006) stated that continuous improvement occurs when employees possess required information, and are trusted by management so that they can use their skills and abilities. Thus, empowerment does not just mean giving authority to employees; rather it causes improvement of employee performance by learning knowledge, skill, and motivation. Dervisios (2011) maintained that as much as the ISO 9001 quality management attributes are manifested in the organization, the same could be seen in increasing employee capacity. In other words, if the managers act on the parameters of ISO 9001, the ground will be provided for employees to strengthen spirit of cooperation and culture of participation, to consider their work as important, to achieve the identity of the work, to understand their abilities, to recognize information resources, to have sense of independence by increasing their power of decision-making in their work. In addition, by using their own initiatives they can carry out business affairs, control work affairs, participate in determining goals, and feel the ability and mastery in doing their work. These characteristics are very important in organizational dynamism and excellence (Hassan et al., 2012). Several studies have examined the relationships between research variables in different institutions. For example, Mohammadi and Haddadnia (2020) in a research entitled “The Relationship between Total Quality Management of Educational Department Managers With Their Effectiveness and Empowerment” found that total quality management has a positive and significant effect on the employee effectiveness and competency. Fazeli and Rahimian (2013) showed that there is a positive and significant relationship between total quality management and innovation. Ahmadi et al. (2012) concluded that there is a positive and significant relationship between quality management, empowerment, and performance appraisal of employees of Fars Youth and Sports Organization. Gilaninia et al (2010) clearly demonstrated the role of quality management in organizational performance and effectiveness. Esfahani and Sedaghatjoo (2016) concluded that leadership style plays an important role in empowering employees. Therefore, applying appropriate leadership style can increase the employee competency. Hassan et al. (2012) showed that organizations with total quality management also have better performance. Dervisios (2011) concluded that organizations need to integrate total quality management in order to achieve innovation and maximum performance.

Therefore, according to the above-mentioned materials and considering the fundamental role of quality management (ISO 9001) in orienting the capabilities and abilities of individuals in the organization, efforts were made to examine the impact of total quality management on employee empowerment. In other words, the present research seeks to answer for the question of whether ISO 9001 is related to employee empowerment.

2.7.3. Interaction Related to Recognition

Our analysis specified five types of interaction related to recognition, which have been introduced with relationships formed at the organizational, vertical, horizontal, external, and social levels.

At organizational level, the concern of employee recognition is expressed through policies and programs that indicate organization's determination for recognizing work done by members. Now we do not want to refer to objective moves of managers or employees, rather we want to mention structural elements of recognition (value, policy, mission, objective, etc.). If managers are obliged to develop expertise related to recognition and soft skills, the organizations should strengthen their notified instructions so that they are turned into practice from works (Bourcier & Palobart, 1997;).

Characteristic of vertical interactions is specified by recognition relations that happen among manager, employees, or team. This recognition can be expressed top-down or bottom-down, but there is no imbalance in this exchange. In some working environments manager less recognized contribution of their employees, while on the other hand, employees indicate signs of recognition of their manager, and mutual recognition among themselves (Jacob, 2001). According to a poll (Crop, 1999), 30% of employees in the Canadian federal public service said they were somewhat opposed or entirely opposed, despite the fact that their direct managers did not properly recognize their work. Although an extensive study in USA (Buckingham & Coffman, 2001) has confirmed that the most compelling characteristic of employee performance is the quality of the relationship between him and his immediate manager. Reluctance of managers in recognition of their employees may result from their fear of inability to control employees, fear of creativity power of others, resistance toward equal relationships, and separation from real work of employees due to new managerial constraints (Hivon, 1996). Other explanations have also been given: Signs of recognition indicate weakness and can be assumed as flattery, develop unwanted impacts, it should be applied cautiously, and properly expressed. Finally, some authors (Brun & Dugas, 2002) have

referred to the fact that failure in implementing recognition measures is usually due to lack of time, skill, and knowledge in this area.

At the same time, horizontal components refer to recognition among colleagues and team members. As earlier mentioned, this form of recognition is the most important one. Colleagues are at the best status to judge about quality of the work done and help develop group work spirit. Colleague recognition is honestly evident from the eyes since it is free from management impact (Nelson, 2001). Although horizontal recognition is more applied than vertical form, it is yet influenced by the current situation of workplace. Emergence of new techniques of work organization and new management techniques along with job insecurity may exacerbate competition among colleagues, and subsequently, reduces their motivation for integration and understanding mutual recognition (Dejours, 2000). In addition, Brun et al. (2002) indicated that organizational performance, increasing ratio of manager - employee, and prosperity of activities along with production or service delivery are some factors leading to reduction of manager - employee or employee -employee recognition in organizations. The roll by Crop (1999) indicated that 31 percent of all employees at public services sometimes or rarely congratulated other colleagues during the work time, or never had congratulated.

External component is related to service delivery, which not only engages customers and suppliers, but also the consultants and partners. This type of recognition is important because if an organization suffers from a severe decline in the workplace, employees may feel that this is the only remaining source of meaning and motivation for their work. The relationship or customer-led procedure that is adopted by the organization can create a ground promoting this form of recognition.

Finally, the social component is related to the relationship of organization and its employees with the society as well as the relationships of society with different businesses and professions. For example, recognition can play role in the community's respect for the organization and its social value, or in social groups, recognition can demonstrate role and help of specific professions (nurses, firefighters, etc.) to the larger community. Recognition is also expressed in the voluntary spirit that is shaped by recognition of the needs of their societies. This type of expression can also be thought of as a way of giving back debt to the community.

Wider ranges of types of interactions are included in ways of recognition in workplace, and increase employee satisfaction and improve organizational performance. Therefore, in our view, by creating holes for understanding the recognition on the vertical, horizontal, and external levels, the organizations take the first major step toward achieving cultural recognition. On the other hand, previous studies indicated that employee recognition constantly influence individuals and organizations as a management practice (Bishop, 1987). Saunderson (2004) raised this idea that need for recognition is felt by considerable part of workforce regardless of employees' situation or profession. Grawitch et al. (2006) stated that employee recognition is key for preserving and constructing working identity of individuals, which leads to promoting work and helping their health and welfare. Dandeker (1990) considers recognition as a constructive alternative for management control and supervision, enhancing organizational change and performance. According to Brun and Dugas (2008), recognition strengthens individual cooperation in organization, which not only reflects improved performance of company, but also leads to one's engagement and interaction, and ultimately, recognition causes engagement to organizational rules and order. On the other hand, quality management means that an organization changes its operations to focus on the customer and engage employees in their own issues. In this view, employees are recognized, which in turn results in improvement of processes of ISO 9001 implementation.

2.7.4. Competency and ISO 9001

Nowadays, intense competition and technological change are putting increasing pressure on organizations and their various practices to increase their work force productivity. Now, the organization's workforce is expected to have a greater impact on the products and services they offer. This is exactly what has made it worthwhile in the competitive environment. Iran's human resources environment is also affected by these changes and its goals are changing in line with global developments.

Today we witness change in business space of the country's organizations from supportive environment to competitive one, thus quality issue is one of the cases that should be taken into account by organizations. To this end, establishment of competency system in organization is one of the main reasons that can help movement toward production of high quality products.

Companies have always attempted to achieve this goal by developing a positive and growing trend. However, such cases as resistance of traditional management systems against new systems have caused resistance from upper levels for establishment of competency system, and ultimately, the companies are not able to implement their goals.

After paper of Lawler (1986); Wood (2016), significance of competency in organizations has much increased. He investigated evolutionary trend of organizations, from job-based organizations to competency-based organizations, so that nowadays a large number of organizations use competency-based HRM approaches. Considering its different usage and application in different approaches, it seems that competencies require explanation and interpretation conceptually. In occupational strategies, competency-orientation is stated as the competition tools, while human resource, specifically focuses on definitions, recruitment, selection, and development of individual competency (Anastasias, 2001). Considering that productivity and quality are highly important for the companies, thus implementation of competency model for professional employees in the organization can improve production, productivity, cost reduction, profitability, and quality. John MacDonald (2003) maintains that total quality management is the way of doing work based on cooperation, and utilizes capability and talents of managers and employees for continuous improvement of productivity quality in organization. In the quality management system (ISO 9001), employee competency is of paramount importance. In this way, the professional competence of employees based on parameters such as experience, training, skill, education, mental and intellectual capacity, abilities and attitude and preparation of employees for changes can lead to increase of productivity and continuous improvement of company's activities. Gravelle et al. (2005) state that successful organizations can absorb the best individuals with the best capability and competencies and use their services at the best organizational positions. Rana, (2014) states that in order to provide the best individuals, the organization must have a transparent management system, and if the performance appraisal methods are effectively managed and deployed successfully, they will increase the employee's long-term satisfaction and participation. Bourgault and Charih (2008) also found that higher participation of individuals in organization, their decision making, Robbins (2002) found that the organization would progress in its work by increasing professional competency and engagement of employees, leading to high productivity. Preeti (2011) stated that the higher is competency of managers in organization, human resource productivity is also increased, and technical skill, perceptual skill, diagnostic skill, communication

skill, decision-making skill, and skill in time management cause increased productivity. Lotunani et al. (2014) investigated impact of competency on engagement and performance. Results of this research indicated that competency has positive and significant impact on employee engagement and performance. Bourgault and Charih (2008) also found that higher participation of individuals in organization, their decision making, Robbins (2002) found that the organization will progress in its work by increasing professional competency and engagement of employees, leading to high productivity. Preeti (2011) stated that the higher is competency of managers in organization, human resource productivity is also increased, and technical skill, perceptual skill, diagnostic skill, communication skill, decision-making skill, and skill in time management cause increased productivity. Lotunani et al. (2014) investigated impact of competency on engagement and performance. Results of this research indicated that competency has positive and significant impact on employee engagement and performance. Kertahadi et al. (2013) indicated that professional competencies and organizational engagement of human resource positively and significantly influence their occupational performance.

Therefore, with regard to the abovementioned materials and in view of the fundamental role of quality management (ISO 9001), the competency of individuals in the organization was attempted to examine the impact of universal quality management on the competence of employees. In other words, the present research seeks to resolve the question of whether (ISO 9001) is relevant to employee competence.

Considering the stated problem, the research hypotheses are formulated as follows:

Hypothesis 1: "The ISO 9001 standard is effective on employee empowerment."

Hypothesis 2: "The ISO 9001 standard has a significant effect on employee competency."

Hypothesis 3: "The ISO 9001 standard is effective on the employee recognition."

Hypothesis 4: "The employee recognition has a significant effect on engagement."

Hypothesis 5: "The employee competency has a significant effect on engagement."

Hypothesis 6: "The employee empowerment has a significant effect on engagement."

2.8. Summary of Chapter

In this chapter, the theoretical foundations and research literature of the present study were examined. Firstly, theoretical discussions related to the main variables of research were discussed, which included quality management, ISO 9001, employee engagement, employee competency, empowerment and recognition. Further, the motives for researchers for doing this research on this subject were mentioned. Finally, the hypotheses were presented.

Given the mentioned materials, quality management is continuous improvement thereby an organization establishes a better foundation for providing services to the customers. In this regard, the ISO 9001 standards have been designed to help organizations, in whatever type and in any size, contribute to the deployment and effective implementation of quality management systems. Implementing the requirements of a quality management system in any organization will estimate its ability to deliver products and services that are desirable to the customer, and the goal of deploying this system is to increase customer satisfaction, improve organizational and employee performance. One of eight quality management principles in ISO 9001 is employee engagement. Moreover, this standard specifically requires the organization to ensure that the personnel are aware of the relevance and significant of their activity and their contribution in achievement of quality goals.

In this regard optimal utilization of human resource is task of HR managers, and real investment in human resource and implementation of HRM measures may lead into increased performance and organizational effectiveness. It can also be argued that the establishment of total quality management and involvement of professional, creative, and motivated employees in implementing it will increase the efficiency of employees and the effectiveness and efficiency of the organization and will provide better service to the customer and increase their satisfaction. When ISO 9001 is implemented in an organization, all its employees view themselves as experts, capable, efficient and effective, and consider themselves contributing in improving the quality and effectiveness of the organization. Therefore, considering the fundamental role of quality management (ISO 9001) in orienting the capabilities and abilities of individuals in the organization, be tried made to examine the impact of total quality management on employee empowerment. Because in previous studies, such an issue has not been studied in detail.

Recognition as a constructive alternative for management control and supervision, enhancing organizational change and performance. According to Brun and Dugas (2008), recognition strengthens individual cooperation in organization, which not only reflects improved performance of company, but also leads to one's engagement and interaction, and ultimately, recognition causes engagement to organizational rules and order. On the other hand, quality management means that an organization changes its operations to focus on the customer and engage employees in their own issues. In this view, processes of ISO 9001, makes employees are recognized.

Finally, establishment of competency system in organization is one of the main reasons that can help movement toward production of high quality products. Companies have always attempted to achieve this goal by developing a positive and growing trend. However, such cases as resistance of traditional management systems against new systems have caused resistance from upper levels for establishment of competency system, and ultimately, the companies are not able to implement their goals.

Considering all the issues raised and looking at the studies, it can be seen that the impact of ISO 9001 on the commitment of employees in the branches, despite its importance, has been less considered, so that in previous studies this issue has not been studied in detail. Is. In particular, in this study, the three dimensions of empowerment, recognition and competency will be examined.

Chapter 3: Research Method

3.1. Introduction

One of the characteristics which determines the validity and value of a research are the methods that are carried out because they are the tools that provide arguments and evidence about the results of the study. In other words, the achievement of scientific goals or scientific knowledge will not be possible except with the correct methodology. Adopting an appropriate research method, facilitates the progress of research greatly apart from helping the researcher achieve firm and reliable results. In general, the method of conducting research is a set of activities which determines where, with what measure and how needed data to test the hypotheses have been obtained. Accordingly, in this chapter, the method of research implementation, study population and the statistical sample of the research, the method of collecting the research data, validity and reliability of the research tool and the statistical methods of data analysis will be explained. After taking advantage of the materials contained in the preceding chapters, the research method is explained in this chapter in order to achieve the research objectives based on the study of the impact of ISO 9001 on employees' engagement in Iranian pharmaceutical companies.

First, the methodology is described. In the next section of this chapter, the study population and the method of selecting statistical samples are presented. Then, the study variables and operational definitions of the research variables are described and test method of the research hypothesis is specified.

3.2. Research Method

"The research methodology is a collection of validated (reliable) and systematized rules, tools and methods to examine the facts, discover the unknowns and find solutions to problems" (Selltiz al., 1962).

If the research goal is to solve a common difficulty in the workplace and to use its results to solve a particular common problem within the organization, it is referred as the applied research (Kothari, 2005).

In the present study, the survey (theoretical-field) method has been used. "Surveying is a method of research that goes beyond a specific technique in the collection of information and its purpose is exploratory, descriptive, or explanatory. Although the questionnaire is used in it, other tools are also used such as interviewing, observing, content analysis, and so on. The most commonly used tool in survey research is questionnaire but there is not necessarily a link between the surveying research and the questionnaire (Flick, 2015). Considering that we are not able to work with all companies, we are only focused on investigate the impact of ISO 9001 on employees' engagement in Iran's pharmaceutical companies. Thus, this type of research can be taken into account as an applied and causal research. Since it was conducted through distribution of questionnaire to examine the importance of the hypotheses of the study, it is a descriptive-correlational research.

In the first step, collecting information is done through the library method as well as referring to existing documents. Field data collection method is performed in the second step. Finally, required raw data and information is collected through questionnaire.

3.2.1. Scope of the Study

In order to achieve the research goal, the library studies were reviewed and a collection of variables affecting ISO 9001 and employee engagement were identified (conceptual and operational definitions of these variables, in this section are presented). After identifying the variables and assessing the validity and reliability of the research questionnaires, a questionnaire was used to collect the data (Appendix A). By using the Cochran formula, a sample size was identified and 600 questionnaires were distributed, only 4% of them by email (24 questionnaires) and the rest for them in person. The data collected by the questionnaire were analyzed using SPSS 22 software (for demographic and reliability description). To perform confirmatory factor analysis (investigating measurement model) and exploratory factor analysis (investigating structural model), SmartPLS software was used. These last analyses try to examine the fit and overall quality of the model as well as to test research questions.

3.2.2. Conceptual and operational definition of variables

3.2.2.1. Definition of ISO 9001

For the purposes of consistency throughout this study, it is necessary to provide a uniform guide for defining certain terms.

ISO 9001:

ISO 9001 standard is known as the quality management system standard, and it has been devised to help the organizations of any type and size establish and implement the quality management system effectively. The quality management system is a smart, mild, and continuous action with synergic impact for realization of organizational goals, and ultimately leads to customer satisfaction, increased efficiency, and promotion of competition in the market. In fact, the quality management is a management system with a collection of operational principles that constitute the basis and foundation of gradual and ongoing improvement of the organization, and all the system members get involved and attempt for its implementation. The purpose of implementation of this system is to attract the customer satisfaction at both the present and the future (Ghadiri et al., 2013).

Operational Definition:

Principles of ISO 9001 quality management have been described based on ISO 9000 standard. These principles comprise eight indexes including customer focus, leadership, process approach, system approach to management, continuous improvement, factual approach to decision making, and mutually beneficial supplier relationships (ISO9001, 2008).

3.2.2.2. Employee Engagement

Occupational engagement of the employees is a kind of motivation, enthusiasm, and energy that influence endeavors of individuals in their working activities. The occupational engagement can be observed in their attempt for serving the customers or their loyalty to the organization. An engaged employee does his best all the time and is committed to the organization's values and goals (Cook, 2008). Engagement is an internal attitude and feeling in the individuals toward their organization, job, and group, which influences their judgment, performance, and loyalty toward

the organization (Porter et al., 1974). Depending on the organization's nature, the loyalty level of its members influences the organization's destiny and survival. If the organization, depending on its nature, faces with human, financial issues and similar sensitivities, significance of the employee engagement would be double. The need, on the one hand, to trust employees, and the competition among the organizations, on the other hand, requires having engaged employees.

3.2.2.3. Employee Improvement

According to Elmuti, D., & Kathawala (1997) employee improvement is the idea to provide the employees with the control and talent so that they can make decision for the institution and work for it to increase both their personal motivation and the organizational productivity. In addition, according to Raquib et al(2010), employee improvement is the situation whereby the employees are allowed to be completely owner of their tasks and control them. In the organization with the empowered employees, the tasks traditionally known as managerial ones are delegated to the employees.

Operational Definition:

Boudrias et al., (2009) determined five factors of efficacy in performing job tasks, improvement efforts in job tasks, effective collaboration, improvement efforts in the work group and involvement at an organizational level as factors affecting employee empowerment.

3.2.2.4. Employee Competence

As defined by Dingle (1995), competence is a combination of knowledge, skill, and awareness. In this definition, knowledge relates to the understanding of the basic principles necessary to accomplish the task delegated to the individual, and the skill refers to knowing how to apply this knowledge being able to achieve those challenges set by the company. From a comprehensive perspective, competence (capability) is a combination of tacit and explicit knowledge, individual and collective knowledge, ability, behavior and skills that lead to efficiency, effectiveness, and excellent performance (Cardy, Selvarajan, 2006; Draganidis & Mentzas; Soderquist & Papalexandris, 2010).

Operational Definition:

Framework of KSA model is very popular in definition of competence of employees in a way that competence or qualification is a set of skills, knowledge and features which allow a person to be successful in completing a task or responsibility and does it correctly. In fact, according to this model, competency of employees is based on three indexes of skills: (1) related to aspects of the quality and characteristics of a person, (2) related to information and cognitive knowledge and (3) related to ability to work and physical domain (attributes) (UNIDO, 2002).

3.2.2.5. Employee Recognition

Recognition is one of the main sources of organizational mobility and participation (Wills, Labelle, Guerin & Tremblay, 1998; Tremblay, Gay & Simard, 2000) and plays a key role in the success and continuity of organizational change (Atkinson, 1994; Fabi, Martin & Valois 1999; Evans, 2001). Brun and Dugas (2008) states that there are tools of human resources management in the organization. Employee recognition is an appropriate alternative for control and compliance-oriented measures.

Bennet et al (1999) identified recognition of efforts of employees as the most important factor for human resource management in a study about construction industry in Great Britain. This growing need for employee recognition partly focuses on social and organizational contexts.

Operational Definition:

Brun & Dugas (2008) model define employee recognition based on four criteria: (1) the ethical perspective; (2) the humanistic and existential view; (3) the work psychodynamics school; and (4) the behavioral outlook.

3.2.3. The questionnaire and the scale of data

“Whenever obtaining real information is sought, questionnaire is a good alternative. Although questionnaire has its own limitations and defects it has unparalleled benefits. In case it is set up and executed flawlessly, it would be useful in a research project as the most appropriate and beneficial tool for data collection” (Lenssen et al, 2016). The questionnaires are divided into open and closed categories: closed questionnaires require short answers or choosing a response from among several options but open or unlimited questionnaires require the respondent's free response, which express with their own words (Do Valle, P. O., & Assaker). Likert scale is used in this

research. For this purpose, the provided questionnaire (Appendix A) was distributed among the staff and they were asked to answer each of the options properly.

3.2.4. Type of questionnaire

In the present study, Closed-ended questions with Likert's five-choice spectrum has been used in the questionnaire. The structure of the questionnaire consists of two parts: demographic characteristics and specialized questions. The second part is based on theoretical foundations of the studied field as well as the views of the supervisors, consultants and professors of the arena of study.

General Questions: This section consists of 5 questions in which the demographic characteristics of the participants are asked: gender, age, level of education, work experience and expertise.

Table 3-1 shows the main characteristics of the data. Thus, over 80% of respondents in pharmaceutical companies were male and only 19.8% of them were female. The reason for the small number of female in this study is because in most government organizations in Iran, employment with male is a priority. Based on the age classification, the age group of 20 to 30 years was the most frequent (36.3%) while the least frequent was the one over 50 years old (9.5%).

By examining the status of the education of respondents, the majority of respondents (39.3%) have a Bachelor's degree, followed by the one diploma (35%). The least frequent was the degree of Ph.D. (8.8%). As you can see, 65% of respondents have a Bachelor's degree and more.

In this regard, the work experience, the highest frequent of work experience was from 16 to 20 years (25.3%). This shows that a quarter of respondents have a long-term history in pharmaceutical companies. The least frequent also relates to a work experience of more than 20 years (11%). In this regard, 21.2% have a work experience of less than 5 years. 24.8% have a work experience of 6 to 10 years, and 17.7% of respondents have a work experience of 11 to 15 years.

Regarding the job title, most respondents were employees and workers (15.3% and 14.3%, respectively). The least frequent was the two sides of the management (3.5%) and the planning expert (4.2%).

Table 3.1. Descriptive statistics of demographic variables

DEMOGRAPHIC DESCRIPTIVE STATISTICS	FREQUENCY	PERCENT	CUMULATIVE PERCENT	
GENDER	Female	119	19.8	19.8
	Male	481	80.2	100.0
	Total	600	100.0	
AGE	20 to 30 years	218	36.3	36.3
	31 to 40 years	122	20.3	56.7
	41 to 50 years	203	33.8	90.5
	Older than 50 years	57	9.5	100.0
	Total	600	100.0	
EDUCATION	Diploma	210	35.0	35.0
	Bachelor's degree	236	39.3	74.3
	Master's degree	101	16.8	91.2
	P.H.D	53	8.8	100.0
	Total	600	100.0	
EXPERIENCE	Less than 5 years	127	21.2	21.2
	6 to 10 years	149	24.8	46.0
	11 to 15 years	106	17.7	63.7
	16 to 20 years	152	25.3	89.0
	More than 20 years	66	11.0	100.0
	Total	600	100.0	
JOB TITLE	Accountant	31	5.2	5.2
	Technician	39	6.5	11.7
	Supervisor	71	11.8	23.5
	workers	86	14.3	37.8
	Assistance	76	12.7	50.5
	Employee	92	15.3	65.8
	Operator	74	12.3	78.2
	Secretary	58	9.7	87.8
	Planning Expert	25	4.2	92.0
	Manager	21	3.5	95.5
	Director	27	4.5	100.0
Total	600	100.0		

Specialized questions: This section covers the main part of the questionnaire and considers the views of the audience on the variables of the research.

In table 3-2 division of the questionnaire according to the research variables is shown.

Table 3.2: division of questionnaire questions

Factors	Sub Factors	Symbol	Number of questions	Source
ISO 9001	Customer focus	CF	2	ISO9001, 2008
	Leadership	L	2	
	Involvement of people	IP	2	
	Process approach	PA	2	
	Continual improvement	CI	2	
	Factual approach to decision making	FADM	2	
	System approach to management	SAM	2	
	Beneficial supplier relationship	BSR	2	
Empowering Employees	Efficiency in performing job tasks	EPJ	2	Boudrias et al., 2009
	Improve efforts at job tasks	IFJT	2	
	Effective collaboration	EC	2	
	Improvement effort in work group	IEWG	2	
Employees Recognition	Involvement at organization	IO	2	Brun & Dugas, 2008
	Ethical perspective	EP	2	
	Humanistic and existential view	HEV	1	
	Psychodynamics school	PE	2	
Employee competency	Behavioral outlook	BO	2	UNIDO, 2002
	Attribute	A	2	
	Skills	S	2	
	Related knowledge	RK	2	Joshi and Sodhi, 2011
	Employee Engagement	ENG	5	

3.3. Validity and Reliability of the research

3.3.1. Validity of the research

"Validity is a significant concept since inappropriate and inadequate measurements can make any scientific research worthless" (Flick, 2015). As in this study, questionnaire is used to collect information and measure variables, the validity of the questionnaire is of special importance. The research tool is examined by content and face validity. The first step when designing a questionnaire is to study the concepts and variables in full detail and determine the quality of their measurement, so that appropriate questions can be devised to examine the objectives.

In the wording, a range of vocabulary is used that are far from ambiguity and can convey the core concept entirely to the accountable person. In order to evaluate the validity of the questionnaire, it is then presented to experts and supervisor professors and other specialists to be modified and corrected. In this research, the validity of the questionnaire was confirmed based on the opinions

of the experts of the investigated pharmaceutical companies in Iran as well as on the opinion of the thesis supervisor.

3.3.2. Reliability of the research

Reliability is one of the technical features of measuring instruments. The above concept deals with the extent to which the instrument of measurement under the same conditions gives the same results. Reliability clearly and precisely refers to measuring tools and it is a necessary but not enough condition for validity. In other words, an instrument without reliability will have no validity (Best, 2016).

One of the main characteristics of the measurement tool (which is questionnaire in the present research as the most important tool) is reliability.

One of the tools used to measure the reliability of a measurement tool is using Cronbach's alpha method. The noted method is implemented in this study, which can be easily calculated with SPSS software and its related formula is as follows:

Eq. (3-1):

$$r_a = \frac{j}{j-1} \left(1 - \frac{\sum s_i^2}{s^2} \right)$$

In which, j indicates the number of subset of questionnaire or test questions, s_i^2 denotes sub-test variance and s^2 indicates total test variance. The more percentages are closer to 100%, the greater is the reliability of the questionnaire. It should be noted that the alpha coefficient less than 60% is generally considered to be weak, the range of 70% is acceptable and more than 80% is taken into account as good. However, it is better for reliability coefficient to be closer to the number one (Sekaran & Bougie, 2016).

3.4. A conceptual model of research

The following model has been designed for studying the effect of ISO 9001 on employees' engagement in general and, on three indices of employees' engagement such as recognition, empowerment and competency, in particular. In this model, the effect of ISO 9001 on the three indices of employee's engagement have been studied based on 8 criteria (System approach to management, Continual improvement, Process approach, Beneficial supplier relationship,

Involvement of people, Factual approach to decision making, Customer focus, Leadership). Consequently, the effect of ISO 9001 on employees' engagement can be well-perceived by studying the relationship between variables. Some questions will be asked in terms of the model. Then, some decisions on the relationship between variables will be made by experts and managers of the companies under study. Conceptual model of research is presented in Fig. 3.1.

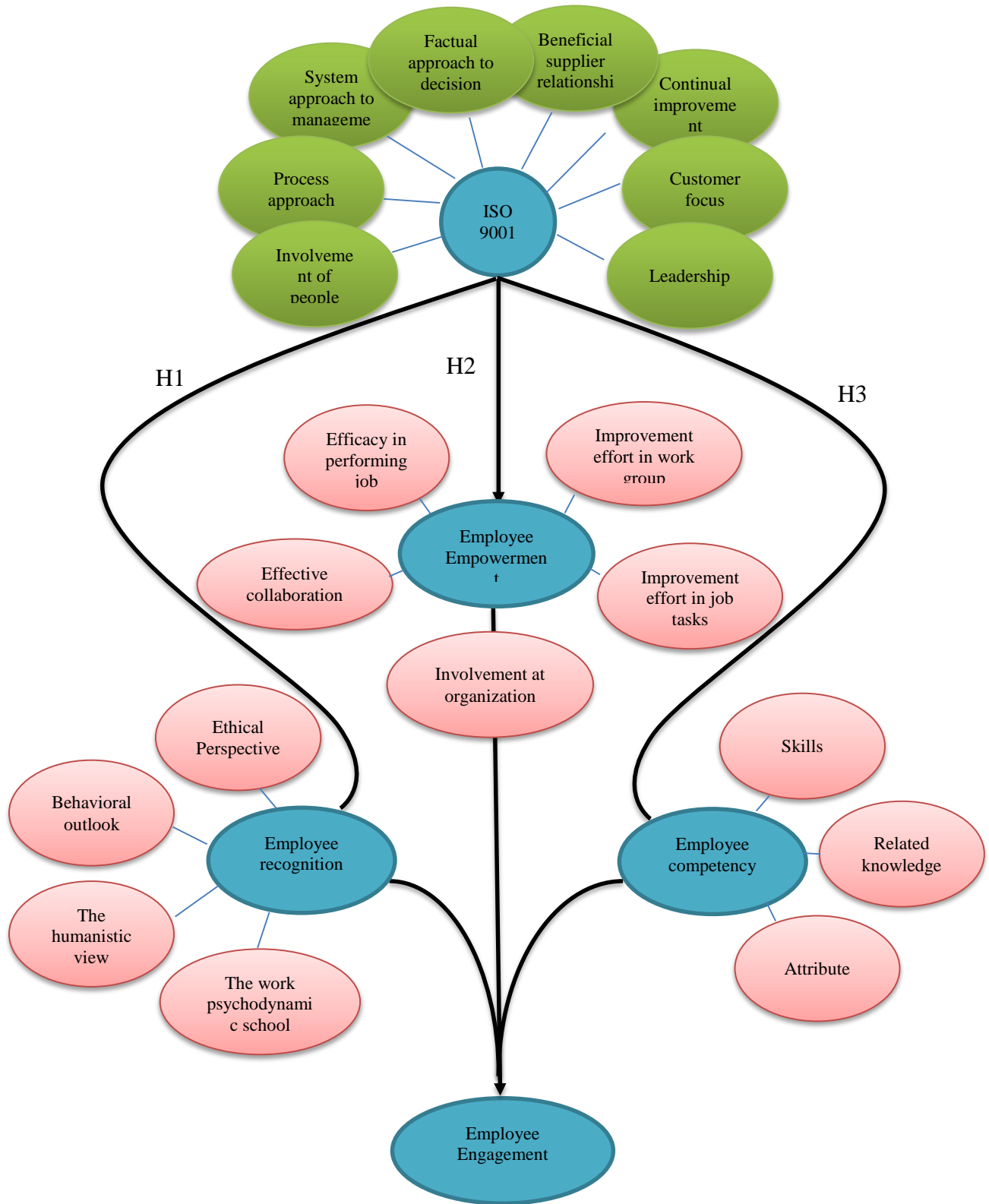


Figure. 3.1. Conceptual Model of Research

3.5. Statistical community and research sample

"The society is known as a group of people who have a common characteristic that distinguishes them from other groups" (Sekaran & Bougie, 2016).

The study population of the present research comes from 5 pharmaceutical companies:

1- Razi vaccine and Serum research institute with approximately 2,000 employees,

Razi Vaccine and Serum Research Institute is known as one of the oldest and most reputed scientific centers in Iran. This Institute began its activities in the year 1925 with producing vaccine against Rinderpest under the supervision of Ministry of Agriculture. Rinderpest at the time had caused large casualties in the cattle population of the country, but Razi institute team very rapidly took up the research and production of the Rinderpest vaccine. Presently, Razi institute is controlled by Ministry of Jihad-e-Agriculture and works closely with Ministry of Health and Veterinary Organization.

The institute is governed by a Board of Trustees with its Headquarter located in Karaj, Iran. RVSRI provides 110,000 square meter research with laboratory buildings. Razi Institute is a center of research, training and technical assistance for vaccines needed in developing countries and the Middle East.

2. Dine Daroo (with 500 employees),

Dine Daroo Company was inaugurated in January 1993 in center of Iran for mass production of Antibiotics is the leading pharmaceutical company in the region. In this company produce various oral antibiotic- related products which are penicillin and Cephalosporin derivatives and which reached the prestigious annual production record of: 1,200,000,000 Capsules; 45,000,000 Suspensions and 360,000,000 film-coated tablets.

3. Pastoor Institute (with 600 employees),

PASTEUR INSTITUTE OF IRAN Pasteur Institute of Iran (IPI) was founded in the heart of Iran's capital, Tehran in the 1920s to pave the way for advanced research and to provide innovative programs in basic and applied medical sciences, and production of biopharmaceuticals and diagnostic kits with special emphasis on infectious diseases.

In addition, since 1983, Pasteur Institute of Iran offers a broad range of teaching activities in M.Sc. and Ph.D in different areas of medical and pharmaceutical biotechnology. It meets the specialized and scientific health demands of the local community and tries to establish a link between applied research and industry.

4- Abidi Pharmaceutical Company (with 400 employees)

Dr. Abidi pharmaceuticals founded in 1946, is a highly innovative, rapidly growing and quality oriented company. As the first Iranian pharmaceutical company which has a motivational spirit, is supported by the human capital of an organization with foreign collaboration. Our ultimate goal is to be the quality leader and help people live healthy. We are seeking for highly capable and ambitious employees who are passionate about society health and looking to develop their career within a corporate environment.

5- Razak Laboratory (with 500 employees).

The company was founded in 1964 as a subsidiary of pfizer international and went into production in 1967. After the Islamic Revolution, it was nationalized and the name changed to Razak laboratories. Razak wildly recognizable values are rooted in depending on its employees' experience and good knowledge. The company holds a good reputation for excellence in advanced continuous researches and its culture of quality with compliance to cGPM.

From our vision of GPM, Raw materials are developed by Razak Research teams in R&D and Lab. departments, then analyzed and certified before utilization. At the present, Razak produces over 70 different products under generic or brand names in various dosage forms and in a wide range of therapeutic classes for both human and animal health use.

In order to get the sample for collecting data, a completely randomized sampling method is used in the textile industry of Tehran province in 2018.

The sample size of the research has been considered due to the number of communities and based on a simple random sampling using the Cochran formula:

Eq. (3-2)

$$n = \frac{\frac{t^2 pq}{d^2}}{1 + \frac{1}{N} \left(\frac{t^2 pq}{d^2} - 1 \right)}$$

n = sample size

N = statistical community

p = the presence of the examined attribute

q = absence of the examined attribute

t = confidence level 0.95 (1.96)

d = degree of accuracy (0.05)

According to the Cochran formula, with a confidence level of 95% and a 5% error rate, the sample size was determined to be 571. In this regard, 600 questionnaires were gathered for more certainty.

3.6. Scope of research

The scope of research includes spatial, temporal and subject domains as follows:

A: Spatial Domain: The spatial realm of research includes 5 pharmaceutical companies in Tehran-Iran.

B: Time domain: In terms of time, the model related to a period in 2018 during the months of February to April.

C: Subject domain: The subject domain of the present research is the impact of ISO 9001 on employee engagement.

3.7. Model of Structural Equations

Structural equation modeling (SEM) is a multivariate statistical analysis technique that is used to analyze structural relationships. It is an expanded form of the General Linear Model (GLM) which combines factor analysis and multiple regression analysis and allows the researcher to test a set of regression equations simultaneously. In other words, it is a comprehensive statistical approach to test hypotheses about the relationships between measured variables (observed variables) and latent variables (unobserved variables). Structural analysis of covariance is sometimes called causal and also LISREL modeling. In this way, researchers can reject hypothetical structures or verify their compliance with non-experimental data. It has been widely used in behavioral studies over the past 15 years.

In general, in terms of statistical techniques, the complete structural equation model represents a mixture of path analysis and confirmatory factor analysis (CFA) (Hulland, 1999).

The process of modeling structural equations involves a series of steps (Schumacker, R. E., & Lomax, 2004):

- Expression of the model
- Model Estimation
- Modification the model
- Hypothesis test
- Model Interpretation
- Stating or writing research report

Modeling structural equations implies specifying and defining the model that relates the variables of interest. This model depends on the analytical approach. Once this model has been proposed, it must be estimated. The parameters in the modeling of structural equations show the nature of the relationships among the variables. In the modeling of structural equations, the size and the sign of these parameters are determined. The mentioned parameters are divided into fixed and free divisions. (Schumacker, R. E., & Lomax, 2004). Fixed parameters are referred to those which are not calculated from research data and their value is usually fixed to zero. The free parameters are estimated from the data, and the researcher believes that these parameters have non-zero values (Schumacker, R. E., & Lomax, 2004).

The fixed and free parameter pattern in the structural equation model defines the two main components of the model of structural equations:

Measurement Model: The measurement model is the part of the model that examines relationship between the latent variables and their measures (Schumacker, R. E., & Lomax, 2004). Examples of such variables include self-concept, depression, social class, and so on.

Structure Model: it is the relationships between the latent variables. Multiple regression is in fact a structure model with no variables and it is limited to a single consequence.

When the two models are combined together, it results in a comprehensive statistical model that can be used to evaluate the relationships between variables with a measurement error.

In Figure 3.2, a complete structure equation model, including a model of measurement and a structural model, is shown. The symbol * represents the free parameters and the number 1 indicates the fixed parameters in the value of one. Figure 3.3 indicates a multiple regression model, which is actually a structure equation model that only includes a structure model.

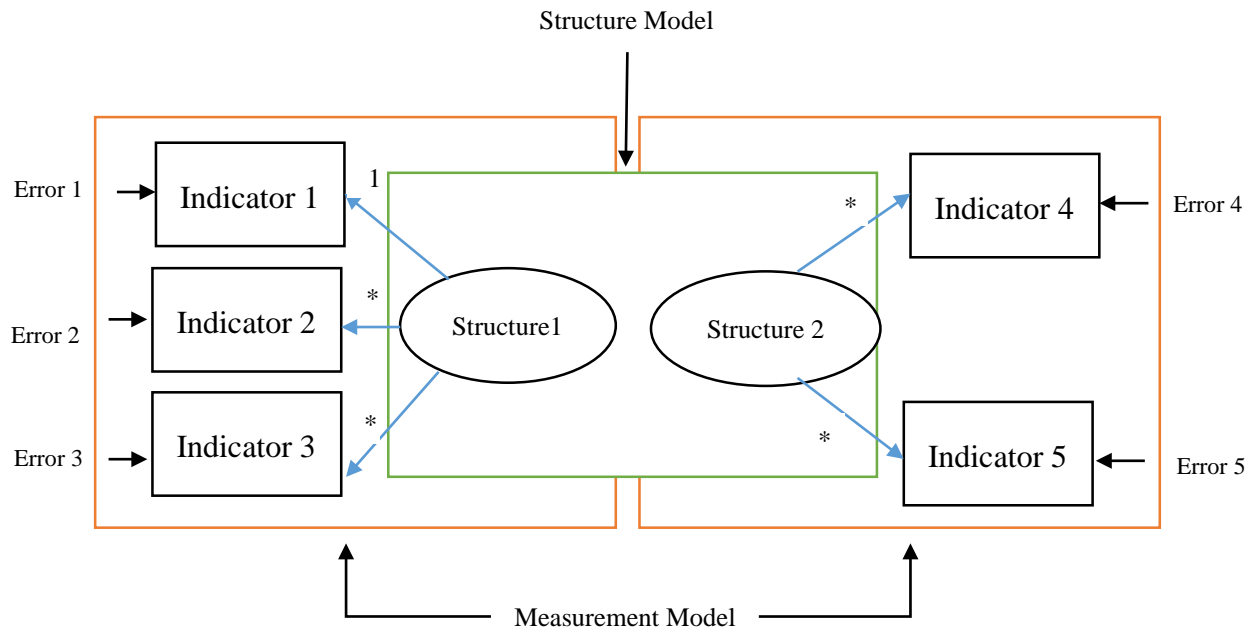


Figure 3.2: Structural Equation Model

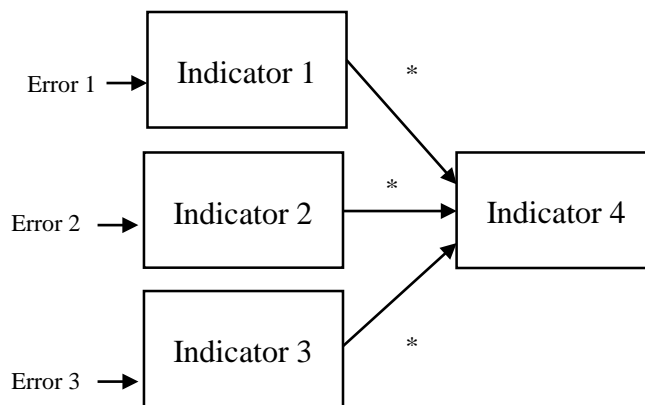


Figure 3.3: Multiple Regression Structural Model

Also, Figure 3.4 indicates an example of a confirmatory factor analysis, which is actually a structure equation model that only includes a measurement model.

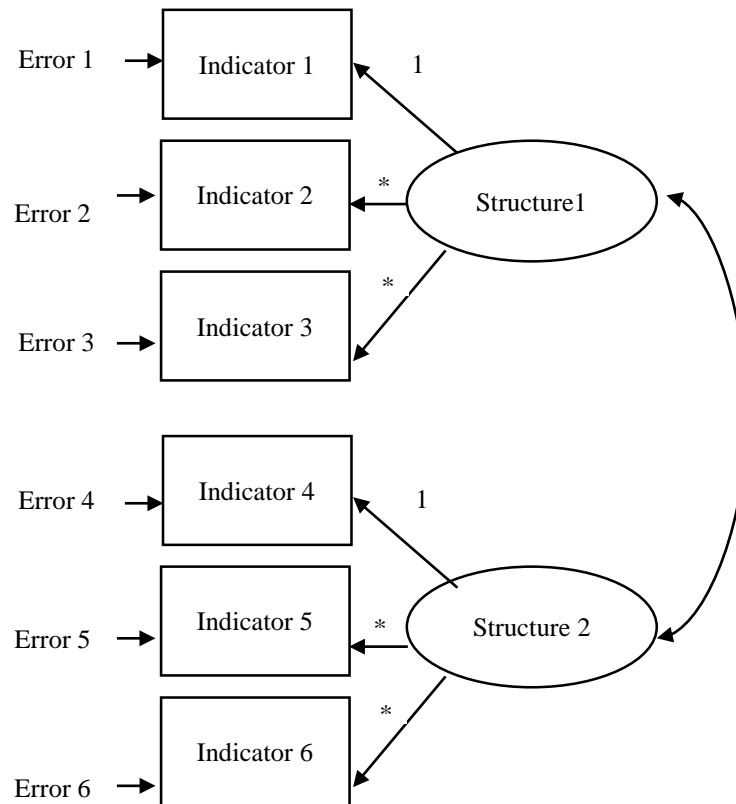


Figure 3.4: Model of Confirmatory Factor Analysis

The relationship between observed and latent variables in the model of structural equations involves three types (Schumacker, R. E., & Lomax, 2004):

1- Correlation or Association: it is a non-directional relationship between two variables in a model. The nature of this kind of relationship is evaluated by a correlation analysis.

2- Direct Effect: this is mainly evaluated by multiple regression or variance analysis. This type of effect actually represents the assumed linear and causal effects of a variable on another one. Within

a model, each direct effect expresses the relationship between the dependent variable and the independent variables.

3- Indirect Effect: this effect is considered when a dependent variable is independent. It indicates the impact of an independent variable on the dependent variable through one or more mediating or intervening variables. In this impact, a mediating variable relative to a variable, plays the role of an independent variable and it plays the role of the dependent variable relative to another variable. This type of effect is usually found in path analysis.

The expression of the model actually involves the researcher specifying a pattern of causal and non-causal relationships among the intended variables. Each of these causal and non-causal relations ultimately have a numerical value. The numerical value associated with causal effects is referred to the values of regression coefficients. Weights used for variables in linear regression equations and numerical values associated with correlation relations are covariance values between variables (it is the correlation in case the variables are standard).

In summary, the present study is a descriptive-applied and survey-based research with a questionnaire tool to collect the required information for examining the impact of ISO 9001 on employee engagement.

Thus, the analysis was carried out by correlation and causal -communication analysis based on a Matrix-Covariance analysis using Structural Equation Modeling (SEM) method and Maximum Likelihood (ML) estimation method to determine the effective factors in the relationships between some factors affecting employee engagement on the basis of an extended conceptual framework of the study. Structural equation modeling was performed using SmartPLS version 2

3.7.1. Hidden variable and observable variable

Structures or hidden variables and observed variables are two basic concepts in statistical analyzes, especially in factor analysis and SEM. Hidden variables, also called latent variables, are not directly visible. For instance, considering the motive variable, individual motivation cannot be observed and measured directly.

For this purpose, gauges or items are used for measurements of hidden variables that form the same questionnaire questions. These measures are the observed variables. For example, hard work,

timely presence at work, sensitivity to work, and some other similar cases are observable variables for the hidden variable of motivation. (Schumacker, R. E., & Lomax, 2004).

3.7.2. Fitting indices of model

Despite the fact that various types of fitness tests (indicators) of model are continuously being compared, developed and evolved, there is still no general agreement on even an optimal test. Based on the result of various researches, different indicators have been provided. In addition, the famous versions of SEM programs such as EQS (Byrne, 2013), AMOS (Afthanorhan & Ahmad, 2014; Rezaie & Bagheri, 2014), LISREL (Valmohammadi & Kalantari, 2015; Prates & Caraschi, 2014) and Smart PLS (Jabbour et al., 2015; Martínez et al., 2018) also have led to a number of fitness indicators. In general, there are several indicators for the goodness of fit of the model. Most SEM researchers have suggested that models should be evaluated with an indicator (Do Valle & Assaker, 2016).

In the PLS method, three major parts are considered for the fitting of structural equation models:

(A) A part related to the measurement model, B) a section related to the structure model and C) a section associated to the general model. In each of these sections, tests are carried out to examine the fitness of the model, which will be discussed in the following.

3.7.4.1. Fitting the measurement model

The measurement model is part of the path model, which include indices and their equations to the structures. In the modeling of structural equations by the PLS method, it is called the external model (Sarstedt et al., 2014). For fitting the measurement model, three points are considered reliability, convergent validity, and divergent validity (Hulland, 1999). Reliability is measured by three criteria:

1) Coefficients of factor loads, 2) Cronbach's alpha, 3) composite reliability (CR).

Where, for the first criteria, values from 0.4 are considered appropriate while for the two latest are expected values from 0.7.

A1) Factor loadings Coefficients: The power of the relationship between the agent (hidden variable) and the observable variable is shown by factor loading which has a value between zero

and one. Factor loadings are calculated by correlation between the indices of a construct and that construct. If this value is equal to or greater than 0.4 (Hulland, 1999), it confirms that the variance between the construct and indices it is more than the variance of the error term of the construct and the reliability of the model is acceptable. The important point here is that if the researcher, after calculating the factor loadings between the construct and its indices with values less than 0.4, has to correct those indices (questions of the questionnaire) or remove it from research model.

A2) Cronbach's Alpha: Reliability is defined as the stability of measured results (Warner, 2008). In other words, it refers to the repeatability and stability of scores derived from an evaluation to another evaluation (Cook & Beckman, 2006). The basis of the reliability is internal consistency. In other words, it states how far the items (questions) measure a structure in a test (Warner, 2008). In order to achieve the reliability, the researcher needs at least two scores for each subject (variables) to obtain the stability and internal consistency of the scores by calculating the appropriate statistics. These two scores (values) can be obtained at two points of time by two evaluators or by using multiple choice questions (such as a questionnaire) (Warner, 2008).

One of the methods for assessing the reliability is the using Cronbach's alpha which examined the positive internal relationships between the items (questions) of a test. The basis of Cronbach's alpha is that, in order to achieve stability and consistency, the average of two-way correlation between items (questions) is taken into account. The greater the correlation between the items (questions) show that all items (questions) measure one construct in a test (Warner, 2008). In order to calculate alpha, the following equation is used:

Eq (3-3)

$$\alpha = \frac{p\bar{r}}{[1+\bar{r}(p-1)]}$$

P= Number of items (questions) in the test

\bar{r} = Average correlation between items (questions)

It is important to note that Cronbach's alpha provides an appropriate estimate of the reliability that all items (questions) measures a single structure (Geldhof et al., 2013), because the basis Cronbach's alpha is the average of two-way correlation between items (questions) to achieve consistency and stability (Warner, 2008). Since in constructs with more than one independent

dimension, all of the items (questions) do not measure a unit construct or dimension, it is desirable to use the composite reliability (CR) with more realistic and precise values than Cronbach's alpha (Geldhof et al., 2013). Also, studies in various papers have shown that in order to evaluate the reflection measurement model in the reliability part, items such as factor loading coefficients and composite reliability in PLS are reported (Bagozi & Yi, 1988; Gefen & et al., 2011; Ringle & amp; al, 2012; Wong, 2013).

A3) Composite Reliability: Composite reliability, unlike Cronbach's alpha, considers the probability of heterogeneous relations between items (questions) of constructs, and determines the reliability coefficient as a function of the factor loading between each question and its related construct to the question were calculated (Geldhof et al., 2013). In other words, there is no need for correlation between the questions of various constructs. The values higher than 0.7 or 0.8 for composite stability are indicative of acceptable stability (Cook & Beckman, 2006). In order to calculate the composite reliability, the following equation is used:

Eq (3-4)

$$CR_j = \frac{(\sum_{i=1}^K \lambda_{ij})^2}{(\sum_{i=1}^K \lambda_{ij})^2 + \sum_{i=1}^K (1 - \lambda_{ij}^2)}$$

λ_{ij} = coefficient of factor loading between i and construct j.

Generally, the composite reliability shows that the indices of one factor are more suitable for measuring this factor. The high reliability of the factor on the one hand shows that the indices represent factor has high correlation. In other hand, it shows that all indices measure one factor (Koufteros, 1999).

B) Convergent validity: Convergent validity is the second criterion used to fit measurement models to the PLS method. Fornell and Larcker (1981) have introduced the AVE (Average Variance Extracted) criterion for measuring convergent validity.

In the discussion of internal structure, in order to assess the validity and reliability of the construct, the Average Variance Extracted (AVE) and various discriminant validity methods such as cross-factor loading, Fornell-Larcker criterion and Heterotrait-Monotrait Ratio of Correlations (HTMT) were used. Fornell-Larker (1981) introduced this criterion for measurement of the convergent

validity, and stated that the critical value is 0.5. This means that a higher value of 0.5 represents a convergent validity (Davari and Rezazadeh, 2013). Therefore, the AVE value of more than 0.5 on the level of the construct indicates a convergent validity (Chin, 1998; Peng & Lai, 2012; Sarstedt et al., 2014; Hair et al., 2013; Wong, 2013). In order to calculate the convergent validity, the following equation is used:

Eq. (3-5)

$$AVE_j = \frac{\sum_{i=1}^K \lambda_{ij}^2}{\sum_{i=1}^K \lambda_{ij}^2 + \sum_{i=1}^K (1 - \lambda_{ij}^2)} = \frac{\sum_{i=1}^K \lambda_{ij}^2}{\sum_{i=1}^K \lambda_{ij}^2 + \sum_{i=1}^K 1 - \sum_{i=1}^K \lambda_{ij}^2} = \frac{\sum_{i=1}^K \lambda_{ij}^2}{\sum_{i=1}^K 1} = \frac{\sum_{i=1}^K \lambda_{ij}^2}{K}$$

λ_{ij} = coefficient of factor loading between i and construct j

C) Discriminant Validity: Divergent validity compares the difference between the indices of a structure and the indicators of other structures in the model. It also shows the relationship between a structure and its indicators in comparison with its association with other structures. An acceptable divergent validity of a model indicates that a structure in the model interacts with its own indicators more than other structures. Two methods are used to examine the fitting of the measurement model: the method of cross-factor loading and the Fornel-Larker method.

C1) The method of cross-factor loading compares the correlation between the indices of a construct with that construct and the correlation between the indices of a construct with other constructs. If the correlation between an index with another construct other than its construct is more than the correlation of that index with its own construct, then the discriminant validity of the model is questioned (Henseler et al, 2009).

C2) The Fornel-Larker method compares the correlation of a construct with its indices against the correlation of that construct with other constructs, which is used by the Fornel-Larker criterion. The relationship between a construct and its indices is demonstrated by comparing the construct with other constructs. As an acceptable discriminant validity of a model shows that a construct has more interaction with its indices than with other constructs. Discriminant validity is acceptable when the AVE for each construct is more than the variance between the construct and other

constructs (ie, the square of the coefficients of correlation between the constructs) in the model. In a partial least squares method, the study is carried out by a matrix in which the matrix's houses contain the values of correlation coefficients between the constructs and the square of the AVE values for each construct. The main point in this method is that only first-order hidden variables are introduced into the Fornell-Larcker matrix (Hair et al., 2013; Wong, 2013; Sarstedt & et al, 2014; Henseler & et al, 2015).

3.7.4.2. Fitting the structural model

In accordance with the data analysis algorithm in the PLS method, after investigating the fitting of the relationships in the measurement part, the researcher studies and interprets the relationships in the structural part. Unlike the measurement models, the structural model does not work on questions (indices or obvious variables), and it only examines latent variables along with the relationship between them. The criteria used to fit the structural part are:

In structural equation modeling method, the fitting of structural model is examined by criterion of significant coefficients Z (t-value), R² and Q² criterion.

A) T-values

Significant coefficients (t-value): The most basic criterion for measuring the relationship between constructs in a model (structural section) is significant t-values. PLS uses the Bootstrapping method to estimate the standard error and estimate the significant parameter.

Assuming a 5% of risk, if the value of t is greater than 1.96, then the hypothesis is confirmed, and if it is less than 1.96, the research hypothesis is not confirmed. In this method, a large number of sub-samples (for example, 5000) are taken from the original sample with a standard error substitution and t values are obtained for the significance of the structural path test. If the values of t-values obtained are greater than 1.96, they indicate a significant relationship between the constructs and as a result of confirmation of research hypotheses at a confidence level of 95% (Peng & Lai, 2012; Hair & et al. 2013; Wong, 2013).

B) Coefficient of Determination (R²)

R^2 is a criterion for connecting the measurement part to the structural part of the model and indicates the effect that an extrinsic variable has on an intrinsic variable and is calculated only for the intrinsic constructs of the model. In the case of extrinsic structures, the value of this criterion is zero. In fact, this criterion is the share of the variance of the intrinsic variable as described by the model and values of 0.19, 0.33 and 0.67 are presented as weak, moderate and strong of R^2 values respectively (Henseler et al., 2009). Also, some other researchers believe that R^2 is graded from zero to one, and more values provide a higher degree of prediction accuracy. It is hard to provide a rule of thumb for the values of R^2 , and the researcher should consider the appropriate level for R^2 , depending on his/her study subject. However, in the field of marketing research, values of 0.25, 0.5 and 0.75 were introduced as weak, moderate and strong of R^2 values respectively (Hair et al., 2013; Wong, 2013; Sarstedt & et al. 2014).

C- Power Predictive Coefficient of Model (Q^2)

Q^2 is also a criterion introduced by Stone & Geisser (1975) and identifies the predictive power of the model. They believe that models that have acceptable fit the structural part should be able to predict the indices related to the intrinsic constructs of the model (Davari and Rezazadeh, 2014). In order to calculate this index, one observation is deleted each time and the model is executed with the rest of the observations. The value of the observed dependent variable is performed by the regression coefficients of the model and the difference between the predicted value and the actual value of the dependent variable is recorded as the prediction error. Finally, the Q^2 index is constructed using the following equation:

Eq. (3-6)

$$Q^2 = 1 - \frac{SSE}{SSO}$$

SSE= Total squared prediction of errors

SSO= Total squared of dependent variable value

One of the methods used to calculate the Q^2 value is Cross-Validated Redundancy. If the value of Q^2 for an intrinsic construct is zero or less than zero, it shows that the relations between the other constructs of the model and that intrinsic construct are not well explained, and therefore the required model (Chin, 1998; Peng & Lai, 2012; Hair & et al, 2013; Sarstedt et al, 2014).

Similar to the effect size method of f^2 in assessing the R^2 values, the relative effect of predictive relation is compared with the assessment method of effect size of q^2 and its equation is as follows:

Eq. (3-7)

$$q^2(x \rightarrow y) = \frac{Q^2y(x \text{ included}) - Q^2y(x \text{ excluded})}{1 - Q^2y(x \text{ included})}$$

$q^2(x \rightarrow y)$ = The effect size of x on y

$Q^2y(x \text{ included})$ = The value of Q^2 of the construct y when the construct x exists in the model.

$Q^2y(x \text{ excluded})$ = The value of Q^2 of the construct y when the construct x is removed from the model.

According to the above equation, the values of 0.02, 0.15 and 0.35 shows that the extrinsic construct has a small, moderate, and large relative effect on the other extrinsic construct (Chin, 1998; Hair et al., 2013).

3.7.4.3. *Quality tests of the structural model*

Recently, scholars such as Hensler and Sarstedt have referred to the conceptual and empirical non-use of GOF. Their research has shown that GOF is not a suitable criterion for determining the fit of a general model. In fact, GOF, in contrast to the methods for modeling covariance-oriented structural equations, may not distinguish valid models from non-valid ones in component-based methods. Also, in measurement models, it is not applicable, constructively (Hair & et al, 2012; Hair & et al, 2013; Henseler & Sarstedt, 2013; Wong, 2013).

Final test is to examine the fitting of the whole model, named the total quality test or Goodness of Fit (GOF). By examining this criterion, the researcher can investigate the overall fit of the model (including the fitting of the measurement section and the structural part, simultaneously). The GOF benchmark was developed by Tenenhaus et al. (2004) which is calculated according to the following equation:

Eq. (3-7)

$$GOF = \sqrt{\text{ommunalities} \times R^2}$$

Three values of 0.01, 0.25 and 0.36 were introduced by Wetzels et al. (2009) as weak, moderate and strong values for GOF.

In Table 3-3, the indices of the structural equation model are presented based on the PLS method.

Table 3.3: Indicates of structural equation models based on PLS method

PLS model	Indicator	Critical level
Fitting the measurement model	Factor loadings Coefficients	> 0.4
	Cronbach's Alpha	> 0.7
	Composite Reliability	> 0.7
	Convergent validity	> 0.5
	Discriminant Validity	If the correlation between an index with another construct other than its construct is more than the correlation of that index with its own construct, then the discriminant validity of the model is questioned
Fitting the structural model	T-values	> 1.96 Significant and < 1.96 Insignificantly
	Coefficient of Determination (R ²)	0.19, 0.33 and 0.67 are presented as weak, moderate and strong R ²
	Power Predictive Coefficient of Model (Q ²)	0.02, 0.15 and 0.35 are presented as small, moderate, and large relative effect.
Quality tests of the structural model	Goodness of Fit (GOF)	0.01, 0.25 and 0.36 are presented as weak, moderate and strong GOF

3.8. Summary of Chapter

The variables, method of data collection, data processing, the statistical community, sample and field of research were described in this chapter. Data were collected using a standard questionnaire; in addition, Smart PLS, SPSS and Excel software were used for data analysis. In the following, SEMs, hidden and observable variables in structural equations, design of a SEM, and finally fitting indicators were discussed. In the next chapter, collected data are analyzed.

Chapter 4: Results

4.1. Introduction

. In this chapter, we analyze the data obtained from the research.

In this research, the effects of ISO 9001 were investigated on the employee engagement of Iranian pharmaceutical companies. For this purpose, using the Cochran formula, the sample size was identified as a number of 600 people and the questionnaires were distributed by email and partly in person. The data collected by questionnaire were analyzed using SPSS 22 software (to describe demographic and reliability) and Smart PLS software for confirmatory factor analysis (measurement model survey) and exploratory (structural model survey). The fit and the overall quality of the model has been also tested as well as the research questions.

4.2. Descriptive Analysis

Descriptive statistics include a set of methods used to collect, summarize, categorize, and describe numerical truths. In fact, these statistics describe the research data, and provides a general scheme or pattern of data for faster and better use of them. In a compilation, descriptive statistics can be used to describe the features of a data group. The central parameters and scattering were used for this purpose. The functions of these criteria were that one can express the main features of a set of data and thus, in addition to being able to better understand the results of a test, the comparison the results with tests and other observations also facilitate. Therefore, before testing the research hypotheses, descriptive statistics will be used the analysis of respondents' answers.

4.2.1. Descriptive Statistics of the Main Variables

After analyzing the descriptive statistics of demographic variables, we study the frequent, mean and standard deviation of questions and in fact an initial analysis (before estimating the research model) from the research questions and variables.

4.2.2.1. ISO 9001

As mentioned, for the ISO 9001 index, eight criteria were considered. In this regard, each of the criteria will be evaluated based on the design questions.

Customer Focus (CF)

For customer focus, two indices were considered: 1. Customer-related information about products and services (CF1), and 2. Customer complaints process (CF2). As the results were shown, in the customer focus, 47.8% of respondents agreed that pharmaceutical companies were provided the necessary data about the products and services for customer, and only 3.8% of them denied this topic. A total of 68.5% of respondents agreed or fully agreed to provide data to customers, and have stated that such a problem occurs in pharmaceutical companies (Table 4.1).

In the case of a customer complaint process, although the majority view was that this process was fully implemented, there was less consensus than customer data about products and services. Also, more people (5%) stated that the customer complaints process has not been taken into consideration in companies. On mean, in the two indices including CF1 and CF2, the consensus level were 3.94 and 3.86, respectively.

Table 4.1. Descriptive statistics of Customer Focus Index

CUSTOMER FOCUS INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
CF1	1.00*	23	3.8	3.8	3.94
	2.00	85	14.2	18.0	
	3.00	81	13.5	31.5	
	4.00	124	20.7	52.2	
	5.00	287	47.8	100.0	
CF2	1.00	30	5.0	5.0	3.86
	2.00	76	12.7	17.7	
	3.00	79	13.2	30.8	
	4.00	174	29.0	59.8	
	5.00	241	40.2	100.0	

* 1: Completely opposed, 2: Against, 3: Indifferent, 4: agree on, 5: Completely agree

Leadership (L)

Leadership was another of the ISO 9001 indices that was considered in the present study. This is based on two items: 1. The senior management's assurance of the quality management system (L1) and 2. The senior management support for employee ideas (L2). Based on the results (Table 4.2), 33% of respondents have stated that senior management trusts a lot of the quality management system, 19.8% were indifferent and 19.2% expressed their opposition. But there was more consensus on supporting senior management ideas for employees as 59.5% were agreed or fully agreed and 40.5% also disagreed or considered indifferent. The mean for the two items were 3.64 and 3.61, respectively.

Table 4.2. Descriptive statistics of Leadership Index

LEADERSHIP INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
L1	1.00	36	6.0	6.0	3.64
	2.00	79	13.2	19.2	
	3.00	119	19.8	39.0	
	4.00	198	33.0	72.0	
	5.00	168	28.0	100.0	
L2	1.00	57	9.5	9.5	3.61
	2.00	65	10.8	20.3	
	3.00	121	20.2	40.5	
	4.00	167	27.8	68.3	
	5.00	190	31.7	100.0	

Involvement of People (IP)

The third index of the ISO 9001 standard, considered in this research, was the involvement of people which was assessed according to two items: 1. The role of employees in improving the quality management system (IP1) and, 2. Employee awareness of organizational objectives and outcomes (IP2). In this regard, the results of frequency of employee responses in Table 4.3, show that 31.2% respondents expressed indifference to the role of employees in improving the quality management system. In fact, they were not agreed or disagreed. In total, 20% of the respondents were opposed or fully opposed and 48.8% were also agreed or fully agreed that employees were involved in improving the quality management system. However, in employees awareness of the organization's objectives and outcomes, most respondents (30.5%) stated that the ISO 9001 standard prompted the employee awareness of the objectives and outcomes of the organization. A

total of 60.3% were agreed with ISO effective role in employee awareness of organizational objectives and 21.5 % also opposed the role of ISO 9001 in improving employee awareness of organizational objectives. The mean of the two items is 3.52 and 3.58, respectively.

Table 4.3. Descriptive statistics of Involvement of People Index

INVOLVEMENT OF PEOPLE INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
IP1	1.00	24	4.0	4.0
	2.00	96	16.0	20.0
	3.00	187	31.2	51.2
	4.00	128	21.3	72.5
	5.00	165	27.5	100.0
IP2	1.00	68	11.3	11.3
	2.00	61	10.2	21.5
	3.00	110	18.3	39.8
	4.00	178	29.7	69.5
	5.00	183	30.5	100.0

Process Approach (PA)

Another of the ISO 9001 indices here is the process approach. Two items are considered for the process approach: 1. the role of the process approach in improving organizational performance (PA1); 2. Planning process and organizational interactions through a process approach (PA2). Table 4.4 shows that 41 % of the employees of the pharmaceutical companies agreed with the positive role of the process approach to improving the organization's performance. Overall, 67.7% of respondents believe that the process approach leads to improved organizational performance, but 19.5% of respondents opposed it. In order to examine the process planning and interactions of the organization through the process approach, more (40.5%) respondents agreed with the improvement of process planning and interactions. 32.3 % were indifferent or opposed. The mean of both measured items for the process approach was 3.69.

Table 4.4. Descriptive statistics of Process Approach Index

PROCESS APPROACH INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
PA1	1.00	32	5.3	5.3	3.69
	2.00	85	14.2	19.5	
	3.00	77	12.8	32.3	
	4.00	246	41.0	73.3	
	5.00	160	26.7	100.0	
PA2	1.00	27	4.5	4.5	3.69
	2.00	86	14.3	18.8	
	3.00	89	14.8	33.7	
	4.00	243	40.5	74.2	
	5.00	155	25.8	100.0	

Continual Improvement (CI)

Continual improvement, another factors of ISO 9001 standard, was measured according to two items: 1. continual improvement of services (CI1) and, 2. Holding regular quality management courses (CI2). In this regard, the results indicate that 37.3% were practically indifferent to the continual improvement of services in pharmaceutical companies. Indeed, for most respondents, the continual improvement of services was still ambiguous. 18.8% also disagreed, saying that there was no continual improvement in services. 43.8% said that service improvement was based on the ISO 9001 standard. But about regular quality management courses, although 32 % of respondents still have an indifferent view on this issue. But 48.7% of respondents believe that holding regular quality management courses have been held to upgrade the ISO 9001 standard. In this regard, 18.8% and 19.3% were opposed the improvement of quality of services and the holding of regular quality management courses, respectively (Table 4.5). The mean for the two items was 3.43 and 3.39, respectively.

Table 4.5. Descriptive statistics of Continual Improvement Index

CONTINUAL IMPROVEMENT INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
CI 1	1.00	26	4.3	4.3	3.43
	2.00	87	14.5	18.8	
	3.00	224	37.3	56.2	
	4.00	126	21.0	77.2	
	5.00	137	22.8	100.0	
CI 2	1.00	30	5.0	5.0	3.39
	2.00	86	14.3	19.3	
	3.00	192	32.0	51.3	
	4.00	201	33.5	84.8	
	5.00	91	15.2	100.0	

System approach to management (Communication Management (SAM))

Communication management can be effective in the ISO 9001 standard to improve the quality management system. On this basis, two items were designed and questioned, 1. Check the reliability of the data (SAM1) and, 2. Analysis of data needed to control quality (SAM2). The results of two items in Table 4.6 showed that 41 % of respondents agreed with the reliability of the data. 20 % were also agreed. A total of 39 % of respondents were indifferences, disagreed or fully disagreed. About half the respondents (49.2%) believe that data analysis has been conducted in line with the ISO standard in about analyzing the data required for quality control. 15.8% of respondents were also fully agreed with the positive effect of analyzing the data required for quality control. In this regard, 7.3% were fully opposed and 13% were disagreed, and in fact they said that such an incident had not happened in the direction of improving the quality management system. The mean of the two items were 3.54 and 3.53, respectively.

Table 4.6. Descriptive statistics of Communication Management Index

COMMUNICATION MANAGEMENT INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
SAM 1	1.00	39	6.5	6.5	3.54
	2.00	85	14.2	20.7	
	3.00	110	18.3	39.0	
	4.00	246	41.0	80.0	
	5.00	120	20.0	100.0	
SAM 2	1.00	44	7.3	7.3	3.53
	2.00	78	13.0	20.3	
	3.00	88	14.7	35.0	
	4.00	295	49.2	84.2	
	5.00	95	15.8	100.0	

Factual Approach to Decision Making (FADM)

For factual approach to decision making index: 1. identify processes for implementation and product and service acquisition (FADM1); 2. Identify the required infrastructure for ICT (FADM2). According to respondents' opinion, more than 50% (50.7 %) of respondents were agreed with identifying the processes of implementing and achieving the product and services by the organization to achieve a quality management system. 20.5% were also fully agreed. Of these, 28.8% were indifferent, opposed, or fully opposed. For item of identification of the required

infrastructure for ICT, 49.8% and 21.2% were also agreed and fully agreed, respectively (Table 4.7). The mean of the two items were 3.64 and 3.65, respectively.

Table 4.7. Descriptive statistics of Factual Approach to Decision Making Index

FACTUAL APPROACH TO DECISION MAKING INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
FADM 1	1.00	44	7.3	7.3	3.64
	2.00	76	12.7	20.0	
	3.00	53	8.8	28.8	
	4.00	304	50.7	79.5	
	5.00	123	20.5	100.0	
FADM 2	1.00	42	7.0	7.0	3.65
	2.00	81	13.5	20.5	
	3.00	51	8.5	29.0	
	4.00	299	49.8	78.8	
	5.00	127	21.2	100.0	

Beneficial Supplier Relationship (BSR)

In implementing the ISO 9001 standard, the beneficial relationships of suppliers should also be considered by the organization or company. To this end, beneficial supplier relationships were assessed on the basis of two items: 1- evaluation of the best suppliers (BSR1) and 2- monitoring of the best suppliers in the pharmaceutical companies (BSR2). The results of the frequency of responses to the questions indicate that 67.4% of respondents believe that the evaluation of the best suppliers in the desired items was important and implemented. 20.7% were also disagreed with this opinion, believing that the best suppliers in these companies will not be performed. Regarding the monitoring of suppliers, 71% of respondents agreed to monitor to the suppliers by the organization. Only 20.8% believe that the organization and, in most cases, the ISO 9001 standard, were not monitored by suppliers. 8.2% were indifferent (Table 4.8). The mean of the two items were 3.71 and 3.77, respectively.

Table 4.8. Descriptive statistics of Beneficial Supplier Relationship Index

BENEFICIAL SUPPLIER RELATIONSHIP INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
BSR 1	1.00	44	7.3	7.3	3.71
	2.00	80	13.3	20.7	
	3.00	72	12.0	32.7	
	4.00	211	35.2	67.8	
	5.00	193	32.2	100.0	
BSR 2	1.00	62	10.3	10.3	3.77
	2.00	63	10.5	20.8	
	3.00	49	8.2	29.0	
	4.00	205	34.2	63.2	
	5.00	221	36.8	100.0	

Figure 4.1 shows the mean items listed on ISO9001 standards. As you can see from the comparison of the importance of each items in the chart, although all of the items had an effective role in the ISO 9001 (QMS), the index of continuous improvement and the “continual improvement of services (CI1)” had been the lowest weight (3.39). On the other hand, the focus of the customer had been the highest weight. So that "Customer-related information about products and services (CF1)" has the highest average value (3.94). In fact, there are more respondents than providing information to customers about products and services and argued that more seriously than other factors affecting the ISO 9001 standard, customer information has been taken into consideration for products and services.

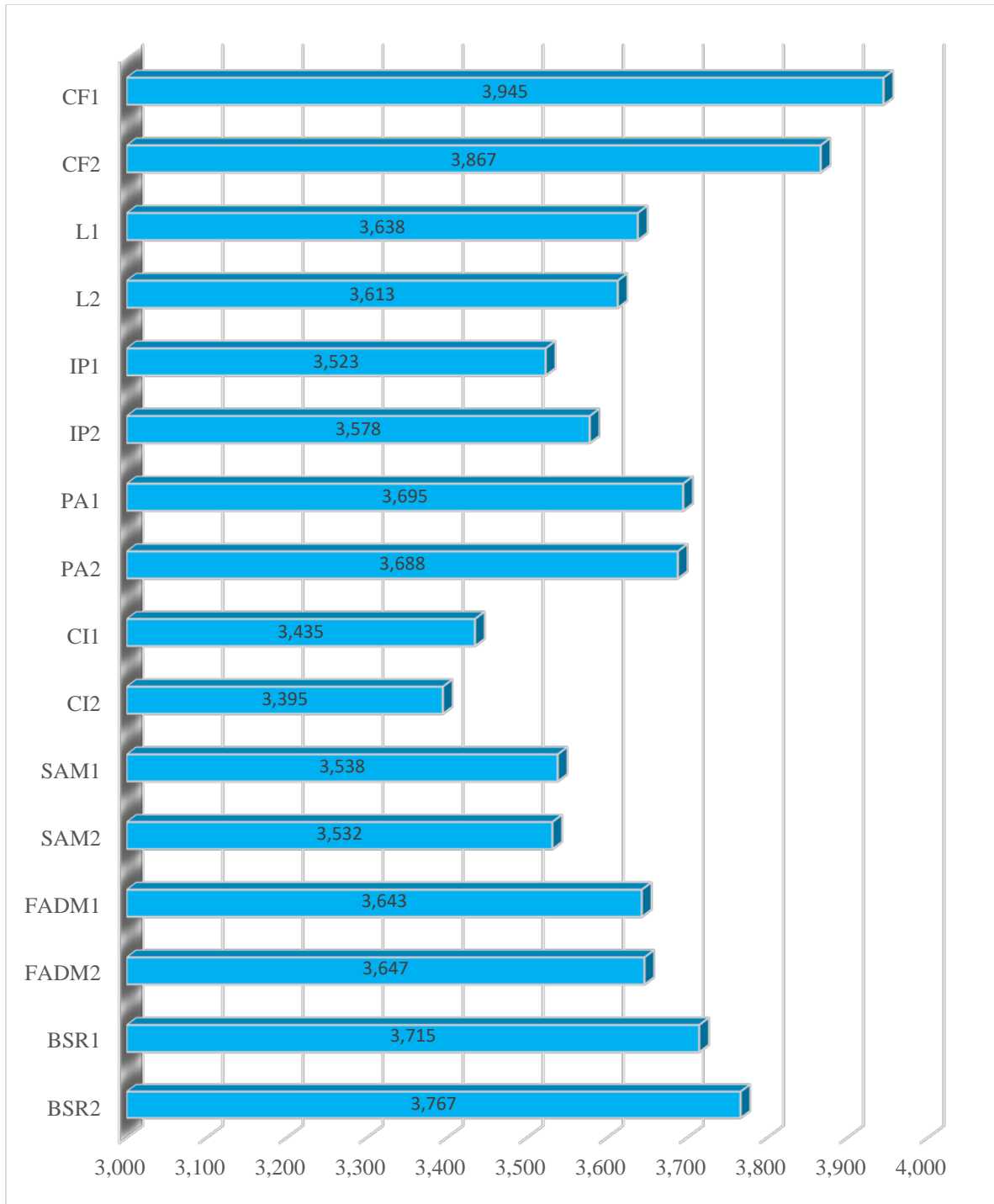


Figure 4.1. Descriptive statistics: comparing the average of the factors influencing the ISO 9001¹

¹ Customer-related information about products and services (CF1), Customer complaints process (CF2), The senior management's assurance of the quality management system (L1), The senior management support for employee ideas (L2), The role of employees in improving the quality management system (IP1), Employee awareness of organizational objectives and outcomes (IP2), The role of the process approach in improving organizational

4.2.2.2. Empowering Employees

Employee empowerment was evaluated as one of the main criteria for employee engagement based on five performance indices in 1. Performing to perform job tasks, 2. Improving effort in job tasks, 3. Effective collaboration, 4. Efforts to improve work group, and 5. Involvement at an organizational level. In the following, the frequency and mean related to each of the indices were considered.

Efficiency in Performing Job Tasks (EPJ)

For the index of efficiency in performing job tasks, the two items were considered: 1- conscientiousness and the ability of employees to perform job tasks and responsibilities (EPJ1); and 2- sustainability in achieving the highest standards of quality in the employees (EPJ2). The frequency the conscience item and the ability of employees to perform job tasks and responsibilities indicates that 60 % of people believe that the ISO 9001 standard increases the conscience and ability to perform job tasks and responsibilities of employees. 21.3% were also disagreed. For sustainability in achieving the highest standards of quality in employees, 60.8% of the responses also indicate the positive effect of ISO 9001 standard on improving the efficiency to perform job tasks through sustainability in achieving the highest standards of quality in their employees. The mean for the two items were 3.49 and 3.45, respectively.

performance (PA1), Planning process and organizational interactions through a process approach (PA2), continual improvement of services (CI1), Holding regular quality management courses (CI2), Check the reliability of the data (SAM1), Analysis of data needed to control quality (SAM2), Identify processes for implementation and product and service acquisition (FADM1), Identify the required infrastructure for ICT (FADM2), Evaluation of the best suppliers (BSR1), monitoring of the best suppliers in the pharmaceutical companies (BSR2).

Table 4.9. Descriptive statistics of Efficiency in Performing Job Tasks Index

EFFICIENCY IN PERFORMING JOB TASKS INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
EPJ 1	1.00	40	6.7	6.7	3.49
	2.00	88	14.7	21.3	
	3.00	112	18.7	40.0	
	4.00	257	42.8	82.8	
	5.00	103	17.2	100.0	
EPJ 2	1.00	60	10.0	10.0	3.45
	2.00	65	10.8	20.8	
	3.00	110	18.3	39.2	
	4.00	276	46.0	85.2	
	5.00	89	14.8	100.0	

Improve Effort at Job Tasks (IFJT)

The indicator of improve effort at job tasks was also assessed based on two items: 1- Authorizing the organization to employees to improve the job process (IFJT1) and 2- holding training sessions to improve job performance (IFJT2). As was clear from the results (Table 4.10), 41% of the respondents were fully in agreement with the positive effect of ISO 9001 standard on the authorizing the organization for employees to improve the job process. 24.7% were also agreed. 20.7% were either opposed or fully opposed and stated that the existence of the ISO 9001 standard did not allow the organization to employees to improve the job process. In the case of holding training sessions to improve job performance, although most respondents fully agreed, but frequency than the first item was less (34.3 %). 5.2 % were fully disagreed and do not consider the ISO standard effective in holding training sessions to improve job performance. The mean for the two items were 3.78 and 3.71, respectively.

Table 4.10. Descriptive statistics of Improve Effort at Job Tasks Index

IMPROVE EFFORT AT JOB TASKS INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
IFJT 1	1.00	46	7.7	7.7	3.78
	2.00	78	13.0	20.7	
	3.00	82	13.7	34.3	
	4.00	148	24.7	59.0	
	5.00	246	41.0	100.0	
IFJT 2	1.00	44	7.3	7.3	3.71
	2.00	68	11.3	18.7	
	3.00	113	18.8	37.5	
	4.00	169	28.2	65.7	
	5.00	206	34.3	100.0	

Effective Collaboration (EC)

In the case of an effective cooperation index, 1- employee's willingness to work on work group was more than individual work (EC1) and 2. Improving employee collaboration (EC2). The frequency of employees' willingness to work group in Table 4.11 shows that 34.2% fully agreed that the implementation of the ISO 9001 standard in the companies improves the employee willingness to work group. 29% were agreed. 16.7 % were indifferent. 15% were disagreed and only 5.2% were fully opposed. Improving employee collaboration has similar trend. In fact, most respondents fully agreed that the implementation of the ISO 9001 standard has been effective in improving employee collaboration. For the two items: 1- The willingness of the employees to work group and 2. The improvement of employee collaboration were 3.72 and 3.69, respectively.

Table 4.11. Descriptive statistics of Effective Collaboration Index

EFFECTIVE COLLABORATION INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
EC 1	1.00	31	5.2	5.2	3.72
	2.00	90	15.0	20.2	
	3.00	100	16.7	36.8	
	4.00	174	29.0	65.8	
	5.00	205	34.2	100.0	
EC 2	1.00	41	6.8	6.8	3.69
	2.00	72	12.0	18.8	
	3.00	118	19.7	38.5	
	4.00	172	28.7	67.2	
	5.00	197	32.8	100.0	

Improvement Effort in Work Group (IEWG)

The fourth indicator of employee empowerment was an effort to improve work group. For this index, 1- conducting the business unit's performance by the employees (IEWG1); and 2- providing methods for improving collaboration in the groups by the employees (IEWG2). The frequency of responses (Table 4.12) shows that, 29.3% of people agreed that, despite the ISO 9001 standard in pharmaceutical companies, the conducting the business unit's performance by employees has increased. But 20% of respondents were opposed or fully opposed. In the case of providing methods for improving team collaboration by employees, most and more consensus (43.5 %) were in agreement with the effect of ISO 9001 standard on effort to improve work group. Meanwhile, 4.5% were fully opposed. By examining the mean of the two items, one can find that they were 3.57 and 3.88 respectively.

Table 4.12. Descriptive statistics of Improvement Effort in Work Group Index

IMPROVEMENT EFFORT IN WORK GROUP INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
IEWG 1	1.00	39	6.5	6.5	3.57
	2.00	81	13.5	20.0	
	3.00	141	23.5	43.5	
	4.00	176	29.3	72.8	
	5.00	163	27.2	100.0	
IEWG 2	1.00	27	4.5	4.5	3.88
	2.00	81	13.5	18.0	
	3.00	30	5.0	23.0	
	4.00	261	43.5	66.5	
	5.00	201	33.5	100.0	

Involvement at organizational (IO)

The fifth and last index of employee empowerment was involvement at organizational level. Two items were also designed to examine this index: 1. Employee involvement to maintain and improve organizational performance (IO1); 2. Provide suggestions for improving organizational performance (IO2). As the results in Table 4.13 shown, 66.3% of respondents agreed or fully agreed that ISO 9001 have improved the employee involvement to maintain and improve organizational efficiency. 33.7% of the respondents were opposed. But about offering suggestions

to improve the performance of the organization, 69.6 % believe in the importance of this issue and were agreed. The mean for the two items were 3.72 and 3.74, respectively.

Table 4.13. Descriptive statistics of Involvement at organizational Index

INVOLVEMENT AT ORGANIZATIONAL INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
IO 1	1.00	37	6.2	6.2	3.72
	2.00	68	11.3	17.5	
	3.00	97	16.2	33.7	
	4.00	221	36.8	70.5	
	5.00	177	29.5	100.0	
IO 2	1.00	43	7.2	7.2	3.74
	2.00	71	11.8	19.0	
	3.00	68	11.3	30.3	
	4.00	236	39.3	69.7	
	5.00	182	30.3	100.0	

Five different indicators were considered for employee empowerment. In figure 4.2, the average of each factors that influencing employee empowerment indicators is presented. As shown in the chart, "sustainability in achieving the highest standards of quality in the employees (EPJ2)" had the least impact with an average of 3.45, and "providing methods for improving collaboration in the groups by the employees (IEWG2)" with a mean of 3.88 has been most impressive. Therefore, in order to employee empowerment, providing methods to improve collaboration in groups, by employees was more than any other factor considered by pharmaceutical companies. Sustainability in achieving the highest quality standards in the staff, although it has been taken into consideration, is less relevant than other factors.

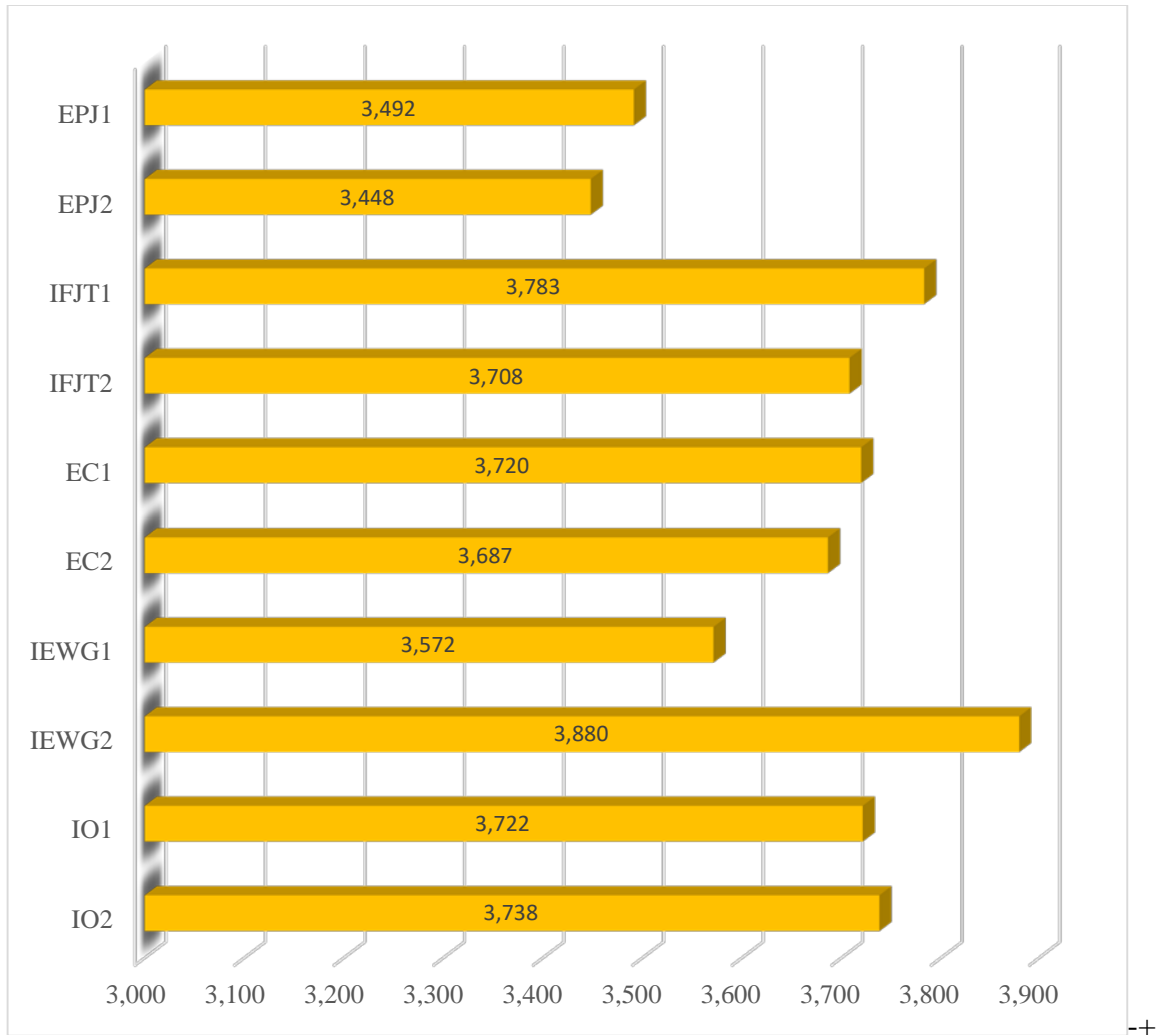


Figure 4.2. Descriptive statistics: comparing the average of the factors affecting empowerment¹

¹ Conscientiousness and the ability of employees to perform job tasks and responsibilities (EPJ1), Sustainability in achieving the highest standards of quality in the employees (EPJ2), Authorizing the organization to employees to improve the job process (IFJT1), Holding training sessions to improve job performance (IFJT2), Employee's willingness to work on work group was more than individual work (EC1), Improving employee collaboration (EC2), Conducting the business unit's performance by the employees (IEWG1), providing methods for improving collaboration in the groups by the employees (IEWG2), Employee involvement to maintain and improve organizational performance (IO1), Provide suggestions for improving organizational performance (IO2).

4.2.2.3. *Employees Recognition (ER)*

In order to investigate the effect of ISO 9001 on employee recognition, four ethical, humanistic, and existential, psychodynamics and behavioral outlooks were examined. The descriptive statistics of each of the indices were discussed below.

Ethical Perspective (EP)

In order to assess the ethical perspective and the effect of ISO 9001 standard on this index, two items were considered: 1. The fairness behavior of senior managers with employees (EP1) and, 2. Ethical perspective of manager (EP2). As the results show (Table 4.14), 61.8% of respondents believe that ISO 9001 standard in pharmaceutical companies has improved the fairness behavior of senior managers with employees. But 19.8% of respondents do not believe on this topic. 18.3% were indifferent. But for the ethical perspective of the manager, 60.7 % of respondents considered the effect of ISO 9001 to be effective. The mean of the two criteria were 3.61 and 3.64, respectively.

Table 4.14. Descriptive statistics of Ethical Perspective Index

ETHICAL PERSPECTIVE INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
EP 1	1.00	39	6.5	6.5	3.61
	2.00	80	13.3	19.8	
	3.00	110	18.3	38.2	
	4.00	218	36.3	74.5	
	5.00	153	25.5	100.0	
EP 2	1.00	17	2.8	2.8	3.64
	2.00	88	14.7	17.5	
	3.00	131	21.8	39.3	
	4.00	223	37.2	76.5	
	5.00	141	23.5	100.0	

Humanistic and Existential View (HEV)

For the humanistic and existential view, only one item was questioned: the effect of organizational objectives and strategies on employee humanistic view (HEV1). In this regard, the results of the frequency of responses show that most respondents (35.2%) were fully agreed that organizational objectives and strategies in line with the ISO 9001 standard have been effective on the humanistic perspective of the employees. Similarly, 29.5% were agreed, 18.3% were indifferent, and a total

of 17% were opposed and fully opposed. The mean responses to this item was also 3.78, indicating that the ISO 9001 standard has a greater effect on humanistic and existential views than ethical perspective (Table 4.15).

Table 4.15. Descriptive statistics of Humanistic and Existential View Index

HUMANISTIC AND EXISTENTIAL VIEW INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
HEV 1	1.00	28	4.7	4.7	3.78
	2.00	74	12.3	17.0	
	3.00	110	18.3	35.3	
	4.00	177	29.5	64.8	
	5.00	211	35.2	100.0	

Psychodynamics Education (PE)

The third index for employee recognition was psychodynamics education, which was based on two items: 1. Launching programs for rewards and encouraging innovation (PE1); and 2. Increasing the recognition of the specialty and competency of each employee (PE2). The results in Table 4.16 indicate that almost half of respondents (49.7%) were fully in agreed with the ISO 9001 standard for launching rewards programs and encouraging innovation in their psychodynamics education. 21.8% were agreed. A total of 28.5% were opposed or indifferent opinions. But there was less consensus on increasing the recognition of the expertise and competency of each employee. So that 40.5% were fully agreed, and 32.2 % were opposed and indifferent opinions. The mean of the two items was 3.96 and 3.83, respectively.

Table 4.16. Descriptive statistics of Psychodynamics Education Index

PSYCHODYNAMICS EDUCATION INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
PE 1	1.00	35	5.8	5.8	3.96
	2.00	81	13.5	19.3	
	3.00	55	9.2	28.5	
	4.00	131	21.8	50.3	
	5.00	298	49.7	100.0	
PE 2	1.00	35	5.8	5.8	3.83
	2.00	82	13.7	19.5	
	3.00	76	12.7	32.2	
	4.00	164	27.3	59.5	
	5.00	243	40.5	100.0	

Behavioral Outlook (BO)

The fourth index of employee recognition was behavioral outlook. This perspective was also raised on the basis of: 1. increasing rewards for outstanding contributions (BO1); and 2. Improving behavioral outlook of employees toward their objectives (BO2). In this regard, it can be seen that 71.6% of the respondents considered the ISO 9001 standard to be positive for raising the rewards for outstanding contributions. 19.7% also have negative opinions and were opposed to the effect of the ISO 9001 standard on the increase in rewards for outstanding contributions. Regarding the improvement of employee behavioral outlook towards their objectives, there were almost similar opinions, and most respondents (41.8%) were fully agreed (Table 4.17). The mean of the two items was 3.93 and 3.84, respectively.

Table 4.17 Descriptive statistics of Behavioral Outlook Index

BEHAVIORAL OUTLOOK INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
BO 1	1.00	33	5.5	5.5	3.93
	2.00	85	14.2	19.7	
	3.00	52	8.7	28.3	
	4.00	152	25.3	53.7	
	5.00	278	46.3	100.0	
BO 2	1.00	34	5.7	5.7	3.84
	2.00	86	14.3	20.0	
	3.00	72	12.0	32.0	
	4.00	157	26.2	58.2	
	5.00	251	41.8	100.0	

In relation to the employee recognition standard, as well as employee empowerment, in Figure 4.3, the average of each factors affecting it is presented. In this regard, based on four measured indicators, it can be concluded that "the fairness behavior of senior managers with employees (EP1)" has the lowest average (3.61). Indeed, among the factors affecting the employee recognition, most respondents believe that senior executives, although having fair treatment with employees, have less attention than other factors. On the other hand, " Launching programs for rewards and encouraging innovation (PE1)" with an average of 3.96 has the greatest weight. Therefore, pharmaceutical companies are more important for innovative programs and pay more attention to it.

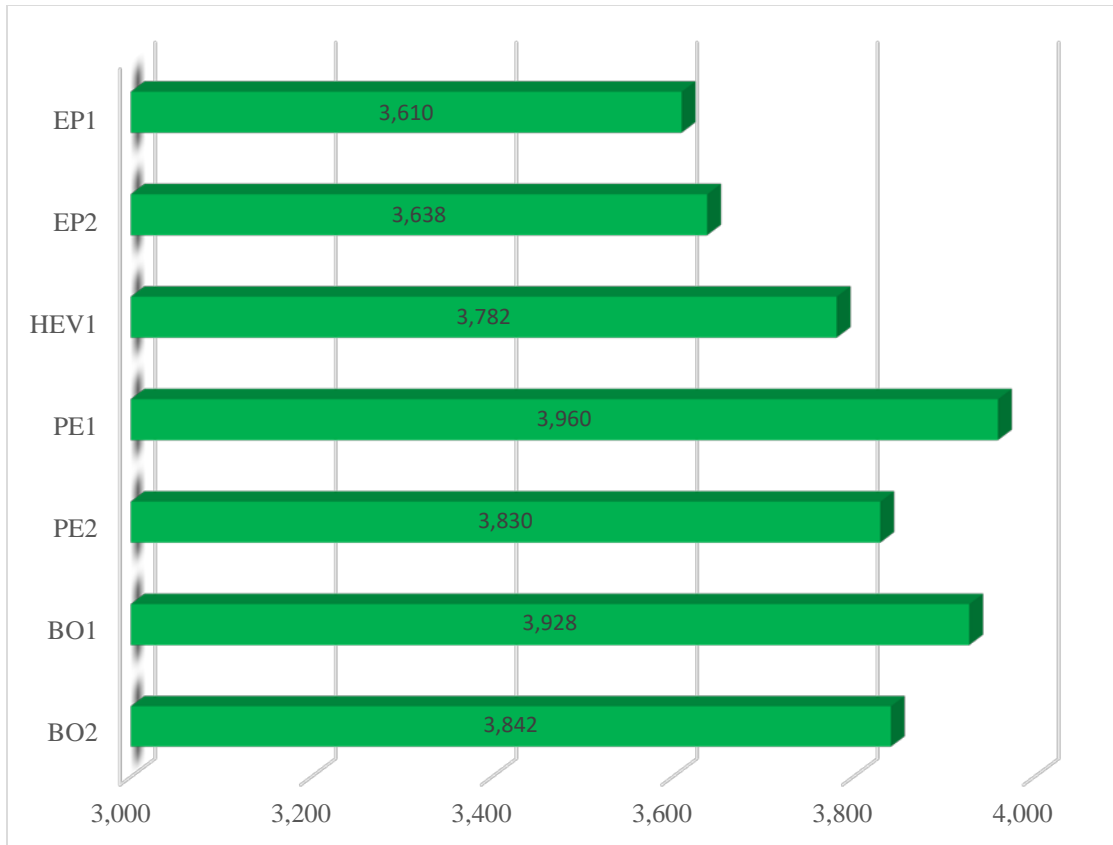


Figure 4.3. Descriptive statistics: comparing the average of the factors affecting the employee recognition¹

4.2.2.4. Employee Competency (EC)

The third criterion of employee engagement was employee competency, which was assessed based on three personal features of employees, level of skills and related knowledge of employees. Each index will be further discussed.

¹ The fairness behavior of senior managers with employees (EP1), Ethical perspective of manager (EP2), The effect of organizational objectives and strategies on employee humanistic view (HEV1), Launching programs for rewards and encouraging innovation (PE1), Increasing the recognition of the specialty and competency of each employee (PE2), Increasing rewards for outstanding contributions (BO1), Improving behavioral outlook of employees toward their objectives (BO2).

Attribute (A)

For features of the employees, two items were mentioned: 1. Guiding the individual features of an employee, influenced by the ISO 9001 standard (A1); and 2. the health status and employee activities (A2). As the frequency statistics in Table 4.18 show, more than 50% of respondents agreed that the ISO 9001 standard will improve the individual's features of an employee. 29.3% also fully agreed. Similarly, 19.3% were opposed or fully opposed. A total of 76.8% of the respondents considered the ISO 9001 standard to be positive for health status and employee activities.

The mean of the two items related to the personal features of the employees were 3.84 and 3.83, respectively. Therefore, it can be seen that the ISO 9001 standard in pharmaceutical companies has a significant effect on employee features.

Table 4.18. Descriptive statistics of Attribute Index

ATTRIBUTE INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
A 1	1.00	33	5.5	5.5	3.84
	2.00	85	14.2	19.7	
	3.00	4	.7	20.3	
	4.00	302	50.3	70.7	
	5.00	176	29.3	100.0	
A 2	1.00	24	4.0	4.0	3.83
	2.00	90	15.0	19.0	
	3.00	25	4.2	23.2	
	4.00	285	47.5	70.7	
	5.00	176	29.3	100.0	

Skill (S)

In order to assess the level of skills, two items were investigated: 1. The ability to solve problems (S1) and, 2. Improve the skills of employees (S2). Based on Table 4.20 79.8% of respondents were agreed or fully agreed on S1 and 77.8% of the comments were related to improvement of specialized employee skills. The mean score for the two items were 3.92 and 3.86, respectively.

Table 4.19. Descriptive statistics of Skill Index

SKILL INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
S 1	1.00	35	5.8	5.8	3.92
	2.00	79	13.2	19.0	
	3.00	7	1.2	20.2	
	4.00	259	43.2	63.3	
	5.00	220	36.7	100.0	
S 2	1.00	42	7.0	7.0	3.86
	2.00	73	12.2	19.2	
	3.00	18	3.0	22.2	
	4.00	262	43.7	65.8	
	5.00	205	34.2	100.0	

Related Knowledge (RK)

The third index of employee competency was related knowledge. In this regard, the two items were examined as follow: 1) A better understanding of the existing situation (RK1); and 2. Management to solve crisis in abnormal conditions (RK2). Table 4.20 shows that 79.9% of respondents said that, despite the ISO 9001 standard in pharmaceutical companies, employees have been more flexible due their knowledge of work than in a better understanding of the situation. 77.3% of respondents also consider management to solve the crisis in abnormal situations as the result of the ISO 9001 standard. The mean of the two mentioned items were 4.03 and 3.98 respectively. It can be said that among indices of employee competency, having the related knowledge has the highest weight.

Table 4.20. Descriptive statistics of Related Knowledge Index

RELATED KNOWLEDGE INDEX		FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN
RK 1	1.00	43	7.2	7.2	4.03
	2.00	73	12.2	19.3	
	3.00	6	1.0	20.3	
	4.00	181	30.2	50.5	
	5.00	297	49.5	100.0	
RK 2	1.00	38	6.3	6.3	3.98
	2.00	81	13.5	19.8	
	3.00	17	2.8	22.7	
	4.00	180	30.0	52.7	
	5.00	284	47.3	100.0	

By examining the average of effective factors on employee competency, it can be seen in Figure 4.4 that the average of all three competency indicators is high. Also, in comparing the averages, it can be seen that all the indicators are close to each other. In this regard, the factors affecting the related knowledge index are slightly better than the other two indicators. According to the figure, the lowest average was related to "the health status and employee activities (A2)" with an average of 3.83 and the highest average was related to "A better understanding of the existing situation (RK1)" with an average of 4.03.

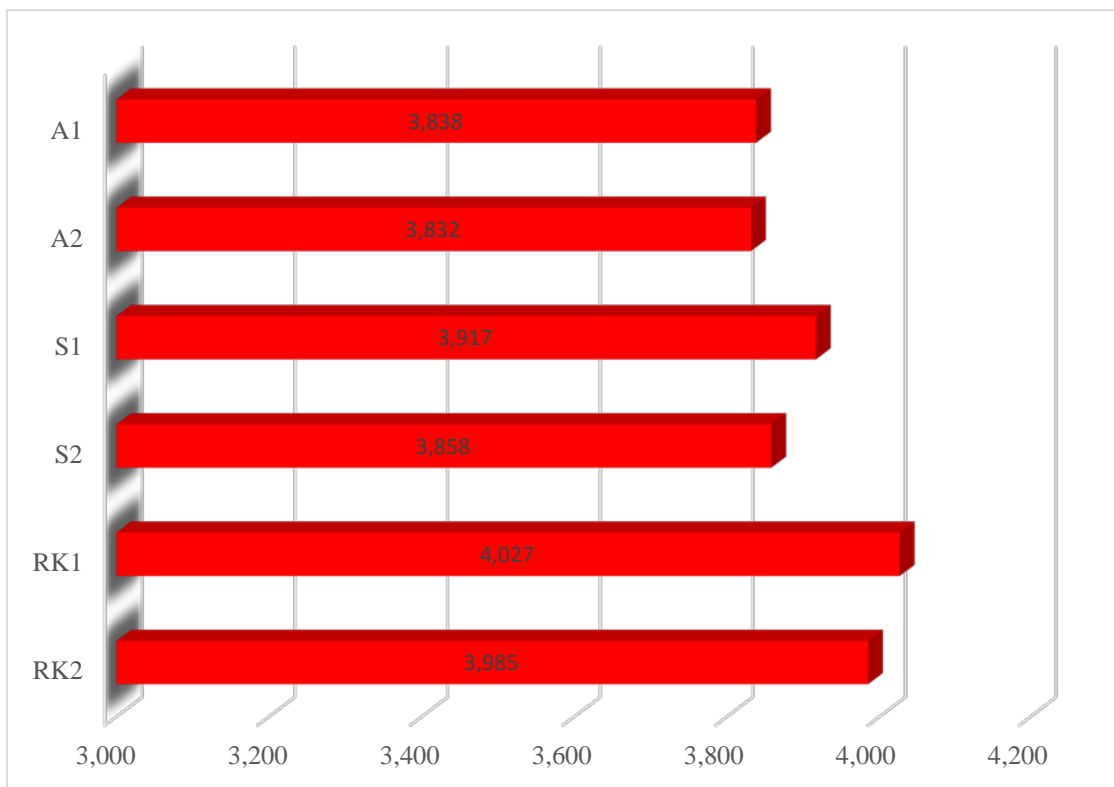


Figure 4.4: Descriptive statistics: comparing the average of the factors affecting the employee competency¹

¹ Guiding the individual features of an employee, influenced by the ISO 9001 standard (A1), The health status and employee activities (A2), The ability to solve problems (S1), Improve the skills of employees (S2), A better understanding of the existing situation (RK1), Management to solve crisis in abnormal conditions (RK2).

4.2.2.5. Employee Engagement

After employee engagement was measured on the basis of three criteria for empowering employees, employees recognition and employee competency, it was now time to consider employee engagement based on design items. In this regard, 5 items were considered for employees engagement: 1. employee satisfaction with workplace autonomy (ENG1); 2. high salaries for hard working conditions and responsibilities (ENG2); 3) equality and fairness among employees (ENG3); 4) existence the close relationship between employees and senior management (ENG4), and 5) promotion and transparency of occupational policies (ENG5).

Based on the abundance of research variables (Table 4.21), it can be concluded that the most consensus was on the promotion and transparency of occupational policies because 79.7% of respondents believe that the promotion and transparency of occupational policies was important in the employee engagement. The least consensus was the close relationship between employees and senior management. In fact, 62.7% of respondents mentioned the importance of existence the close relationship between employees and senior management. Based on the frequent of variables (Figure 4.5), the mean of each items were 3.66, 3.78, 3.68, 3.65 and 3.95 respectively.

Table 4.21. Descriptive statistics for statements of Employee Engagement

EMPLOYEE ENGAGEMENT INDEX	FREQUENCY	PERCENT	CUMULATIVE PERCENT	MEAN	
ENG 1	1.00	41	6.8	6.8	3.66
	2.00	78	13.0	19.8	
	3.00	73	12.2	32.0	
	4.00	257	42.8	74.8	
	5.00	151	25.2	100.0	
ENG 2	1.00	38	6.3	6.3	3.78
	2.00	80	13.3	19.7	
	3.00	66	11.0	30.7	
	4.00	207	34.5	65.2	
	5.00	209	34.8	100.0	
ENG 3	1.00	35	5.8	5.8	3.68
	2.00	81	13.5	19.3	
	3.00	92	15.3	34.7	
	4.00	224	37.3	72.0	
	5.00	168	28.0	100.0	
ENG 4	1.00	38	6.3	6.3	3.65
	2.00	77	12.8	19.2	
	3.00	109	18.2	37.3	
	4.00	209	34.8	72.2	
	5.00	167	27.8	100.0	
ENG 5	1.00	32	5.3	5.3	3.95
	2.00	90	15.0	20.3	
	3.00	230	38.3	58.7	
	4.00	248	41.3	100.0	
	5.00	32	5.3	5.3	

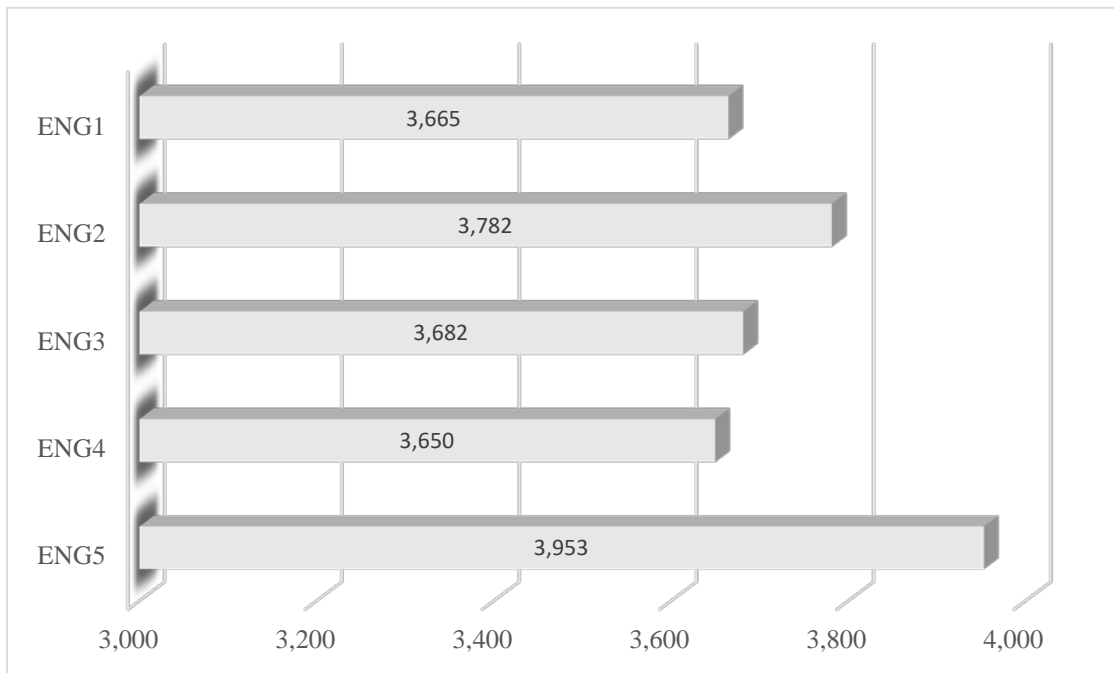


Figure 4.5. Descriptive statistics: comparing the average of the factors influencing employee engagement

4.3. Structural model analysis

Before examining the structural model, the overall reliability of the questionnaire was assessed. In Table 4.22, the results of the Cronbach's alpha calculation are shown for the questionnaire. The overall reliability of the questionnaire is 0.92 and therefore there is no concern in terms of reliability.

Table 4.22: investigating the Reliability of the indicator of research model

Dimensions of research model	Cronbach's alpha
The overall reliability of the questionnaire	0.92

4.3.1. The Part Related to the Measurement Model

In order to measure the fitting of the measurement models, three criteria including Item reliability, convergent validity and discriminant validity were used.

4.3.1.1. Item (Index) Reliability

Factor loading values of the research measures are shown in Table 4.23.

Table 4.23. The value of factor loadings of research measures

VARIABLES	QUESTIONS	FACTOR LOADINGS COEFFICIENTS
ISO9001	PA1	0.89
	PA2	0.92
	BSR1	0.91
	BSR2	0.9
	CF1	0.82
	CF2	0.92
	CI1	0.88
	CI2	0.88
	IP1	0.95
	IP2	0.93
	FADM1	0.9
	FADM2	0.9
	L1	0.88
	L2	0.89
	SAM1	0.89
	SAM2	0.89
COMPETENCY	EPJ1	0.88
	EPJ2	0.91
	EC1	0.97
	EC2	0.89
	IFJT1	0.87
	IFJT2	0.86
	IO1	0.88
	IO2	0.91
	IFWG1	0.9
	IFWG2	0.49
EMPLOYEE EMPOWERMENT	S1	0.94
	S2	0.94
	A1	0.93
	A2	0.93
	RK1	0.94
	RK2	0.93
RECOGNITION	EP1	0.88
	EP2	0.89
	HV1	100
	BO1	0.89
	BO2	0.89
	WPM1	0.9
	WPM2	0.89
ENGAGEMENT	ENG1	0.78
	ENG2	0.77
	ENG3	0.79
	ENG4	0.76
	ENG5	0.53

According to Table 4.23, factor loading coefficients for all questions are more than 0.4, which indicates that the sample has a good reliability and all the questions are practical, and there is no need to correct or remove questions.

Table 4-24 presents the results for reliability (Cronbach's alpha) and composite reliability for the measurement models.

Table 4.24. Report of Cronbach's alpha criterion and composite reliability

Hidden variables	Symbol	Cronbach's alpha coefficients (Alpha \geq 0/7)	Combined reliability coefficient (CR \geq 0/7)
ISO9001	IP	0.87	0.94
	L	0.76	0.82
	BSR	0.79	0.9
	CF	0.7	0.86
	CI	0.72	0.87
	FADAM	0.78	0.9
	PA	0.72	0.88
Engagement	Eng	0.78	0.85
Employee Empowerment	IFJT	0.73	0.88
	IFWG	0.14	0.67
	SAM	0.87	0.94
	EC	0.72	0.87
	EPJ	0.77	0.89
	IO	0.76	0.89
Competency	A	0.85	0.93
	RK	0.78	0.9
	S	0.86	0.93
Recognition	HV	1	1
	BO	0.74	0.88
	EP	0.74	0.88
	WPM	0.74	0.88

As can be seen in Table (4.24), all factors have an acceptable coefficient of composite reliability Cronbach's reliability coefficient is also acceptable, so it can be concluded that the research questionnaire has a good reliability.

4.3.1.2. Validity Study in the Measurement Model

The AVE values for each measurement model are given in Table 4-25.

Table 4.25: Convergent validity criterion report (AVE)

Hidden variables	Symbol	Convergent validity criterion (AVE \geq 0/5)
ISO9001	IP	0.89
	BSR	0.82
	L	0.78
	PA	0.82
	CF	0.76
	CI	0.78
	FADAM	0.82
	SAM	0.79
Engagement	ENG	0.54
Recognition	BO	0.79
	HV	1
	WPM	0.8
	EP	0.79
Employee Empowerment	IFJT	0.79
	IFWG	0.53
	IO	0.8
	EC	0.78
	EPJ	0.81
Competency	A	0.87
	RK	0.88
	S	0.88

The results of the convergent validity investigation are shown in Table 4.25, which is in all dimensions of the convergent validity of the model.

4.3.1.3. Discriminant Validity

Two methods are used to examine the fitting of the measurement model: the method of cross-factor loading and the Fornel-Larker method.

In table 4-26 the method of cross-factor loading compares the correlation between the indices of a construct with that construct and the correlation between the indices of a construct with other constructs.

Table 4.26. Factor loadings of research construct indices for discriminant validity investigation

	A	BO	BSR	CF	CI	EC	ENG	EP	EPJ	FAM	HV	IFJT	IFWG	IO	IP	L	PA	RK	S	SAM	WPM
A1	0.93	0.06	0.01	0.04	0.09	0.17	0.17	0.04	0.1	0.08	0.09	0.06	0.07	0.14	0.07	0.01	0.01	0.29	0.31	0.01	0.04
A2	0.93	0.02	0.05	0.06	0.01	0.24	0.1	0.03	0.02	0.13	0.05	0.06	0.06	0.16	0.06	0.03	0.09	0.3	0.28	0.09	0.09
BO1	0.04	0.89	0.22	0.19	0.12	0.06	0.05	0.12	0.03	0.14	0.27	0.09	0.11	0.07	0.09	0.1	0.29	0.06	0.11	0.05	0.26
BO2	0.04	0.89	0.07	0.22	0.23	0.05	0.1	0.19	0.08	0.12	0.1	0.11	0.09	0.11	0.04	0.16	0.22	0.04	0.06	0.04	0.26
BSR1	0.04	0.1	0.91	0.18	0.14	0.19	0.05	0.27	0.15	0.28	0.28	0.09	0.14	0.08	0.07	0.19	0.2	0.02	0.1	0.17	0.11
BSR2	0.09	0.19	0.9	0.17	0.1	0.1	0.06	0.19	0.07	0.2	0.39	0.13	0.15	0.11	0.06	0.2	0.26	0.05	0.13	0.13	0.15
CF1	0.04	0.19	0.14	0.82	0.11	0.1	0.09	0.18	0.05	0.13	0.12	0.09	0.02	0.25	0.01	0.12	0.27	0.11	0.03	0.09	0.17
CF2	0.05	0.21	0.19	0.92	0.23	0.14	0.04	0.3	0.08	0.26	0.3	0.1	0.11	0.16	0.09	0.15	0.35	0.08	0.1	0.17	0.19
CI1	0.01	0.17	0.17	0.21	0.88	0.25	0.13	0.45	0.2	0.19	0.24	0.01	0.06	0.09	0.05	0.14	0.27	0.12	0.11	0.19	0.14
CI2	0.03	0.17	0.06	0.16	0.88	0.15	0.2	0.29	0.25	0.25	0.11	0.04	0.12	0.14	0.08	0.14	0.21	0.07	0.14	0.26	0.08
EC1	0.18	0.01	0.13	0.19	0.17	0.87	0.07	0.12	0.24	0.4	0.05	0.15	0.39	0.33	0.04	0.13	0.09	0.01	0.02	0.24	0.09
EC2	0.21	0.1	0.16	0.23	0.22	0.89	0.06	0.22	0.25	0.36	0.09	0.2	0.22	0.21	0.09	0.02	0.15	0.03	0.08	0.19	0.06
ENG1	0.17	0.06	0.03	0.09	0.16	0.39	0.78	0.14	0.09	0.03	0.03	0.01	0.03	0.13	0.02	0.04	0.1	0.04	0.04	0.16	0.13
ENG2	0.11	0.08	0.05	0.1	0.14	0.03	0.77	0.07	0.15	0.07	0.01	0.02	0.02	0.07	0.07	0.03	0.14	0.02	0.11	0.13	0.1
ENG3	0.14	0.06	0.07	0.02	0.1	0.09	0.79	0.19	0.08	0.03	0.04	0.08	0.11	0.06	0.1	0.11	0.06	0.1	0.07	0.15	0.07
ENG4	0.05	0.04	0.04	0.03	0.16	0.04	0.76	0.06	0.23	0.1	0.01	0.02	0.01	0.08	0.06	0.1	0.09	0.03	0.05	0.2	0.14
ENG5	0.06	0.08	0.19	0.07	0.09	0.12	0.53	0.001	0.04	0.04	0.1	0.03	0.04	0.01	0.08	0.25	0.08	0.19	0.17	0.03	0.03

EP1	0.01	0.16	0.26	0.27	0.33	0.01	0.16	0.88	0.15	0.15	0.32	0.06	0.07	0.13	0.05	0.15	0.27	0.11	0.02	0.15	0.19
EP2	0.16	0.15	0.08	0.24	0.42	0.16	0.14	0.87	0.13	0.2	0.38	0.27	0.26	0.13	0.08	0.28	0.28	0.15	0.04	0.21	0.21
EPJ1	0.24	0.09	0.13	0.04	0.24	0.18	0.14	0.2	0.88	0.2	0.05	0.35	0.3	0.17	0.12	0.24	0.04	0.12	0.01	0.23	0.08
EPJ2	0.48	0.03	0.24	0.09	0.22	0.18	0.12	0.16	0.91	0.27	0.02	0.22	0.31	0.22	0.09	0.2	0.09	0.09	0.09	0.26	0.13
FADM1	0.72	0.13	0.24	0.24	0.23	0.31	0.07	0.39	0.24	0.9	0.17	0.15	0.34	0.18	0.09	0.22	0.18	0.04	0.06	0.44	0.07
FADM2	0.12	0.13	0.37	0.19	0.23	0.37	0.08	0.03	0.25	0.9	0.16	0.08	0.12	0.21	0.03	0.1	0.19	0.05	0.05	0.4	0.02
HV1	0.08	0.21	0.15	0.26	0.23	0.42	0.01	0.06	0.01	0.18	0.001	0.17	0.2	0.08	0.04	0.08	0.38	0.08	0.21	0.15	0.27
IFJT1	0.02	0.14	0.08	0.15	0.2	0.08	0.02	0.09	0.23	0.19	0.12	0.86	0.21	0.1	0.01	0.09	0.01	0.09	0.15	0.14	0.05
IFJT2	0.04	0.07	0.12	0.05	0.02	0.13	0.07	0.03	0.38	0.17	0.03	0.91	0.21	0.11	0.04	0.06	0.09	0.03	0.13	0.24	0.02
IFWG1	0.06	0.11	0.13	0.06	0.04	0.21	0.07	0.15	0.25	0.37	0.06	0.19	0.89	0.33	0.08	0.07	0.06	0.03	0.06	0.26	0.08
IFWG2	0.04	0.18	0.09	0.06	0.16	0.38	0.09	0.12	0.21	0.07	0.17	0.12	0.9	0.08	0.06	0.1	0.02	0.06	0.23	0.03	0.01
IO1	0.07	0.08	0.11	0.18	0.08	0.03	0.14	0.08	0.2	0.12	0.04	0.09	0.37	0.88	0.02	0.13	0.03	0.09	0.02	0.15	0.06
IO2	0.11	0.05	0.07	0.22	0.14	0.2	0.05	0.05	0.2	0.24	0.1	0.02	0.06	0.91	0.11	0.1	0.08	0.02	0.07	0.13	0.11
IP1	0.18	0.02	0.07	0.09	0.09	0.35	0.1	0.15	0.12	0.11	0.04	0.01	0.07	0.03	0.93	0.1	0.04	0.04	0.03	0.13	0.04
IP2	0.08	0.01	0.24	0.01	0.1	0.07	0.08	0.24	0.09	0.08	0.01	0.09	0.04	0.06	0.95	0.16	0.04	0.03	0.09	0.11	0.03
L1	0.05	0.01	0.14	0.13	0.05	0.06	0.02	0.2	0.15	0.18	0.11	0.09	0.1	0.09	0.08	0.89	0.17	0.05	0.09	0.11	0.06
L2	0.02	0.03	0.17	0.11	0.12	0.11	0.1	0.35	0.36	0.22	0.07	0.02	0.05	0.14	0.04	0.88	0.15	0.06	0.09	0.18	0.12
PA1	0.01	0.32	0.28	0.31	0.17	0.16	0.14	0.14	0.16	0.17	0.22	0.07	0.05	0.09	0.04	0.16	0.89	0.14	0.06	0.14	0.35
PA2	0.01	0.27	0.05	0.34	0.22	0.12	0.1	0.14	0.09	0.2	0.45	0.04	0.02	0.03	0.04	0.09	0.92	0.02	0.01	0.19	0.29

RK1	0.03	0.3	0.02	0.09	0.28	0.12	0.06	0.05	0.12	0.09	0.1	0.16	0.01	0.01	0.03	0.01	0.06	0.94	0.38	0.03	0.22
RK2	0.32	0.3	0.09	0.1	0.11	0.01	0.11	0.01	0.09	0.09	0.06	0.14	0.15	0.09	0.01	0.01	0.05	0.93	0.37	0.09	0.17
S1	0.27	0.02	0.15	0.07	0.1	0.09	0.09	0.18	0.03	0.03	0.22	0.2	0.14	0.02	0.04	0.01	0.03	0.4	0.94	0.05	0.01
S2	0.3	0.01	0.12	0.09	0.17	0.03	0.14	0.18	0.02	0.09	0.17	0.18	0.2	0.04	0.14	0.16	0.01	0.34	0.93	0.11	0.03
SAM1	0.3	0.06	0.17	0.12	0.1	0.07	0.22	0.19	0.26	0.37	0.13	0.04	0.24	0.16	0.08	0.13	0.16	0.03	0.07	0.89	0.08
SAM2	0.02	0.09	0.15	0.16	0.25	0.17	0.12	0.22	0.23	0.45	0.14	0.03	0.09	0.12	0.01	0.11	0.17	0.01	0.08	0.89	0.08
WPM1	0.01	0.02	0.1	0.19	0.21	0.26	0.07	0.09	0.23	0.04	0.29	0.09	0.05	0.06	0.09	0.07	0.26	0.2	0.06	0.06	0.9
WPM2	0.06	0.08	0.1	0.19	0.1	0.02	0.17	0.22	0.1	0.05	0.19	0.09	0.09	0.11	0.09	0.09	0.37	0.17	0.04	0.1	0.89

As seen in Table 4.26, the factor loadings of each measure in their construct have the highest correlation with other constructs, which shows the discriminant validity of the.

The Fornel-Larker method compares the correlation of a construct with its indices against the correlation of that construct with other constructs, which is used by the Fornel-Larker criterion (Table 4.27).

Table 4.27. Correlation between Latent variables and AVE values

	A	BO	BSR	CF	CI	EC	EP	EPJ	FAM	HV	IFJT	IFWG	IO	IP	L	PA	RK	S	SAM	WPM
A	1.00																			
BO	0.04	1.00																		
BSR	0.02	0.16	1.00																	
CF	0.05	0.23	0.19	1.00																
CI	0.01	0.20	0.13	0.21	1.00															
EC	0.22	0.06	0.16	0.23	0.22	1.00														
EP	0.09	0.18	0.25	0.29	0.42	0.19	1.00													
EPJ	0.06	0.02	0.12	0.07	0.25	0.28	0.15	1.00												
FADM	0.11	0.14	0.26	0.23	0.25	0.43	0.20	0.27	1.00											
HV	0.02	0.21	0.37	0.26	0.20	0.08	0.39	0.01	0.18	1.00										
IFJT	0.06	0.11	0.12	0.11	0.01	0.20	0.05	0.35	0.20	0.08	1.00									
IFWG	0.07	0.11	0.16	0.08	0.10	0.35	0.06	0.31	0.36	0.12	0.23	1.00								
IO	0.16	0.10	0.11	0.22	0.13	0.31	0.15	0.22	0.21	0.08	0.12	0.33	1.00							
IP	0.07	0.02	0.07	0.08	0.08	0.07	0.07	0.11	0.10	0.03	0.08	0.07	0.05	1.00						
L	0.02	0.15	0.21	0.14	0.16	0.15	0.22	0.29	0.23	0.10	0.10	0.08	0.13	0.57	1.00					
PA	0.01	0.28	0.25	0.36	0.27	0.13	0.31	0.07	0.20	0.38	0.01	0.06	0.07	0.03	0.06	1.00				
RK	0.32	0.01	0.04	0.10	0.11	0.06	0.15	0.12	0.03	0.08	0.06	0.09	0.01	0.03	0.11	0.07	1.00			
S	0.32	0.09	0.13	0.09	0.14	0.06	0.04	0.01	0.06	0.21	0.16	0.15	0.03	0.64	0.40	0.31	0.15	1.00		
SAM	0.05	0.05	0.16	0.16	0.25	0.25	0.20	0.28	0.46	0.15	0.22	0.24	0.16	0.24	0.02	0.07	0.07	0.78	1.00	
WPM	0.02	0.29	0.14	0.21	0.13	0.03	0.22	0.12	0.05	0.27	0.04	0.08	0.09	0.10	0.21	0.15	0.22	0.01	0.09	1.00

Based on the results obtained from correlations and AVE square that are placed on the diameter of Table 4.27, the discriminant validity of the model on the construct level can be concluded from the Fornell-Larcker criterion.

4.3.2. The Part Related to the Structural Model

In structural equation modeling method, the fitting of structural model is examined by criterion of significant coefficients Z (t-value), R² and Q² criterion. First, a standard estimation of the research model has been obtained that the standard estimation of the parameters in the model is mentioned (Figure 4-6). Now, after the above results, the significance of all relationships between latent and obvious variables is examined below.

By examining this criterion, it is shown that all t-value coefficients are greater than 1.96, which all the measures and relations between the constructs are significant at a confidence level of 0.95 (Figure 4-7).

The output of the PLS software and the path coefficient and factor loading related to the hypotheses are described in Figure 4.6.

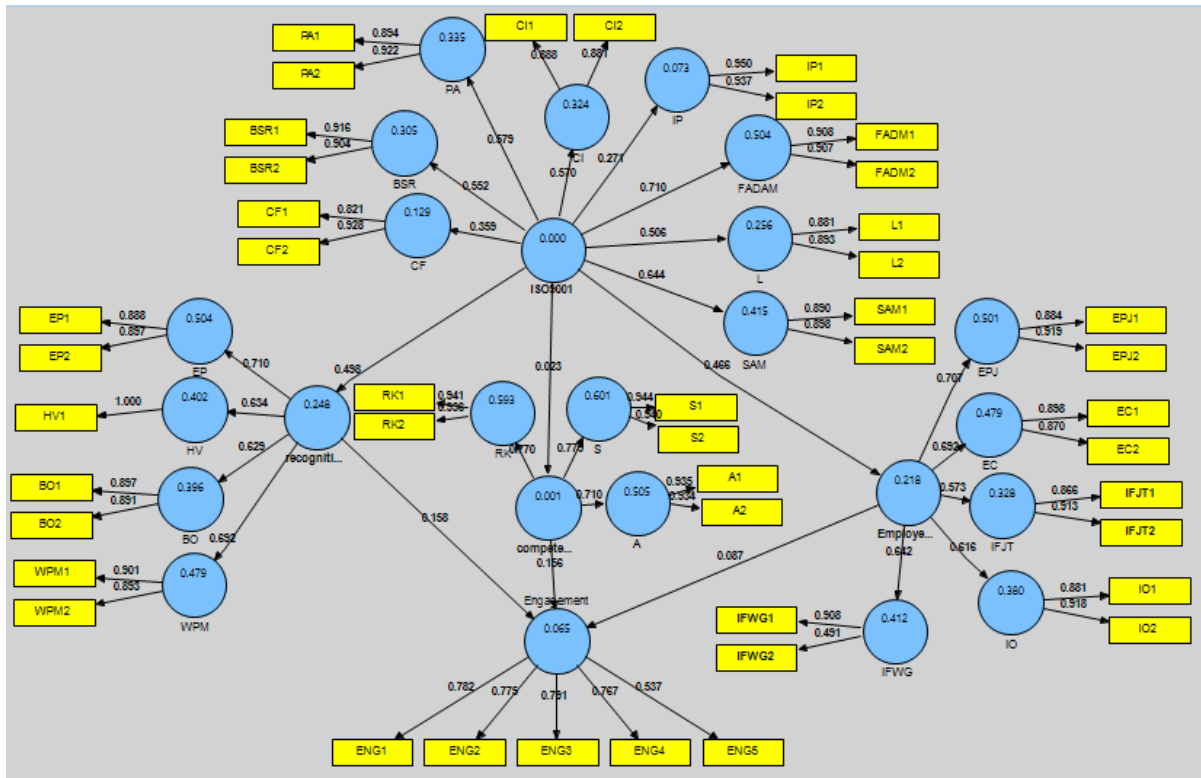


Figure 4.6. Results of path coefficient and factor loading factors of the model

Also, the results of the P-value significance coefficient related to the hypothesis 1 are shown in Figure 4.7:

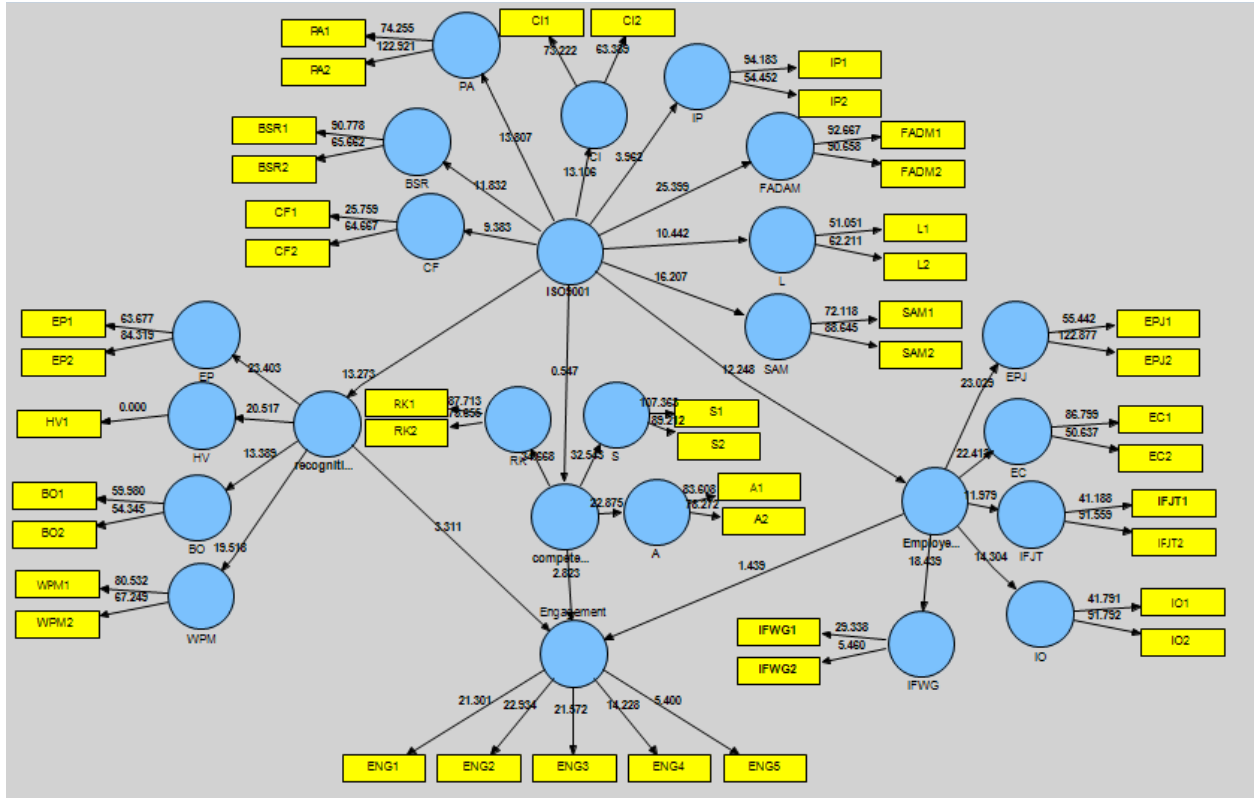


Figure 4.7. The t-value significance coefficients of the model

As shown in Figure 4-7, the significance coefficient for the hypothesis 1 is 12.24, which is greater than 1.96, indicating the confirmation of this hypothesis.

The results of the structural model fitting are presented in Table 4-27. According to the results of R^2 in table 4-28, for most variables, except for (L, IP, CF), intrinsic variables of the model are more than 0.33 that represent the average fit of the structural model. Also, the results obtained from the Q2 variables except for (IP, CF) that give poor fit of the model, the rest of Q2 related to the constructs is more than 0.15 and represent the average fit of the structural model.

Table 4.28. The values of the determination coefficient and the predictor power coefficient.

	A	BO	BSR	CF	CI	EC	EP	EPJ	FAM	HV	IFJT	IFWG	IO	IP	L	PA	RK	S	SAM	WPM
R2	0.5	0.39	0.3	0.12	0.32	0.47	0.5	0.5	0.5	0.4	0.32	0.41	0.31	0.07	0.25	0.33	0.59	0.6	0.41	0.47
Q2	0.43	0.31	0.25	0.09	0.25	0.37	0.4	0.4	0.41	0.39	0.25	0.21	0.3	0.06	0.19	0.27	0.51	0.52	0.32	0.38

4.3.3. The Part Related to the General Model (GOF Criterion)

For calculating the GOF, the communality value is calculated and is took place in the table below.

Table 4.29. Community values

Variables	R2	Communality
A	0.5	0.87
BO	0.39	0.79
BSR	0.3	0.82
CF	0.12	0.76
CI	0.32	0.78
EC	0.47	0.78
EP	0.5	0.79
EPJ	0.5	0.81
FADAM	0.5	0.82
HV	0.4	1
IFJT	0.32	0.79
IFWG	0.41	0.53
IO	0.37	0.8
IP	0.07	0.89
L	0.25	0.25
PA	0.33	0.78
RK	0.59	0.82
S	0.6	0.88
SAM	0.41	0.79
WPM	0.47	0.8

The equation for calculating the total fit in the PLS method is given below.

Eq 4-1:

$$GOF = \sqrt{0.78 \times 0.17} = 0.37$$

4.3.4. The test of research hypotheses and determining the severity of the effect

According to the data analysis algorithm in the PLS method, after examining the fitting of the measurement models and the construct model, one can study and test the research hypotheses. The t-values of the model paths indicate whether the research hypothesis is significant or not. By implementing the model in Smart PLS software, the significance of the effects of the variables and the confirmation or no confirmation of the hypotheses is determined. The standardized coefficients of the paths also examine the severity of the effect of the variables on each other. In the hypothesis test it is assumed a confidence level of 0.95.

Hypothesis 1: "The ISO 9001 standard is effective on employee empowerment."

Table 4.30. Test of the hypothesis 1 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H1	ISO 9001 standard	→	Empowerment	12.24	0.46	Accept

(Ns = no significant, *p <.05, **p <.01, ***p <.001)

According to the path analysis pattern and the values in Table 4-30, the standard coefficient of the ISO 9001 standard is based on the employee empowerment with a value of 0.46 and (t= 12.24). Therefore, according to t value of this path (t=|12.24|>1.96), with a probability of 95%, hypothesis H0 is rejected and hypothesis H1 can be confirmed. Thus, there is a significant positive relationship between ISO 9001 standard and employee empowerment, which increases the employee empowerment by increasing one unit in the standard ISO 9001 variable. As a result, with the increase in the ISO 9001 standard, the employee empowerment increases.

In other words, the standardized path coefficient between the ISO 9001 standard and employee empowerment suggests that the ISO 9001 standard explains 46% of the variations in employee empowerment.

Hypothesis 2: "The ISO 9001 standard has a significant effect on employee competency."

According to the path analysis pattern and the values in Table 4-31, the standard coefficient of ISO 9001 standard is based on the employee competency with a value of 0.023 and (t= 0.547). Therefore, according to T of this path (t=|0.547|<1.96), H0 cannot be rejected. In other words, the ISO 9001 standard does not have a significant effect on employee qualifications.

Table 4.31. Test of the hypothesis 2 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H2	ISO 9001 standard	→	Competence	0.547	0.0023	Reject

(ns = no significant, *p <.05, **p <.01, ***p <.001)

Hypothesis 3: "The ISO 9001 standard is effective on the employee recognition."

According to the path analysis pattern and the values in Table 4.32, the standard coefficient of ISO 9001 standard route is based on the employee recognition with a value of 49.50 and (t= 13.27). Therefore, according to the t-distribution (t=|13.27|>1.96), with a probability of 95%, H0 can be rejected and. So, there is a significant positive relationship between the ISO 9001 standard and the employee recognition, which increases the employee recognition by increasing one unit in the standard ISO 9001 variable.

In other words, the standardized coefficient path between the ISO 9001 standard and employee recognition shows that ISO 9001 standard explains 49% of the variation for employee recognition.

Table 4.32. Test of the hypothesis 3 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H3	ISO 9001 standard	→	Recognition	13.27	0.49	Accept

(ns = no significant, *p <.05, **p <.01, ***p <.001)

Hypothesis 4: "The employee recognition has a significant effect on engagement."

According to the path analysis pattern and the values in Table 4.33, the standard coefficient of the path to employee recognition on engagement is with the value of 0.15 (t= 3.31). Therefore,

according to t Statistics of this path ($t=|3.31|>1.96$), with a probability of 95%, H_0 is rejected. So, there is a significant positive relationship between employee recognition and engagement, so that by increasing one unit in the variable for employee recognition, the engagement increases by 0.15.

In other words, the standardized coefficient of the path between employee recognition and engagement reflects the fact that employee recognition explains 15% of the variation of the engagement.

Table 4.33. Test of the hypothesis 4 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H4	Recognition	→	Employee engagement	3.31	0.15	Accept

(ns = no significant, * $p < .05$, ** $p < .01$, *** $p < .001$)

Hypothesis 5: "The employee competency has a significant effect on engagement."

According to the path analysis pattern and the values in Table 4.34, the standard coefficient of employee qualification path is on engagement is equal to the value of 0.15 ($t= 2.82$). Thus, according to the t-distribution ($t=|2.82|>1.96$), with a probability of 95%, H_0 is rejected and we can conclude that there is a significant positive correlation between employee competency and engagement. Thus, by increasing one unit in the employee qualification variable, the engagement increases by 0.15.

In other words, the standardized coefficient of the path between employee recognition and engagement reflects the fact that qualifications for 15% of variations explain the engagement.

Table 4.34. Test of the hypothesis 5 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H5	Competence	→	Employee engagement	2.82	0.15	Accept

(ns = no significant, *p <.05, **p <.01, ***p <.001)

Hypothesis 6: "The employee empowerment has a significant effect on engagement."

According to the path analysis pattern and the values in Table 4-35, the standard coefficient of employee empowerment path on engagement is the value of 0.023 (t= 1.43). Therefore, according to the t-distribution (t=|1.43|>1.96), H0 is rejected, so employee empowerment has no significant effect on engagement.

Table 4.35. Test of the hypothesis 1 of research

	Independent Variable	effect	Dependent Variable	t Statistics	Standard path coefficient	Result
H6	Empowerment	→	Employee engagement	1.43	0.078	Reject

(ns = no significant, *p <.05, **p <.01, ***p <.001)

4.4. Summary of Chapter

In the present chapter, after providing descriptive and demographic statistics of the respondents, the results of the collected data are described. Convergent and divergent validity tests as well as reliability and combined reliability tests were presented. Finally, the structural model and model quality test values were presented. Table 4.36 summarizes the results of confirming and rejecting the research hypotheses.

Table 4.36: Summary of Research Hypothesis Test Results

Hypothesis	Title	Impact type	Significant/ Not significant	Accept /Reject
1	The ISO 9001 standard is effective on employee empowerment	Positive	Significant	Accept
2	The ISO 9001 standard has a significant effect on employee competency	Positive	Not significant	Reject
3	The ISO 9001 standard is effective on the employee recognition	Positive	Significant	Accept
4	The employee recognition has a significant effect on engagement	Positive	Significant	Accept
5	The employee competency has a significant effect on engagement	Positive	Significant	Accept
6	The employee empowerment has a significant effect on engagement	Positive	Not significant	Reject

Chapter 5: Summarization and Discussion of the results

5.1. Introduction

In this chapter, the research results are summarized. In this regard, first the results related to descriptive statistics and then the results related to inferential statistics are presented. Also, the results of inferential statistics have been interpreted based on studies.

5.2. Descriptive statistics results

As mentioned, for the ISO 9001 index, eight criteria were considered. For customer focus on mean, in the two indices including CF1 and CF2, the consensus levels were 3.94 and 3.86, respectively showing that respondents based on the ISO 9001 standard believe that the two factors in the company were considered. Leadership was another of the ISO 9001 indices for which the mean of these two items indicates that respondents agreed on leadership in the ISO 9001 standard. In fact, in their opinions, the leadership performance was appropriate. The third index of the ISO 9001 standard, considered in this research, was the involvement of people. The mean of the two items is 3.52 and 3.58, respectively. In this regard, it can be stated that the index of involvement of people from the employees' point of view is weaker than the two indices of customer focus and leadership. Another of the ISO 9001 indices here is the process approach. The mean of both measured items for the process approach was 3.69. This means that from the perspective of respondents, the process approach can be effective in planning the process of organizational interactions and improving organizational performance. Continual improvement, another factors of ISO 9001 standard. The mean for the two items was 3.43 and 3.39, respectively. In fact, the mean indicates that the answers of the respondents tend to be ambiguous or indifferent. Therefore, it can be said that continual improvement has taken place in some of the pharmaceutical companies.

Communication management can be effective in the ISO 9001 standard to improve the quality management system. The mean of the two items were 3.54 and 3.53, respectively. This means that

although the frequency indicates most consensus of respondents on the effect of communication management item, this distinction was not so high and there was still ambiguity in communication management and implementation to improve the quality management system. For factual approach to decision making index the mean of the two items were 3.64 and 3.65, respectively. Therefore, it can state that factual approach to decision making can be effective in improving the quality management system from the point of view of respondents when applying the ISO 9001 standard. In implementing the ISO 9001 standard, the beneficial relationships of suppliers should also be considered by the organization or company. The means of the two items were 3.71 and 3.77, respectively, which shows that among the standard ISO 9001 indices, the most consensus was on the beneficial relationships between suppliers. In fact, beneficial relationship between suppliers have been a major attention for pharmaceutical companies in improving quality management systems.

Employee empowerment was evaluated as one of the main criteria for employee engagement based on five performance indices in: 1) Performing to perform job tasks; 2) Improving effort in job tasks; 3) effective collaboration; 4) efforts to improve work group; and 5) involvement at an organizational level. For the index of efficiency in performing job tasks the means for the two items were 3.49 and 3.45, respectively. In fact, it can be stated that although the effects of ISO 9001 standard on efficiency in performing job tasks were positive, the effect was somewhat weak. The indicator of improve effort at job tasks was also assessed based on two items. The mean for the two items were 3.78 and 3.71, respectively. Therefore, it can be said that most respondents consider the effect of ISO 9001 standard on empowerment of employees and especially the improvement of efforts in job tasks. It was also clear that among the employee empowerment indices, improvement in efforts in job tasks have high important. Because the mean items associated with this index were high. In the case of an effective cooperation index for the two items: 1) the willingness of the employees to work group, and 2) the improvement of employee collaboration were 3.72 and 3.69, respectively, indicating that the implementation of the ISO 9001 standard has increased the effectiveness of employee collaboration. The fourth indicator of employee empowerment was an effort to improve work group. By examining the mean of the two items, one can find that they were 3.57 and 3.88 respectively. In this regard, providing methods for improving collaboration by employees have been among the highest weight in items related to the employee empowerment. In fact, the larger consensus on the effect of ISO 9001 standard on

employee empowerment was for this item. The fifth and last index of employee empowerment was involvement at organizational level. The means for the two items were 3.72 and 3.74, respectively. Therefore, the ISO 9001 standard also had an acceptable effect on improving organizational involvement.

In order to investigate the effect of ISO 9001 on employee recognition, four ethical, humanistic, and existential, psychodynamics and behavioral outlooks were examined. In order to assess the ethical perspective and the effect of ISO 9001 standard on this index, two items were considered the mean of the two criteria were 3.61 and 3.64, respectively. In fact, it can be seen that, according to respondents, the implementation of the ISO 9001 standard in pharmaceutical companies has improved the ethical perspective of managers. For the humanistic and existential view, only one item was questioned. The mean response to this item was also 3.78, indicating that the ISO 9001 standard has a greater effect on humanistic and existential views than ethical perspective. The third index for employee recognition was psychodynamics education. The mean of the two items was 3.96 and 3.83, respectively. Based on this, it can be seen that despite the ISO 9001 standard, in pharmaceutical companies, psychodynamics education has been heavily influenced. The fourth index of employee recognition was behavioral outlook. The mean of the two items was 3.93 and 3.84, respectively, which shows that the behavioral outlook of the employees of the pharmaceutical companies were also heavily influenced by the ISO 9001 standard, as well as psychodynamics education.

The third criterion of employee engagement was employee competency, which was assessed based on three personal features of employees, level of skills and related knowledge of employees. For features of the employees, two items were mentioned. The mean of the two items related to the personal features of the employees were 3.84 and 3.83, respectively. Therefore, it can be seen that the ISO 9001 standard in pharmaceutical companies has a significant effect on employee features. In order to assess the level of skills, two items were investigated. The mean scores for the two items were 3.92 and 3.86, respectively. Accordingly, the positive effect of implementing the ISO 9001 standard on improving employee skills can be seen. The third index of employee competency was related knowledge. The means of the two mentioned items were 4.03 and 3.98 respectively. It can be said that among indices of employee competency, having the related knowledge has the highest weight.

After employee engagement was measured on the basis of three criteria for empowering employees, employee recognition and employee competency, it was time to consider employee engagement based on the designed items. Based on mean of each of the items it can be said that the promotion and transparency of occupational policies, high salaries for hard working conditions and responsibilities, equality and fairness among employees, employee satisfaction with workplace autonomy, and existence the close relationship between employees and senior management, respectively were important.

5.3. The results of inferential statistics

In order to understand the importance of the present study and considering topics of chapter four, we will interpret the results and compare them with previous research.

According to the path analysis pattern and the values, the standard coefficient of the ISO 9001 standard is based on the employee empowerment with a value of 0.46 and ($t= 12.24$). Therefore, according to t value of this path ($t=|12.24|>1.96$), with a probability of 95%, the no confirmation of the hypothesis H_0 and the confirmation of the hypothesis H_1 was concluded. In other words, there is a significant positive relationship between ISO 9001 standard and employee empowerment, which increases the employee empowerment by increasing one unit in the standard ISO 9001 variable. As a result, with the increase in the ISO 9001 standard, the employee empowerment increases. In other words, the standardized path coefficient between the ISO 9001 standard and employee empowerment suggests that the ISO 9001 standard explains 46% of the variations in employee empowerment.

The establishment of total quality management and involvement of professional, creative, and motivated employees in implementing it, will increase the efficiency of employees and the effectiveness and efficiency of the organization and will provide better service to customers and increase their satisfaction. When ISO 9001 is implemented in an organization, all its employees view themselves as experts, capable, efficient and effective, and consider themselves contributing to improving the quality and effectiveness of the organization. They should look at the organization with a qualitative vision and strive to maintain the quality of its organization's performance at the optimum level by providing executive strategies. This means that, basically, any empowerment program can lead to productivity, better service, and customer absorption. Employees also need to

feel that they are looking at the organization with a qualitative vision and their performance is evaluated, and this has a significant impact on increasing their competency.

Jun et al. (2006) stated that continuous improvement occurs when employees possess required information, and are trusted by management so that they can use their skills and abilities. Thus, empowerment does not just mean giving authority to employees; rather it causes improvement of employee performance by learning knowledge, skill, and motivation. Dervisios (2011) maintained that as much as the ISO 9001 quality management attributes are manifested in the organization, the same could be seen in increasing employee capacity. In other words, if the managers act on the parameters of ISO 9001, the ground will be provided for employees to strengthen the spirit of cooperation and culture of participation, to consider their work as important, to achieve the identity of the work, to understand their abilities, to recognize information resources, to have sense of independence by increasing their power of decision-making in their work. In addition, by using their own initiatives they can carry out business affairs, control work affairs, participate in determining goals, and feel the ability and mastery in doing their work. These characteristics are very important in organizational dynamism and excellence.

Mohammadi and Haddadnia (2016) found that total quality management has a positive and significant effect on employee effectiveness and competency. Fazeli and Rahimian (2013) showed that there is a positive and significant relationship between total quality management and innovation. Ahmadi et al. (2012) concluded that there is a positive and significant relationship between quality management, empowerment, and performance appraisal of employees of their target organization. Gilaninia (2010) clearly demonstrated the role of quality management in organizational performance and effectiveness. Edalati et al. (2012) concluded that leadership style plays an important role in empowering employees. Therefore, applying appropriate leadership style can increase employee competency. Hassan et al. (2012) showed that organizations with total quality management also have better performance. Dervisios (2011) concluded that organizations need to integrate total quality management in order to achieve innovation and maximum performance.

According to the path analysis pattern and the values, the standard coefficient of ISO 9001 standard is based on the employee competency with a value of 0.023 and ($t= 0.547$). Therefore, according

to T of this path ($t=|0.547|<1.96$), therefore, H0 is rejected and as a result, H1 is accepted. In other words, the ISO 9001 standard does not have a significant effect on employee competency.

Considering that productivity and quality are highly important for the companies, thus implementation of competency model for professional employees in the organization can improve production, productivity, cost reduction, profitability, and quality.

John MacDonald (2003) maintains that total quality management is the way of doing work based on cooperation, and utilizes capability and talents of managers and employees for continuous improvement of productivity quality in organization. In the quality management system (ISO 9001), employee competency is of paramount importance. In this way, the professional competence of employees based on parameters such as experience, training, skill, education, mental and intellectual capacity, abilities and attitude and preparation of employees for changes can lead to increase of productivity and continuous improvement of company's activities. Gravelle et al. (2005) state that successful organizations can absorb the best individuals with the best capability and competencies and use their services at the best organizational positions. Rana, (2014) states that in order to provide the best individuals, the organization must have a transparent management system, and if the performance appraisal methods are effectively managed and deployed successfully, they will increase the employee's long-term satisfaction and participation. Bourgault and Charih (2008) also found that higher participation of individuals in organization, their decision making, Robbins (2002) found that the organization would progress in its work by increasing professional competency and engagement of employees, leading to high productivity. Preeti (2011) stated that the higher is competency of managers in organization, human resource productivity is also increased, and technical skill, perceptual skill, diagnostic skill, communication skill, decision-making skill, and skill in time management cause increased productivity. Lotunani et al. (2014) investigated impact of competency on engagement and performance. Results of this research indicated that competency has positive and significant impact on employee engagement and performance. Bourgault and Charih (2008) also found that higher participation of individuals in organization, their decision making, Robbins (2002) found that the organization will progress in its work by increasing professional competency and engagement of employees, leading to high productivity. Preeti (2011) stated that the higher is competency of managers in organization, human resource productivity is also increased, and technical skill, perceptual skill, diagnostic skill,

communication skill, decision-making skill, and skill in time management cause increased productivity. Lotunani et al. (2014) investigated impact of competency on engagement and performance. Results of this research indicated that competency has positive and significant impact on employee engagement and performance. Kertahadi et al. (2013) indicated that professional competencies and organizational engagement of human resource positively and significantly influence their occupational performance.

Despite previous studies, we did not find a significant relationship between the implementation of the ISO 9001 standard and employee competence. In some working environments, the managers less recognize the competence of their employees (Jacob, 2001). Reluctance of managers in recognition of their employees' competence may result from their fear of inability to control employees, fear of creativity power of others, resistance toward equal relationships, and separation from real work of employees due to new managerial constraints (Hivon, 1996). On the other hand, competence of employees may be perceived as flattery. Finally, some authors (Brun & Dugas, 2002) referred to the fact that failure in implementation of employee competence approach is due to lack of time, skill, and knowledge in this regard.

According to the path analysis pattern and the values, the standard coefficient of ISO 9001 standard route is based on the employee recognition with a value of 49.50 and ($t= 13.27$). Therefore, according to T of this path ($t=|13.27|>1.96$), with a probability of 95%, the no confirmation of the hypothesis H0 and the confirmation of the hypothesis H1 was concluded. In other words, there is a significant positive relationship between the ISO 9001 standard and the employee recognition, which increases the employee recognition by increasing one unit in the standard ISO 9001 variable. As a result, with the increase in the ISO 9001 standard, the employee recognition increases. In other words, the standardized coefficient path between the ISO 9001 standard and employee recognition shows that ISO 9001 standard explains 49% of the variation for employee recognition.

At organizational level, the concern of employee recognition is expressed through policies and programs that indicate organization's determination for recognizing work done by members. Now we do not want to refer to objective moves of managers or employees, rather we want to mention structural elements of recognition (value, policy, mission, objective, etc.). If managers are obliged to develop expertise related to recognition and soft skills, the organizations should strengthen their notified instructions so that they are turned into practice from works.

Wider ranges of types of interactions are included in ways of recognition in workplace and increase employee satisfaction and improve organizational performance. Therefore, in our view, by creating vacancy for understanding the recognition on the vertical, horizontal, and external levels, the organizations take the first major step toward achieving cultural recognition. On the other hand, previous studies indicated that employee recognition constantly influence individuals and organizations as a management practice. Saunderson (2004) raised this idea that the need for recognition is felt by considerable part of the workforce regardless of employees' situation or profession. Grawitch et al. (2006) stated that employee recognition is key for preserving and constructing working identity of individuals, which leads to promoting work and helping their health and welfare. Dandeker (1990) considers recognition as a constructive alternative for management control and supervision, enhancing organizational change and performance. According to Brun and Dugas (2008), recognition strengthens individual cooperation in organization, which not only reflects improved performance of the company, but also leads to one's engagement and interaction, and ultimately, recognition causes engagement to organizational rules and order. On the other hand, quality management means that an organization changes its operations to focus on the customer and engage employees in their own issues. In this view, employees are recognized, which in turn results in improvement of processes of ISO 9001 implementation.

This thesis has explored the role of three indexes including employee empowerment, employee competency, and employee recognition on employee engagement, by means of the corresponding hypothesis.

According to the path analysis pattern and the values, the standard coefficient of the path to employee recognition on engagement is with the value of 0.15 ($t = 3.31$). Therefore, according to t Statistics of this path ($t = |3.31| > 1.96$), with a probability of 95%, the no confirmation of the hypothesis H_0 and the confirmation of the hypothesis H_1 was concluded. In other words, there is a significant positive relationship between employee recognition and engagement, so that by increasing one unit in the variable for employee recognition, the engagement increases by 0.15. As a result, with the increase in employee recognition, the engagement increases. In other words, the standardized coefficient of the path between employee recognition and engagement reflects the fact that employee recognition explains 15% of the variation of the engagement.

Employee recognition is considered as an essential component of employee motivation and engagement to work (Herzberg et al., 1959; McGregor, 1960; Vroom, 1964; Porter and Lawler, 1968). Porter and Lawler (1968) proposed specific model of internal characteristics and external motivation in the world of work. They acknowledged that organizational performance is determined by obtaining internal and external rewards. In addition, various studies have been conducted based on the theory that the rewarding motivation leads to prediction of organizational performance. However, the purpose of research on motivation is not anymore confined with achievement of better performance. This concept has evolved to respond to management's concerns about employee engagement. Richer et al. (2002) studied the turnover variable in their study. Locke (1997) examined the mental health at workplace, and employee recognition considered in study by in Browne 2000 studies; Franco et al., 2004; Saunderson 2004 was considered. Also, Nelson, in his book "1001 ways to reward employees," looked at the importance of employee recognition and rewards for motivating employees. Brun et al. (2004) showed that failure to recognize employees was the second most risk factor for distress and mental imbalance in the workplace. One of the most important sources of organizational unity and organizational engagement is recognition of employees (Wills et al., 1998; Tremblay et al., 2002). Recognizing employees plays a significant role in the success and continuity of organizational change (Atkinson 1994; Fabi et al. 1999; Evans 2001). Bennet et al. (1999) in a survey of construction industry in the United Kingdom, identified the recognition of employees' efforts as the most important factor for human resource management. This growing need for employee recognition is partly due to the social and organizational context.

According to the path analysis pattern and the values, the standard coefficient of employee competency path is on employee engagement is equal to the value of 0.15 ($t= 2.82$). Thus, according to T of this path ($t=|2.82|>1.96$), with a probability of 95%, the no confirmation of the hypothesis H0 and the confirmation of the hypothesis H1 was concluded. In other words, there is a significant positive correlation between employee competency and engagement, so that by increasing one unit in the employee qualification variable, the engagement increases by 0.15. As a result, with the increase in the employee competency, the engagement increases. In other words, the standardized coefficient of the path between employee competency and engagement reflects the fact that qualifications for 15% of variations explain the engagement.

Though engagement can be effective in improvement of employee performance, it seems it itself requires an appropriate mechanism for best manifestation. This mechanism is the professional competency. In this regard, Sami Jha (2011) concluded that there is positive significant relationship between competency and organizational engagement. Haiyan (2013) in a study showed that increasing the competencies of individuals increases their engagement and engagement to their jobs. Lotunani et al. (2014) investigated the impact of competency on engagement and performance. The results of this research showed that competency has a positive and significant effect on employees' engagement and performance. Shukla (2014) investigated the relationship between teaching competencies, professional engagement, and job satisfaction. The results of this study showed that there is a positive and significant relationship between all three variables. Kertahadi et al. (2013) showed that professional competencies and organizational engagement of human resources have a positive and significant effect on their job performance. In addition, other scholars have confirmed the relationship between competency and engagement (Preeti, 20011; Bogler & Somech, 2004).

According to the path analysis pattern and the values, the standard coefficient of employee empowerment path on engagement is the value of 0.023 ($t= 1.43$). Therefore, according to T of this path ($t=|1.43|<1.96$), the confirmation of the hypotheses H0 and no confirmation of the hypotheses H1 was concluded. In other words, employee empowerment has no significant effect on engagement.

Employee empowerment is one of the factors leading to prosperity, loyalty, and engagement of employees to work and organization. According to Grimsley (2018), empowerment is endowing autonomy, decision-making, and independence to employees in relation with their work and organization. When the employee is empowered, there is no need that the decisions are made by top management; rather they can also be made by lower-level employees.

Barou & Duclos (2003) maintain that employee empowerment requires that employees own some goals specified by the organization from them to be achieved, and this certainly will lead to higher engagement of employees in their workplace. When the employees are engaged and committed to the organization, they will be more creative and innovative, and their productivity is increased, and act beyond what is expected from them. The probability of leaving the organization by highly committed employees is very low because of the psychological attachment created by engagement.

As Kanter (1993) puts it, empowerment allows one to independently make decisions. This theory assumes that empowerment results in the engagement of employees to their work and the lack of empowerment of employees has a negative effect on them and a engagement to their work.

The other theory discussed in relation with this study is social exchange theory. Social exchange theory (Homans, 1954) assumes that if the organization shows it values its employees in adopting, them with their appropriate job, employees will stay in the organization and do their best for it. This theory states that people analyze their social relations according to the threats and benefits created by the relations. If the threats are more than the benefits of relations, it causes recession and stagnation.

The results indicate that employee empowerment in the pharmaceutical companies cannot lead to employee engagement. It can be because of higher authority for the more competent employees. In fact, when the employees are more empowered, the probability to accept proposals from the competing companies by the employees is increased. Because they can easily possess the employees with high abilities without training costs. Since the wages of employees in Iran are much lower than their livelihood, and permanent contracts rarely are concluded, thus, the companies do not gain any guarantee for increasing competence of employees and ultimately increasing employee engagement. Thus, this lack of insignificance is justifiable in this context.

Overall, considering review of previous studies it can be stated that the main task of human resource management is human resource planning. After tens of years of experience, the world has realized that if an organization intends to be leading in the economy and its working affairs and do not lag in competition, it must possess specialized and committed human resources. Human resources constitute the basis of real capital and wealth of an organization. Thus, an engaged employee every day does his or her best and is committed to the organizational goals and values. Employee engagement as an attitude is able to provide useful insight for the planning of organizations, increasing efficiency and performance, reducing absenteeism and delay for the managers. On the other hand, engaged human resource paves the way for development and growth of the organization, while human resources with low level of engagement and engagement is indifferent toward its job and organizational problems, and fails the organization in achievement of its ideals. Thus, increasing employee engagement brings about improved occupational performance.

Prajogo and Sohal (2003) found that ISO 9001 quality management system could increase organizational efficiency, because this system facilitates development of processes, and provides guidelines that can be easily followed by employees. It leads to improvement of transfers, training, and faultfinding processes. In addition, they reported that the listed companies could develop educational systems, and make their employees positively satisfied and motivate them. Research findings in this area (Guimaraes, 1996) indicate that TQM implementation in organizations leads to high satisfaction of employees, their higher participation in their job, higher engagement to the organization, and tendency to stay in the organization. Mc Adam and Bannister (2001) showed that the implementation of total quality management provides appropriate physical and non-physical environment in organizations leading to reduced employee absenteeism. In another study by Boselie and Vander Wide (2002) it is reported that perception of the employees about various activities of quality management leads to high satisfaction, low absenteeism and high organizational engagement.

Koch and Stears (1998) maintain that measurement and understanding of occupational engagement provides useful information for occupational planning by the managers, and helps coordination and integration of the individual and business resources. The managers must maintain the engagement and engagement of their employees to the organization, which can be realized by using employee participation in decision-making and providing a satisfactory level of job security for them.

5.4. Summary of Chapter

In this chapter, we examined the results obtained from testing various research hypotheses. In summary, the results of the hypothesis test showed that ISO 9001 has a significant effect on employee empowerment and employee recognition. However, the impact of ISO 9001 on employee competency is not significant. In addition, employee recognition and the employee competency had significant impact on the employee engagement.

Chapter 6: Conclusion and Recommendations

6.1. Introduction

Rapid economic growth and globalization over last two decades have been associated with considerable increase in publication of international management standards at a wide range of economic activities especially quality management system (QMS) based on ISO 9001 standard. The adoption of such standards and practices is likely to have an effect on human resources attitudes, such as employee engagement. Personal attitudes are related to the personality, motivation, and other individual processes in the organizational environment. In fact, attitudes include one's tendency or readiness for responding to a desirable or undesirable factor. The attitudes represent the mix of emotions and evaluation toward the individuals, objects, and concepts available in our surrounding world. Employee engagement, in particular, is often defined as an emotional attachment to the organization so that the employees feel identified with the organization, get involved, and enjoy their participation and membership in the organization. These positive associations are the reason why it is assumed and proved that employee engagement has a positive effect on organizational performance.

Given the relevance and usefulness of employee engagement for organizational performance and the recent spread of the ISO 9001 standard, this thesis argues and explores the effect of ISO 9001 adoption on engagement by means of employee empowerment, competency and recognition.

In the current research, first generalities of research were addressed in the first chapter. In other words, the problem was described and stated, and then the research goals and hypotheses were pointed out, and the research method and statistical data were presented. In the second chapter, theoretical foundations and reviewed literature on the research subject were presented, first the foundations of quality management followed by the grounds of employee engagement. The research method was explained in the third chapter. The results of the empirical analysis were provided and analyzed in the fourth chapter. The interpretation of the results in the fifth chapter was also examined. In the current chapter, research findings are reviewed. In addition, some research limitations are stated, and recommendations are provided for the future works.

6.2. Summary of Research

In the past few decades, ISO 9001 quality management and human resources are major issues in business and management research, due to their potential impact on a range of individual and organizational outcomes. In this regard some analysts believe that only a combination of human resource management and ISO 9001 quality management will enable the organization to survive in the future.

The significance of human resources management culture has caused that ISO 9001 quality management has grown more than ever because of its impact on the spirit of employees and their occupational engagement. The occupational engagement of employees is probably influenced by various aspects of quality management, which is important due to influencing the organizational performance. Implementing the requirements of a quality management system in any organization will stimulate its ability to deliver products and services that are desirable to the customer. Actually, the goal of deploying ISO 9001 system is to increase customer satisfaction, and improve organizational and employee performance. Further, with a practice-oriented view, we must note that one of the eight quality management principles in ISO 9001 is actually employee engagement. Moreover, this standard specifically requires the organization to ensure that the personnel are aware of the relevance and significance of their activity and their contribution to the achievement of quality goals. A lack of quality in the businesses and a lack of occupational engagement among the employees is likely to result in some problems such as the lack of sustained goals, the absence of cooperation and participation among employees, an emphasis on short-term goals and benefits instead of attention to the customer needs and expectations, and probably a negligence in the competencies and performance of employees.

From an academic perspective, as per the author's knowledge, there is a lack of research works about the impact of ISO 9001 quality management on the occupational engagement of employees, in spite of the relevance of the topic. To address this gap, the purpose of the current research is identifying the effects of ISO 9001 standard on the employee engagement.

In new and contemporary management, employee engagement is of high importance because engagement and adherence can have many positive consequences. Employees with a job engagement have more discipline in their work, stay longer in jobs, and work more, and this will increase productivity and expand market orientation. Furthermore, awareness of the level of

employee engagement to the jobs can be a good basis for decision of managers at the various stages of the human resources management process. Therefore, quality management should be considered not only as a set of technological engineering changes, but also as part of the organizational general strategy. In this case, organizations can achieve high performance with the help of designing quality of goods and services, and ensuring quality during processes, using methods for prevention of product wasting, control tools, fair use of quality information such as customer feedback, modeling, etc. In order to implement these strategies, the organization should be customer-oriented, and preserve the competencies of its employees. It should also have reliable and flexible suppliers and enhance participation and engagement of employees in decision-making process through training and empowerment.

In order to investigate the role of ISO 9001 on employee's engagement, the literature identifies three main determinants: 1) employee empowerment; 2) employee competence; and 3) employees' recognition.

Findings by Hongyi (2000) indicated that HRM measures do not influence directly the performance of an organization, rather these measures help the enhancement of characteristics in human resources, and ultimately, lead to value creation in the organization. Thus, empowerment is needed for having such individuals. Empowerment refers to an internal feeling in individuals that enables them to independently adopt their decisions in their working process. Human resource empowerment is one of the most amazing approaches of human resource development, which leads to human resource literacy and prosperity of organization. It is argued that increasing speed and accuracy in the achievement of practical measures in the transformation of human resources into a powerful engine for driving organizational excellence is recommended to leaders and executives of organizations. On the other hand, organizations have recently adopted quality management strategies so that they can well utilize the ability of employees in administrating affairs and improve employee effectiveness. In fact, quality management (ISO 9001) is regarded as an improvement in traditional ways of working and doing business to ensure the survival in the current competitive world.

The second driver of employee engagement is employee competency. After the paper of Lawler (1986), the importance of the concept of competency in organizations has increased. He investigated evolutionary trends of organizations, from job-based organizations to competency-

based organizations, by observing that an increasing number of organizations use competency-based HRM approaches. Considering its different usage and application in different approaches, the concept of competency requires explanation and conceptual interpretation. In occupational strategies, competency-orientation is stated as the tool of competition, while human resource management, specifically focuses on definitions, recruitment, selection, and development of individual competency. Considering that productivity and quality are highly important for companies, the implementation of a competency model for professional employees in the organization can improve production, productivity, cost reduction, profitability, and quality.

The third driver of employee engagement is the recognition of employees. At organizational level, the concern of employee recognition is expressed through policies and programs that indicate organization's determination for recognizing the work done by its members. In this study we want to mention structural elements of recognition (value, policy, mission, objective, etc.). If managers are obliged to develop expertise related to recognition and soft skills, the organizations should strengthen their notified instructions so that they are turned into practice. Recognizing employees can also be improved through a quality management system (QMS).

In order to study the problem, the initial research hypotheses were developed as follows:

Hypothesis 1: "The ISO 9001 standard is effective on employee empowerment."

Hypothesis 2: "The ISO 9001 standard has a significant effect on employee competency."

Hypothesis 3: "The ISO 9001 standard is effective on the employee recognition."

Hypothesis 4: "The employee recognition has a significant effect on engagement."

Hypothesis 5: "The employee competency has a significant effect on engagement."

Hypothesis 6: "The employee empowerment has a significant effect on engagement."

In order to test the above hypotheses, a sample of 600 respondents among the employees of five pharmaceutical companies were selected and collected. The companies included are: (1) Razi Vaccine and Serum Research Institute (2) Daine Daru, (3) Pasteur Institute, (4), Abidi Pharmaceutical Company, and (5) Razak Laboratory. The responses were collected during the months of February to April 2018. Also, research variables were collected based on a questionnaire. It should be noted that scientific and library archives were referred for designing

the questionnaire. Because of the objectives of the research and the formulation of hypothesis, this applied research is descriptive and inferential. To this end, following evaluating the validity and reliability of the designed questionnaire, the relationship between variables was investigated based on structural equations and partial least squares (PLS). Then the results were analyzed. In the following, the arguments for the compilation of each of the hypotheses will be discussed and the results obtained from the analysis of the research hypotheses are presented.

This study contributes to the research literature in several ways. As noted, various aspects of employee engagement, including employee competency, employee empowerment, and employee recognition, have been examined in various studies. But despite the fact that ISO 9001 is recognized as one of the main indicators of product and service quality, its impact on employee engagement indicators has not yet been studied. The results of this study show that ISO 9001 has an effect on employee empowerment and recognition. But it does not affect the employee competency in Iranian pharmaceutical companies.

Also, in this study, the role of ISO 9001 on employee engagement through the three channels identified, namely recognition, empowerment and competence, has been investigated, which has not been considered in previous studies. In fact, after examining the impact of ISO 9001 indicators on each of the variables based on the models presented in various studies, it should be seen how the three indicators of employee recognition, empowerment and competence can affect employee engagement. This impact will eventually lead to the recognition of the main factors affecting the increase of employee engagement and ultimately improve the overall performance of the organization.

Another issue that should be noted is that in previous studies, different models have been used to examine the three indicators of recognition, empowerment and competence of employees. This study, after reviewing the various models that have been studied in the research literature, has tried to select the best and most comprehensive model in order to examine all aspects related to the research variables.

Finally, another issue that helps to conduct this research is that in Iran and third world countries, in principle, the engagement of employees and the indicators affecting it may be different from developed countries, which have been the target of most extant research. Therefore, conducting this study in Iranian pharmaceutical companies can be of use in two senses, to better understand

and manage the role of ISO 9001 in employee engagement, and ultimately to help pharmaceutical companies to improve performance in the face of global competition.

6.3. Research Limitations

Any attempt to achieve a goal is always accompanied by some limitations that may cause lag in achievement of the respective goal. The research, as a process for achievement of the goal of problem solving, is not an exception. Hence, in this part of the research, the research limitations are described so that the audience is better informed of the generalizability of the findings, to ultimately have a better judgment of the research process. To this end, the research limitations can be described as follows:

- a) Considering the large number of questions (despite of shortening the questionnaire as much as possible), respondents may lose the necessary attention and accuracy for answering them due to fatigue. On the other hand, the number of questions could still be insufficient to explain each of the indexes.
- b) The conceptual misunderstandings of respondents when completing the questionnaire are another risk that can affect the results of the research. In fact, although attempts have been made to ask the questions clearly and the validity of the questions has been confirmed, it cannot be ignored that some respondents may not have a sufficient understanding of the questions.
- c) The time domain of the present study was 2018. Therefore, the generalization of the results to other periods should be carried out with caution. Because the growth of quality management systems will be faster during different years, the results might be time-sensitive and thus changed.
- d) One of the things that should be considered is to what extent the results of the research can be generalized to other employees working in other public and private organizations. This study is from Iran and with pharmaceutical companies. Both contexts could be a limit to generalization.
- e) One of the limitations of the present study is that the study has been studied only in a specific country (Iran) and in an industry (pharmaceutical industry) and generalizing the results to other industries and countries may be limited.

However, our belief is that none of these limitations led to a significant disturbance of the results, and did not compromise the internal and external validity.

6.4. Research Recommendations

In this section, two groups of recommendations are proposed based on the research results and findings. First, the recommendations that are hoped to be helpful for managers in pharmaceutical companies in decision-making. Second, the recommendations for the future research works that can be useful for working on this research subject.

6.4.1. Research Applied Recommendations

Considering the role of ISO 9001 in employee empowerment, the members of the board of directors and directors of Iranian companies (especially pharmaceutical companies) are suggested to pay more attention to quality management standards, especially ISO 9001 standard, as well as the implementation of this standard in companies without ISO 9001 standard to improve the ability of employees for their empowerment. It ultimately will increase workforce productivity, and lead to overall success of the company or organization. Because when an ISO 9001 is deployed in an organization, all its employees perceive themselves as expert, capable, efficient, and effective, and participate in the quality of their organization. For improvement of the organizational performance, managers need to look at the organization with a qualitative vision and try to maintain the quality of its organization's performance at the optimal level, by providing executive strategies.

Human resources management measures do not influence organizational performance directly; rather these measures help the promotion of characteristics of human resources and finally lead to value creation in the organization. Thus, it is suggested that the organization employs individuals that can provide the best use of advanced technology and discover innovations that can improve their products and services.

Human resources empowerment is regarded as one of the most wonderful approaches of human resource development, which leads to human resource training and ultimately leads to organizational development. It is argued that increasing the speed and accuracy of the success of practical actions in the transformation of human resources is a powerful engine for driving

organizational excellence; it is recommended to the leaders and executives of any organization, and especially relevant in pharmaceutical companies.

Quality Management (ISO 9001) is a collaborative work-based approach and utilizes the capabilities of the team and its staff to further improve the quality of productivity in the organization. Therefore, ISO 9001 is expected to affect employee empowerment in the organization. It can also be argued that the adoption of total quality management and the involvement of professional, creative, and motivated staff in implementing it will increase the efficiency of employees, the effectiveness and efficiency of the organization, and a better service to the customers, which will increase their satisfaction.

Given the role of ISO 9001 in employee recognition, at organizational level, the concern of employee recognition is expressed through policies and programs that indicate the organization's determination for recognizing the work done by members. To this end, paying attention to the structural elements of recognition including value, policy, mission, goals, etc., is suggested.

If managers are obliged to develop expertise related to recognition and soft skills, the organizations should strengthen their notified instructions, so that they are turned into practice. Thus, the interactions for recognition relations that happen among managers, employees, or team are important.

Reluctance of managers in recognition of their employees may result from their fear of inability to control employees, fear of creativity power of others, resistance toward equal relationships, and separation from real work of employees due to new managerial constraints. Failure in implementing recognition measures is usually due to the lack of time, skill, and knowledge in this area. Thus, it is suggested that with an optimal implementation of ISO 9001 standard, employee recognition is embraced, eliminating success obstacles and improving organizational productivity.

By employing ISO 9001 standard, a broader range of types of interactions are included in ways of recognition at the workplace. Recognition in turn increases employee satisfaction and improves organizational performance. Therefore, in our view, by creating holes for understanding the recognition on the vertical, horizontal, and external levels, organizations take the first major step toward achieving cultural recognition.

Employee recognition is the key for preserving and constructing working identity of individuals, which leads to promoting work and helping their health and welfare. Recognition is a constructive alternative for the management control and supervision. In addition, it strengthens the change and performance of organizations. Moreover, employee recognition causes one's cooperation in organization, which not only reflects improved company performance, but also leads to one's engagement and interaction, and ultimately, recognition results in engagement toward the organizational rules and order. In this view, employees are recognized, which in turn results in improvement of processes of ISO 9001 implementation.

Finally, the social component is related to the relationship of an organization and its employees with the society as well as the relationships of society with different businesses and professions. Recognition is also expressed in the voluntary spirit that is shaped by acknowledging the needs of their societies. This type of expression can also be thought of as a way of giving back to the community.

6.4.2. Recommendations for Future Research

This thesis leads to formulating the following lines as future works:

- Acknowledging the components of employee engagement and the role of ISO 9001 in them, it is suggested that the factors affecting research indexes are ranked based on AHP and TOPSIS methods. This will lead to the adoption of more accurate decisions for planning and realization of decisions.
- Since the employee engagement indexes also influence implementation of the ISO 9001 standard, it is suggested that future studies are carried out regarding the mutual interaction of employee engagement and ISO 9001.
- The family and work enrichment are one of the issues that may influence employee engagement. Hence, paying attention to the role of ISO 9001 on employee engagement considering outcomes of family and work enrichment in future works is interesting and overlooked.

6.5. Summary of Chapter

In this chapter, after reviewing the subject of research and recalling its related hypotheses, based on the research results, recommendations were made for the managers of the pharmaceutical companies, other companies and for future research.

Reference

- Adam, E. E., Corbett, L. M., Flores, B. E., Harrison, N. J., Lee, T. S., Rho, B. H., ... & Westbrook, R. (1997). An international study of quality improvement approach and firm performance. *International Journal of Operations & Production Management*.
- Adina-Petruța, P., & Roxana, S. (2014). Integrating six sigma with quality management systems for the development and continuous improvement of higher education institutions. *Procedia-Social and Behavioral Sciences*, 143, 643-648.
- Adler, P. S. (1999). Building better bureaucracies. *Academy of Management Perspectives*, 13(4), 36-47.
- Afthanorhan, W. M., & Ahmad, S. (2014). Path analysis in covariance-based structural equation modeling with Amos 18.0. *European Journal of Business and Social Sciences*, 2(10).
- Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. *Decision sciences*, 27(1), 23-56.
- Ahmadi, Sh., Jahromi, A. and Zarei, S. (2012). The relationship between quality management with empowerment and performance evaluation, a new approach to educational management. 4(22), 23-42.
- Ahmed, A. O., & Idris, A. A. (2020). Examining the relationship between soft total quality management (TQM) aspects and employees' job satisfaction in "ISO 9001" Sudanese oil companies. *The TQM Journal*.
- Alghamdi, F. (2018). Total quality management and organizational performance: A possible role of organizational culture. *International Journal of Business Administration*, 9(4), 186-200.
- Allport, G. W. (1933). 1. Attitudes. terminology, 219.
- Alolayan, S., Hashmi, S., Yilbas, B., and Hamdy, H.(2013).An Empirical Evaluation of the ISO 9001 Quality Management Systems for Certified Work Organizations in Kuwait as Benchmarked against Analogous Swedish Organizations .*Journal of Service Science and Management* , 6(1), 80-95.
- Al-Rawahi, A. M., & Bashir, H. A. (2011). On the Implementation of ISO 9001:2000: A Comparative Investigation. *The TQM Journal*, 23(6), 673-687.
- Anderson M., Sohal A.S.; A study of the relationship between quality management practices and performance in small businesses; *International Journal of Quality and Reliability Management*; Vol.16, No.9, 1999.
- Chiarini, A. (2011). Integrating lean thinking into ISO 9001: a first guideline. *International Journal of Lean Six Sigma*.
- Andreoli, M. D. A., Oliveira, T. C. D., & Fonteles, D. S. R. (2020). An outlook of behavioral interventions to treat stress and anxiety in athletes: literature review. *Cadernos de Pós-Graduação em Distúrbios do Desenvolvimento*, 20(1), 85-115.
- Androniceanu, A. (2017). The three-dimensional approach of Total Quality Management, an essential strategic option for business excellence. *Amfiteatru Economic*, 19(44), 61-78.
- Anitha, J. (2014). Determinants of employee engagement and their impact on employee performance. *International journal of productivity and performance management*.

- Antony, J., Leung, K., Knowles, G. and Gosh, S. (2002), "Critical success factors of TQM implementation in Hong Kong industries", *International Journal of Quality and Reliability Management*, Vol. 19 No. 5, pp. 551-66.
- Aon Hewitt, A. (2011). *Trends in Global Employee Engagement*. Aon Plc. Consulting and Talent Organization. 1-15.
- Appelbaum, S.H., and Kamal, R. (2000), "An Analysis of the Utilization and Effectiveness of Non-financial Incentives in Small Business," *The Journal of Management Development*, 19, 9/10, 733–763.
- Aquino, K., Lewis, M.U., and Bradfield, M. (1999), "Justice Constructs, Negative Affectivity, and Employee Deviance: A Proposed Model and Empirical Test," *Journal of Organizational Behavior*, 20, 1073–1091.
- Armstrong, M. (2014). *Armstrong's Handbook of Human Resource Management Practice*. Thirteenth Edition. Kogan Page Publication.
- Arshadi, N. & Hayavi, G.h. (2013). "The Effect of Perceived Organizational Support on Affective Commitment and Job Performance: Mediating role of OBSE", *Procedia-Social and Behavioral Sciences* 84(1), 739-743.
- Atkinson, C. (1994), "Continuous Improvement: The Ingredients of Change," *International Journal of Contemporary Hospitality Management*, 6, 1, 6–8.
- Avolio, B. J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 25(8), 951-968.
- Baroch, V., Duchon, B., Faifrova, V., & Riha, Z. (2012). *Teaching Management at Technical Universities Business Reality in the Academic Environment*.
- Barou, J., & Duclos, J. C. (2003). *Un air de famille*.
- Baruch, Y. (1997). High technology organization-what it is, what it isn't. *International Journal of technology management*, 13(2), 179-195.
- Beaumont, C., Fullsack, P., & Hamilton, J. (1994). Styles of crustal deformation in compressional orogens caused by subduction of the underlying lithosphere. *Tectonophysics*, 232(1-4), 119-132.
- Bennet, J.F., Davidson, M.J., and Gale, A.W. (1999), "Women in Construction: A Comparative Investigation into the Expectations and Experiences of Female and Male Construction Undergraduates and Employees," *Women in Management Review*, 14, 7, 273–279.
- Bernardo, M., Simon, A., Tarí, J. J., & Molina-Azorín, J. F. (2015). Benefits of management systems integration: a literature review. *Journal of Cleaner Production*, 94, 260-267.
- Bishop, J. (1987), "The Recognition and Reward of Employee Performance," *Journal of Labor Economics*, 5, 4, 36–56.
- Black, S. A., & Porter, L. J. (1996). Identification of the critical factors of TQM. *Decision sciences*, 27(1), 1-21.
- Boaden, RJ 1997, 'What is total quality management ... and does it matter?', *Total Quality Management (Print)*, vol. 8, no. 4, pp. 153-171.

- Bogler, R. & Somech, A. (2004). "Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools", *Teaching and Teacher Education*, 20(2), 277-289.
- Boiral, O. (2012). ISO 9000 and organizational effectiveness: A systematic review. *Quality Management Journal*, 19(3), 16-37.
- Boon, K. L., Grainger, R. J., Ehsani, P., Barrass, J. D., Auchynnikava, T., Inglehearn, C. F., & Beggs, J. D. (2007). prp8 mutations that cause human retinitis pigmentosa lead to a U5 snRNP maturation defect in yeast. *Nature structural & molecular biology*, 14(11), 1077-1083.
- Boselie, P., & Wiele, T. V. D. (2002). Employee perceptions of HRM and TQM and the effects on satisfaction and intention to leave. *Managing Service Quality*, 12, 165-172.
- Boulter, L., & Bendell, T. (2002). How can ISO 9000: 2000 help companies achieve excellence?. *Measuring business excellence*.
- Bourcier, C., Palobart, Y., & Rio, E. Y. (1997). La reconnaissance: un outil de motivation pour vos salariés.
- Bourgault, J.; Charih, M; Maltais, D. (2008). "Hypotheses concerning the prevalence of competencies among Government executives, According to three organizational variables". *Public personal management*, 35(2) , 88-114.
- Boyatzis, R. E. (2008). Leadership development from a complexity perspective. *Consulting Psychology Journal: Practice and Research*, 60(4), 298.
- Bravi, L., Murmura, F., & Santos, G. (2019). The ISO 9001: 2015 quality management system standard: Companies' drivers, benefits and barriers to its implementation. *Quality Innovation Prosperity*, 23(2), 64-82.
- Breja, S. K., Banwet, D. K., & Iyer, K. C. (2016). Towards sustainable excellence: strategic analysis of Deming Prize winning companies. *The TQM Journal*.
- Brown, H. D. (2000). *Principles of language learning and teaching (Vol. 4)*. New York: Longman.
- Brun, J. P., & Dugas, N. (2002). *La reconnaissance au travail: une pratique riche de sens*. Québec: CSST.
- Brun, J. P., & Dugas, N. (2008). An analysis of employee recognition: Perspectives on human resources practices. *The International Journal of Human Resource Management*, 19(4), 716-730.
- Brun, J. P. (1999). Une question d'identité... une question de dignité humaine.. propos recueillis par Chantal Hivon, *Échange*, 13(2), 2-4.
- Brun, J. P., Biron, C., & Ivers, H. (2004). Évaluation de la santé mentale au travail: une analyse des pratiques de gestion des ressources humaines. *Archives des Maladies Professionnelles et de l'Environnement*, 65(2-3), 131-132.
- Buckingham, M. & Coffman, C. (2001). *Manager contre vents et marées. Développer les talents dans l'entreprise: une enquête exceptionnelle de Gallup auprès de 80000 managers*.
- Byham, W. C., & Moyer, R. P. (2005). *Using competencies to build a successful organization [Monograph]*. Retrieved May, 7.
- Byham, W. C. (2006). *Developing Dimension/Competency-Based Human Resource Systems: A Monograph*.

- Byrne, B. M. (2013). Structural equation modeling with EQS: Basic concepts, applications, and programming. Routledge.
- Cardy, R. L., & Selvarajan, T. T. (2006). Competencies: Alternative frameworks for competitive advantage. *Business Horizons*, 49(3), 235-245.
- Carpentier-Roy, M. C. (2000, November). Etre reconnu au travail: nécessité ou privilege?. In conférence, actes du colloque Travail, reconnaissance et dignité humaine, Québec.
- Carter, J. T. (2009). Managers empowering employees. *American Journal of Economics and Business Administration*, 1(2), 41.
- Castellano, G. (2015). A new Framework For Employee Engagement. EPE WHITE PAPER.
- Caupin. (2006). ICB – IPMA Competence Baseline, version 3.0. International Project. Management Association 2006.
- Chanlat, J-F. (1998), Sciences sociales et management; plaidoyer pour une anthropologie gé'ne'rale, Ste-Foy- France: Les Presses de l'Universite' Laval/E' ditions Eska.
- Chen, N. T., Clarke, P. J., MacLeod, C., & Guastella, A. J. (2012). Biased attentional processing of positive stimuli in social anxiety disorder: An eye movement study. *Cognitive Behaviour Therapy*, 41(2), 96-107.
- Chiarini, A., Castellani, P., Rossato, C., & Cobelli, N. (2020). Quality management internal auditing in small and medium-sized companies: an exploratory study on factors for significantly improving quality performance. *Total Quality Management & Business Excellence*, 1-21.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling.
- Clot, Y. (1999), *La fonction psychologique du travail*, Paris: Presses universitaires de France.
- Cochran, G. R., B. S., M. S. (2009). Ohio State University Extension Competency Study: Developing a Competency Model for a 21st Century Extension Organization Dissertation for Degree of Doctor of Philosophy in the Graduate School of The Ohio State University.
- Collerette, P., Schneider, R., and Legris, P. (2001), "La gestion du changement organisationnel: changer dans la turbulence", *ISO Management Systems*, October, 38–45, available online at: http://www.scc.ca/sales/ims01_2001_f.pdf.
- Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of management review*, 13(3), 471-482.
- Conti, M., Andersen, C. B., Richard, F., Mehats, C., Chun, S. Y., Horner, K., ... & Tsafiriri, A. (2002). Role of cyclic nucleotide signaling in oocyte maturation. *Molecular and cellular endocrinology*, 187(1-2), 153-159.
- Cook, D. A., & Beckman, T. J. (2006). Current concepts in validity and reliability for psychometric instruments: theory and application. *The American journal of medicine*, 119(2), 166-e7.
- Cook, S. (2008). *The essential guide to employee engagement: better business performance through staff satisfaction*. Kogan Page Publishers.
- Cooper, S & Lawrence, E & Kierstead, J & Lynch, B & Luce, s(1998). Competencies. <http://www.refa.de/INTERNATIONAL/cbt-hp.htm>.

- CROP (1999). Public Service Employee, Organizational report, accessed November 2007 from: www.survey-sondage.gc.ca/cddata/02/150/529/result-f.htm
- Dandeker, C. (1990), *Surveillance, Power and Modernity*, Cambridge: Polity Press.
- Dany, F., and Livian, Y-F. (2002), *La nouvelle gestion des cadres: employabilité, individualisation et vie au travail*. (2nd ed.), Paris: Vuibert.
- Davari, A., & Rezazadeh, A. (2013). Structural equation modeling with PLS. *Tehran: Jahad University*, 215(2), 224.
- De Jonge, J., Bosma, H., Peter, R., and Siegrist, J. (2000), "Job Strain, Effort Imbalance and Employee Wellbeing: A Large Scale Cross-sectional Study," *Social Science & Medicine*, 50, 9, 1317–1327.
- De Konink, T. (1999). Dignite et Respect de la Personne Humaine (Dignity and Respect for the Person', in D. Blondeau (ed.), *Ethique et Soins Infirmies (Ethics and Nursing)*.
- Deci, E., and Ryan, R. (2000), "The 'What' and 'Why' of Goal Pursuits: Human Needs and the Selfdetermination of Behaviour," *Psychological Inquiry*, 11, 4, 227–268.
- Dejours, C. (2000), "Preface," in *Le travail et ses malentendus; enquêtes en psychodynamique du travail au Que'bec*, eds. M. Carpentier-Roy, and M. Ve'zina, Ste-Foy: Les Presses de l' Universite' Laval, pp. 9–18.
- Dejours, C. (2000). *Travail. Usure mentale*, 3.
- Dervisios,k.n.(2011), the challenge of adaptation through innovation based on the quality of the innovation process, total quality management and busing less excellence 212(5), 553-566.
- Dingle, R. V. (1995). Continental shelf upwelling and benthic Ostracoda in the Benguela System (southeastern Atlantic Ocean). *Marine Geology*, 122(3), 207-225.
- Do Valle, P. O., & Assaker, G. (2016). Using partial least squares structural equation modeling in tourism research: A review of past research and recommendations for future applications. *Journal of Travel Research*, 55(6), 695-708.
- Donzelli A, Walsh (2006) . Introducing competency management at ESA. *ESA Bulletin 2006*; (ISSN 0376-4265), 126:72 – 76.
- Draganidis, F., & Mentzas, G. (2006). Competency based management: a review of systems and approaches. *Information management & computer security*.
- Drucker, P. F. (2011). Why management consultants. *The evolving science of management*, 475-478.
- Dutton, G. (1998). The Re-enchantment of Works, *Management Review*, 87, 2, 51–54.
- EFQM. (2012). *EFQM Excellence Model 2013*. Brussels: EFQM Representative Office.
- EFQM. (2019). *The EFQM Model*. Brussels: EFQM.
- Elmuti, D., & Kathawala, Y. (1997). An overview of benchmarking process: a tool for continuous improvement and competitive advantage. *Benchmarking for Quality Management & Technology*, 4(4), 229-243.
- Elmuti, D., & Kathawala, Y. (1997). An investigation into the effects of ISO 9000 on participants' attitudes and job performance. *Production and inventory management Journal*, 38(2), 52.

- Ennis, C. D. (2014). The role of students and content in teacher effectiveness. *Research quarterly for exercise and sport*, 85(1), 6-13.
- Epstein, M. J., Elkington, J., & Herman, B. (2018). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge.
- Etzioni, A. (1961). *A Comparative Analysis of Complex Organization*, Free Press N.Y.
- Evans, R. (2001), *The Human Side of School Change; Reform, Resistance, and the Real-life Problems of Innovation*, San Francisco, CA: Jossey-Bass.
- Fabi, B., Martin, Y., and Valois, P. (1999), "Favoriser l'engagement organisationnel des personnes oeuvrant dans des organisations en transformation; quelques pistes de gestion prometteuses," *Gestion*, 23, 3, 102–113.
- Fazeli, Amir; Kamalian, Amin Reza; Roshan Aligholi.(2013) *Ethical Leadership Relationship With Student Capabilities*. *Journal of Ethics in Science and Technology*
- Ferguson, C. J. (2007). The good, the bad and the ugly: A meta-analytic review of positive and negative effects of violent video games. *Psychiatric quarterly*, 78(4), 309-316.
- Fetterman, David (2005) *Empowerment Evaluation Principles in Practice*. books.google.com
- Flick, U. (2015). *Introducing research methodology: A beginner's guide to doing a research project*.
- Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations management*, 11(4), 339-366.
- Forest, M. (2001), "Pourquoi les meilleurs viendraient-ils avec nous?", conference lecture in, *Oser de'ouvrir, transformer, cre'er; une vision humaniste de l'organisation du travail*, CHUQ, Quebec, Canada.
- Fornell, C., & Larcker, D. F. (1981). *Structural equation models with unobservable variables and measurement error: Algebra and statistics*.
- Foy, N. (1997). *Empowering people at work*. Gower
- Franco, J. C., Suma, P., Da Silva, E. B., Blumberg, D., & Mendel, Z. (2004). Management strategies of mealybug pests of citrus in Mediterranean countries. *Phytoparasitica*, 32(5), 507.
- Franco, L. M., Bennett, S., Kanfer, R., & Stubblebine, P. (2004). Determinants and consequences of health worker motivation in hospitals in Jordan and Georgia. *Social science & medicine*, 58(2), 343-355.
- Freudenberg, R & Lavy, H (2004). *competency modeling*. <http://www.training.fema.gov/emiweb/edu>
- Fuentes, M. M. F., Montes, F. J. L., & Fernandez, L. M. M. (2006). Total quality management, strategic orientation and organizational performance: the case of Spanish companies. *Total Quality Management & Business Excellence*, 17(3), 303-323.
- Gagnon, M.J. (1996), *Le travail: une mutation en forme de paradoxes*, Ste-Foy: Les Presses de l'Universite' Laval.
- Gallup, A., Gallup, A. M., & Newport, F. (Eds.). (2006). *The Gallup Poll: Public Opinion 2005*. Rowman & Littlefield.
- Gangani McLean, Braden A.(2006). *Competency-Based Human Resource Development Strategy*. *Performance Improvement Quarterly* 2006; 19 (1): 127- 140.

- García-Alcaraz, J. L., Montalvo, F. J. F., Sánchez-Ramírez, C., Avelar-Sosa, L., Saucedo, J. A. M., & Alor-Hernández, G. (2019). Importance of organizational structure for TQM success and customer satisfaction. *Wireless Networks*, 1-14.
- Gefen, D., Rigdon, E. E., & Straub, D. (2011). Editor's comments: an update and extension to SEM guidelines for administrative and social science research. *Mis Quarterly*, iii-xiv.
- Geldhof, G. J., Bowers, E. P., & Lerner, R. M. (2013). Special section introduction: Thriving in context: Findings from the 4-H study of positive youth development.
- Ghadiri, A., Deldar Bahari, M., Arab Bafranit, F., Alami, M., Marziyeh Farzaneh, M., Timachi, M. (2013). The survey of Relationship between Total Quality Management and Financial Performance, *Institute of Interdisciplinary Business Research*, V.5, N.2, PP.590-598.
- Ghosh, S., Handfield, R. B., Kannan, V. R., & Tan, K. C. (2003). A structural model analysis of the Malcolm Baldrige National Quality Award framework. *International Journal of Management and Decision Making*, 4(4), 289-311.
- Giddens, A. (1991), *Modernity and Self-Identity: Self and Society in the Late Modern Age*, California: Stanford University Press.
- Gilaninia, s., & mousavian, s. j. (2010). the effect of different levels of total quality management (tqm) on performance aspects of insurance companies of iran.
- Glover, W. J., Farris, J. A., & Van Aken, E. M. (2015). The relationship between continuous improvement and rapid improvement sustainability. *International Journal of Production Research*, 53(13), 4068-4086.
- Gong, X., & Liu, R. (2020, August). Research on the Application of Competency Model in Personnel Management of Private Enterprises. In *Journal of Physics: Conference Series* (Vol. 1621, No. 1, p. 012034). IOP Publishing.
- Gotzamani, K. D., & Tsiotras, G. D. (2002). The True Motives Behind ISO 9000 Certification: Their Effect on the Overall Certification Benefits and Long Term Contribution Towards TQM. *International Journal of Quality & Reliability Management*, 19(2), 151-169.
- Govender, K., & Ramroop, S. (2013). Managing postgraduate research service quality: Developing and assessing a conceptual model. *South African Journal of Economic and Management Sciences*, 16(2), 154-169.
- Gravelle, H.; Hole, A. R., & Hossain M. I. (2005). "Response bias in job atisfaction surveys: English general practitioners", Retrieved from <http://www.wpeg.group.shef.ac.uk/papers2009/65Hole.pdf>
- GRAWFORD, R. (1994). *Na era do capital humano: o talento, a inteligência e o conhecimento como forças econômicas, seu impacto nas empresas e nas decisões de investimentos*. São Paulo: Atlas.
- Grawitch, M., Gottschalk, M., and David, M. (2006), "The Path to a Healthy Workplace: A Critical Review Linking Healthy Workplace Practices, Employee Well-being, and Organizational Improvements," *Consulting Psychology Journal: Practice and Research*, 58, 3, 129–147.
- Grimsley, S. (2018). Employee empowerment: Definition, Advantages & Disadvantages. Retrieved from <https://study.com/academy/lesson/employee-empowermentdefinition-advantages-disadvantages.html>
- Gruman, J. A., & Saks, A. M. (2011). Performance management and employee engagement. *Human resource management review*, 21(2), 123-136.
- Guimaraes, T. (1996). TQM's impact on employee attitudes. *The TQM magazine*.

- Haiyan, K. (2013). "Relationships among work-family supportive supervisors, career competencies, and job involvement", *International Journal of Hospitality Management*, 33(1), 304–309.
- Haiyan, K. (2013). "Relationships among work-family supportive supervisors, career competencies, and job involvement", *International Journal of Hospitality Management*, 33(1), 304–309.
- Half, R. (2018). *Effective Employee Retention Strategies*. Retrieved from <https://www.roberthalf.com/blog/management-tips/effective-employee-retention-strategies>.
- Hart, C., & Schlesinger, L. (1991). Total quality management and the human resource professional: applying the Baldrige framework to human resources. *Human Resource Management*, 30(4), 433-454.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal of applied psychology*, 87(2), 268.
- Hassan, Masood ul., Mukhtar, Aamna., Qureshi, Saif Ullah., Sharif, Sidra (2012), Impact of TQM Practices on Firm's Performance of Pakistan's Manufacturing Organizations, *International Journal of Academic Research in Business and Social Sciences*, 2(10), 232-258.
- Hecklau, F., Orth, R., Kidschun, F., & Kohl, H. (2017, December). Human resources management: Meta-study-analysis of future competences in Industry 4.0. In *Proceedings of the International Conference on Intellectual Capital, Knowledge Management & Organizational Learning* (pp. 163-174).
- Hellsten, U., & Klefsjo, B. (2000). TQM as a management system consisting of values, techniques and tools. *The TQM Magazine*, 12, 238-244.
- HendersonM. William., Daley, aJennifer (2009) Design and statistical methodology of the National Surgical Quality Improvement Program: why is it what it is? *The American Journal of Surgery* Volume 198, Issue 5, Supplement, November 2009, Pages S19-S27
- Henseler, I., Falkai, P., & Gruber, O. (2010). Disturbed functional connectivity within brain networks subserving domain-specific subcomponents of working memory in schizophrenia: relation to performance and clinical symptoms. *Journal of Psychiatric Research*, 44(6), 364-372.
- Heras-Saizarbitoria, I., & Boiral, O. (2013). ISO 9001 and ISO 14001: towards a research agenda on management system standards. *International Journal of Management Reviews*, 15(1), 47-65.
- Herzberg, F., Mausner, B., and Snyderman, B. (1959), *The Motivation to Work*, New York: Wiley.
- Hivon, C. (1996), *L'acte de reconnaître: enjeux narcissiques chez le gestionnaire*, unpublished Master's thesis, Université Laval.
- Hivon, C. (1996). *L'acte de reconnaître: enjeux narcissiques chez le gestionnaire* (Doctoral dissertation, Université Laval).
- Ho, D.C.K., Duffy, V.G., Shih, H.M., (2001). Total Quality Management and empirical test for mediation effect. *International Journal of Production Research*, 39(3), 529-548
- Homans, G. (1950). Social behaviour as exchange. *American Journal of Sociology*, 63(6), 597-606.
- Hommeda, H. A. A. (2020). *The Role of Implementing ISO 9001: 2008 System On "Enhancing Leadership Commitment" To Improving Organizational Performance* (Doctoral dissertation, Sudan University of Science & Technology).
- Honarpour, A., Jusoh, A., & Long, C. S. (2017). Knowledge management and total quality management: a reciprocal relationship. *International Journal of Quality & Reliability Management*.

- Hongyi, W. (2000). Unifying representation of Bézier curve and generalized Ball curves. *Applied Mathematics-A Journal of Chinese Universities*, 15(1), 109-121.
- Hongyi, W. (2000). Unifying representation of Bézier curve and generalized Ball curves. *Applied Mathematics-A Journal of Chinese Universities*, 15(1), 109-121.
- Honold, L. (1997). A review of the literature on employee empowerment. *Empowerment in organizations*.
- Hough, L. M. & Ones, D. S. (2001). "The structure, measurement and use of personality variables in industrial", work and organizational psychology, SAGE publications
- Hoyle, E. (2001). Teaching: Prestige, status and esteem. *Educational management & administration*, 29(2), 139-152.
- Huey-Ming, T. (2004). "Nurses' self-assessment of their nursing competencies, job demands and job performance in the Taiwan hospital system", *International Journal of Nursing Studies*, 41(5), 487-496.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic management journal*, 20(2), 195-204.
- Hussain, M., & Hoque, Z. (2002). Understanding non-financial performance measurement practices in Japanese banks. *Accounting, Auditing & Accountability Journal*.
- Ikiugu, M. N., & Ciaravino, E. A. (2007). *Psychosocial conceptual practice models in occupational therapy: Building adaptive capability*. Elsevier Health Sciences.
- Ikram, M., Zhang, Q., & Sroufe, R. (2020). Future of quality management system (ISO 9001) certification: novel grey forecasting approach. *Total Quality Management & Business Excellence*, 1-28.
- Ikram, M., Zhou, P., Shah, S. A. A., & Liu, G. Q. (2019). Do environmental management systems help improve corporate sustainable development? Evidence from manufacturing companies in Pakistan. *Journal of Cleaner Production*, 226, 628-641.
- International Journal Shukla, Sh. (2014). "Teaching Competency, Professional Commitment and Job Satisfaction-A Study of Primary School Teachers", *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 14(3), 44-64. *of Business and Management Invention*, 3(2), 18-25.
- IPM (1993) *Quality: People Matters*, London: IPM.
- Isfahani Maryam and Sattat Jou, Massoud.(2016). Relationship between leadership style, organizational justice and psychological empowerment with job motivation and organizational commitment, *Azad University quarterly*.
- ISO, 2005. *ISO 9000:2005, International Standard, Quality management systems Fundamentals and vocabulary*. Geneva: International Organization for Standardization.
- ISO, 2014. *ISO Survey 2013*. [online] Available at: <http://www.iso.org> [Accessed 2014.10.01].
- Jabbour, C. J. C., de Freitas, T. P., Soubihia, D. F., Gunasekaran, A., & de Sousa Jabbour, A. B. L. (2015). Green and competitive: empirical evidence from ISO 9001 certified Brazilian companies. *The TQM Journal*.
- Jacob, C. (2001). *Illustrating evolutionary computation with Mathematica*. Morgan Kaufmann.
- Jacob, R. (2001), "Reconnaissance au travail: un cadre de gestion," paper presented at Oser de'couvrir, transformer, cre'er; une vision humaniste de l'organisation du travail, CHUQ, Quebec, Canada.

- Jayashree, M., & Faisal, M. (2017). Development of a conceptual model for implementation of total quality management (TQM) and human resource management (HRM): A literature review. *Int. J. Appl. Bus. Econ. Res.*, 15, 205-213.
- John, M. (2003), Total quality Management (translation of Mahammad hassein Nafisi), Tehran, publications of quality and management (date of publications hasn't to original language)
- Johri, S., & Kumar, D. (2021). Evaluation of effect of iso 9001: 2008 standard implementation on TQM parameters in manufacturing & production processes performance in small enterprises. *Materials Today: Proceedings*.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, 127(3), 376-407. <http://dx.doi.org/10.1037/0033-2909.127.3.376>.
- Juran Joseph, Godfrey a. Blanton.(1999). “Juran quality Handbook”, 5 Th editions, MC Graw – Hill.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of management journal*, 33(4), 692-724.
- Kalkavan, S. & Katrinli, A. (2014). "The Effects Of Managerial Coaching Behaviors On The Employees' Perception Of Job Satisfaction, rganisationl Commitment, And Job Performance: Case Study On Insurance Industry In Turkey", *Procedia-Social and Behavioral Sciences*, 150(1), 1137-1147.
- Kalra, N., Pant, A.(2013). Critical Success Factors of Total Quality Management in the Indian Automotive Industry (NCR).*International Journal of Economy, Management and Social Sciences*, 2(8), 620-625.
- Kanter, R. M. (1993). *Men and women of the corporation* (2nd Ed.). New York: Basic Books.
- Karakoc, N., & YILMAZ, A. K. (2009). Employee Empowerment and Differentiation in Companies: A Literature Review and Research Agenda. *Enterprise Risk Management*, 1(2).
- Karami, A., Farokhzadian, J., & Foroughameri, G. (2017). Nurses' professional competency and organizational commitment: is it important for human resource management?. 12(11), e0187863.
- Karapetrovic, S., Casadesus, M. and Heras, I. (2008). What happened to the ISO 9000 lustre? An eight-year study. Working Paper, Departament d'Organitzacio', Gestio' empresarial I Desenvolupament de producte, Universitat de Girona, Spain.
- Kaushiki Tripathi & Manisha Agrawal, (2014), “Competency Based Management in Organizational Context”, *Global Journal of Finance and Management*. ISSN 0975- 6477 Volume 6, Number 4 (2014), pp. 349-356.
- Kee, B., & Aye, S. (2020). A study of the attitude of pre-service teachers in education colleges towards their teaching profession. *J. Myanmar Acad. Arts Sci*, 18, 457-472.
- Kelly, A. V. (2009). *The curriculum: Theory and practice*. Sage.
- Kemenade, V. E., & Hardjono, T. W. (2019). Twenty-first century total quality management: the emergence paradigm. *The TQM Journal*.
- Kertahadi, U. N.; Setyaningdyah, E. & Thoyib, A. (2013). "The Effects of Human Resource Competence, Organisational Commitment and Transactional Leadership on Work Discipline, Job Satisfaction and Employee's Performance", *interdisciplinary journal of contemporary research in business*, 5(4), 140-153.

- Kertahadi, U. N.; Setyaningdyah, E. & Thoyib, A. (2013). "The Effects of Human Resource Competence, Organisational Commitment and Transactional Leadership on Work Discipline, Job Satisfaction and Employee's Performance", *interdisciplinary journal of contemporary research in business*, 5(4), 140-153.
- Kjellström, S., Stålné, K., & Törnblom, O. (2020). Six ways of understanding leadership development: An exploration of increasing complexity. *Leadership*, 16(4), 434-460.
- Klagge, J. (-p.-4. (1998). Self-perceived development needs of today's middle managers. *Journal of Management Development*, 17(7), 481-491.
- Koch, J. & Steers, R. (1978). Job attachment, satisfaction, and turnover among public sector employees. *Journal of Vocational Behavior*, 12, pp. 119-128.
- Kothari, U. (2005). Authority and expertise: The professionalisation of international development and the ordering of dissent. *Antipode*, 37(3), 425-446.
- Koufteros, X. A. (1999). Testing a model of pull production: a paradigm for manufacturing research using structural equation modeling. *Journal of operations Management*, 17(4), 467-488.
- Kravets Associates (1997). *Building job competency*.
- Kufidu, S., & Vouzas, F. (1998). Human resource aspects of quality management: evidence from MNEs operating in Greece. *International Journal of Human Resource Management*, 9(5), 818-830.
- KUMAR, Dr. V. Balakrishnan (2011) A Study on ISO 9001 Quality Management System Certifications – Reasons behind the Failure of ISO Certified Organizations, *Global Journal of Management And Business Research*, [S.l.], v. 11, n. 9, sep. 2011. ISSN 2249-4588.
- Lamei, L. (2020). Labeled individuals: The influence of stereotypes on communication between American and Non-American students.
- Lapointe, J. (2003), "A l'heure d'une réflexion éthique?," *Effectif*, 6, 2, (April/May), 42-45.
- Laschinger, H. W. (1999). *Leader Behaviour . Leader Behaviour* , 28-39
- Lashley, C. (2000). Empowerment through involvement: a case study of TGI Fridays restaurants. *Personnel Review*, 29(6), 791-815.
- Lawler, E. (1986), *High-involvement Management*, Jossey-Bass, San Francisco, CA.
- Lebaube, A. (1997), *Le travail; toujours moins ou autrement*, Paris: Le monde Éditions.
- Lefebvre, S. (2000), "La 'crise du croire' en entreprise et la nécessité d'un dialogue sur la signification du travail," in *Pour un management éthique et spirituel; défis, cas, outils et questions*, eds. T. Pauchant, Montréal: Fides/Presses HEC, pp. 91-106.
- Lenssen, K. G., Bast, A., & de Boer, A. (2018). Clarifying the health claim assessment procedure of EFSA will benefit functional food innovation. *Journal of functional foods*, 47, 386-396.
- Levine, D. I., & Toffel, M. W. (2010). Quality management and job quality: How the ISO 9001 standard for quality management systems affects employees and employers. *Management Science*, 56(6), 978-996.
- Levine, D. I., & Toffel, M. W. (2010). Quality management and job quality: How the ISO 9001 standard for quality management systems affects employees and employers. *Management Science*, 56(6), 978-996.

- Linhart, D., and Linhart, R. (1998), "L'évolution de l'organisation du travail," in *Le monde du travail*, eds. J. Kergoat, J. Boutet, H. Jacot, and D. Linhart, Paris: La Découverte, pp. 64–89.
- Lippit, M. (1997), "Creating a Learning Environment," *Human Resources Professional*, 10, 5, 23–26.
- Locke, E.A. (1997), "The Motivation to Work: What We Know," in *Advances in Motivation and Achievement*, (Vol. 10) eds. M.L. Maehr, and P.R. Pintrich, Greenwich: JAI Press.
- Locke, J. L. (1997). A theory of neurolinguistic development. *Brain and language*, 58(2), 265-326.
- Lockwood, R. (2007). Leveraging employee engagement for competitive advantage: HR's strategic role. *HR magazine*, 52(3).
- Lotunani, A.; Idrus, M. S.; Afnan, E. & Setiawan, M. (2014). "The Effect of Competence on Commitment, Performance and Satisfaction with Reward as a Moderating Variable (A Study on Designing Work plans in Kendari City Government, Southeast Sulawesi)",
- Loveridge, S., Nyarwaya, J., & Shingiro, E. (2003). Decaffeinated? Situation, trends, and prospects for coffee production in Rwanda. Analysis of a Rural Household Survey (No. 74). Research report. McKay, A. and S. Loveridge.(2005)." Income and Nutritional outcomes in Rwanda's Rural Areas, 1990 and 2000." Food Security Research Project/Minagri. Policy Synthesis.
- Luthans, K. (2000). Recognition: A powerful, but often overlooked, leadership tool to improve employee performance. *Journal of Leadership Studies*, 7(1), 31-39.
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and organizational Psychology*, 1(1), 3-30.
- MacLeod, D. Clarke N. (2009). *Engaging for Success: Enhancing performance through employee engagement*. London: BIS
- Mady, S. A. (2020). Disintegrated Market Orientation and Firm Performance: Moderating Effect of Entrepreneurial Orientation
- March, J.G Boyatzis. Simon, H.A., 1993. *Organizations*. Blackwell, Cambridge, MA. Martin, R.L., 2007. *The Opposable Mind*. Harvard Business School Press, Boston
- Marimon, F., del Mar Alonso-Almeida, M., del Pilar Rodríguez, M., & Alejandro, K. A. C. (2012). The worldwide diffusion of the global reporting initiative: what is the point?. *Journal of cleaner production*, 33, 132-144.
- Martin, B., Lenhardt, V., and Jarrosson, B. (1996), *Oser la confiance; propos sur l'engagement des dirigeants*, Paris: Insep E ´ditions.
- Martínez, N. O., Carabel, T. C., & del Castillo Feito, C. (2018). Legitimacy and Reputation of Organizations: Their Relationship with Management Systems and Financial Performance. In *Organizational Legitimacy* (pp. 141-157). Springer, Cham.
- Mc Adam R., Bannister A.(2001); Business performance measurement and change management within a TQM framework; *International Journal of Operations and Production Management*, Vol.21, No.1/2,
- Mc Namar ,S(1999).Brief history of Management Training Development. http://www.mapnp.org/library/mgmt_dev/history/history.htm.
- McAdam, R., & Bannister, A. (2001). Business performance measurement and change management within a TQM framework. *International Journal of Operations & Production Management*.

- McClelland. Testing for competence rather than intelligence. *American Psychologist* 1973:1- 14.
- McDonald, M. and Westphal, J.D. (2010), A little help here? The effects of independent board control on CEO helping networks: A social identification perspective. *Academy of Management Journal*, 53: 343-370
- McGregor, D. (1960), *The Human Side of Enterprise*, New York: McGraw-Hill.
- Meda, D. (1995), *Le travail; une valeur en voie de disparition*, Paris: Alto/Aubier.
- Mehmet, K. and Nevzat, T. (2012). The Determination of the Effect Level on Employee Performance of TQM Practices with Artificial Neural Networks: A Case Study on Manufacturing Industry Enterprises in Turkey. *International Journal of Business and Social Science*. Vol. 3 No. 7.
- Menon, T. (2001). Employee empowerment. An integrative psychological approach. *Applied Psychology*, 50(1), 153-180.
- Meyer, J.P., and Herscovitch, L. (2001), "Commitment in the Workplace: Toward a General Model," *Human Resource Management Review*, 11, 299–326.
- Meyerson, G. (2012). Effect of empowerment on employees performance. *Advanced Research in Economic and Management Sciences*, 2, 2322-2360.
- Mitchell, L. & Boak, G. (2009). developing competence frameworks in uk healthcare: lesson from practice. *Journal of European Industrial Training*, 33 (8/9),731_717.
- Mitchell, T. M. (1977, August). Version spaces: A candidate elimination approach to rule learning. In *Proceedings of the 5th international joint conference on Artificial intelligence-Volume 1* (pp. 305-310).
- Mohammadi, M., Haddadnia, A., Zirrahi, M., & Hassanzadeh, H. (2020). Interfacial tension of n-pentane/bitumen and n-heptane/bitumen mixtures at T= 298.15–413.15 K and P= 3.45 MPa. *Journal of Chemical & Engineering Data*, 65(4), 1787-1794.
- Mohrman, S. A., Tenkasi, R. V., Lawler, E. E., & Ledford, G. E. (1995). Total quality management: practice and outcomes in the largest US firms. *Employee relations*.
- Moinat, S(2003).using competencies to integrate human capital management .
<http://www.fullviewsolutions.com>
- Morin, E. (2001), "Une approche humaniste dans les organisations," paper presented at Oser de ´couvrir, transformer, cre ´er; une vision humaniste de l'organisation du travail, CHUQ, Quebec Canada.
- Morris, P. W. (2006). ISO 9000 and financial performance in the electronics industry. *Journal of American Academy of Business*, 8(2), 227-235.
- Morry, R.M. (2009). "motivation and work behavior". MCGRAW-HILL, INC, 5th ed
- MOW International Research Team (1987), *The Meaning of Working*, London: Academic Press.
- Mulela, J. K. (2013). The effect of ISO 9001: 2008 certification on process quality: a case study of Kenya Power and Lighting Company.
- Muturi, D., Ho, S., Douglas, A., Douglas, J., & Ochieng, J. (2015). Lean Six Sigma implementation in East Africa: findings from a pilot study. *The TQM Journal*.
- Na-Nan, K., Pukkeeree, P., & Chaiprasit, K. (2020). Employee engagement in small and medium-sized enterprises in Thailand: the construction and validation of a scale to measure employees. *International Journal of Quality & Reliability Management*.

- Nelson, B. (2001), "Make Reinforcement a Positive Experience," Bizjournals.com. accessed March 2008 from:
- Nelson, R., & Winter, S. (1982). *An Evolutionary Theory of Economic Change*, Cambr.
- Nenadal, J. (2020). The New EFQM Model: What is Really New and Could Be Considered as a Suitable Tool with Respect to Quality 4.0 Concept?. *Quality Innovation Prosperity*, 24(1), 17-28.
- Noble, C. H., Sinha, R. K., & Kumar, A. (2002). Market orientation and alternative strategic orientations: a longitudinal assessment of performance implications. *Journal of marketing*, 66(4), 25-39.
- Okwiri, O. A. (2013). ISO 9001 quality management system audit as an organizational effectiveness evaluation tool.
- O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of applied psychology*, 71(3), 492.
- Osborne, S., & Hammoud, M. S. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management and Technology*, 16(1), 4.
- OSI(2003).Constructing and implementing a competency model. <http://www.orgsysinc.com>
- Özçelik [Gaye](#), Ferman [Murat](#), (2006) Competency Approach to Human Resources Management: Outcomes and Contributions in a Turkish Cultural Context *Human Resource Development Review* 2006; 5(1) :72-91.
- Panacci A, Vandenberghe Ch. (2017). Perceived organizational support, organizational commitment and psychological well-being: A longitudinal study. *Journal of Vocational Behavior*; 75: 224–236.
- Panacci, A. G. (2017). Adult students in mixed-age postsecondary classrooms: Implications for instructional approaches. *College Quarterly*, 20(2), n2.
- Pandey, C., & Chandra, B. (2012). Study of strategic Human Resource Management extent of implementation and impact on small scale information technology services companies' operational efficiency.
- Patel, A. Bright, D. Gregory and M.K. Gowing Rodriguez D., R. (2003) "Developing Competency Models to Promote Integrated Human Resource Practices," *Human Resource Management*, Vol. 41, p. 309-324.
- Pauchant, T. (2000), *Pour un management éthique et spirituel; de défis, cas, outils et questions*, Montre´al: Fides/Presses HEC.
- Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management*, 30(6), 467-480.
- Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management*, 30(6), 467-480.
- Pinchot, P. (2000). Perspective: The Perennial Challenge for Forestry: Sustaining Biological Capital. *Journal of Forestry*, 98(11), 64-64.
- Plum International(2001).Integrating Key Human resource Process .<http://www.plumInternational.com>
- Porter, L. J., & Black, S. A. (1993, September). A holistic framework for total quality management. In *Proceedings of the Operational Research Society Conference*.

- Porter, L., and Lawler, E. (1968), *Managerial Attitudes and Performance*, Homewood: Irwin. Richer, S.F., Blanchard, U., and Vallerand, R.J. (2002), "A Motivational Model of Work Turnover," *Journal of Applied Social Psychology*, 32, 2089–2113.
- Powell, T. C. (1995). Total quality management as competitive advantage: a review and empirical study. *Strategic management journal*, 16(1), 15-37.
- Prajogo, D. I., & Sohal, A. S. (2003). The relationship between TQM practices, quality performance, and innovation performance. *International journal of quality & reliability management*.
- Prates, G. A., & Caraschi, J. C. (2014). Organizational impacts due to ISO 9001 certified implementation on Brazilians Cardboard Companies. *International Journal of Academic Research in Business and Social Sciences*, 4(5), 500-513.
- Preeti, R. (2011). "Effect of Psychological Empowerment on Commitment of Employees an Empirical Study", 2nd International Conference on Humanities, Historical and Social Sciences Pied, 143-147.
- Psomas, E. L., Pantouvakis, A., & Kafetzopoulos, D. P. (2013). The impact of ISO 9001 effectiveness on the performance of service companies. *Managing Service Quality: An International Journal*.
- Psomas, E., & Antony, J. (2015). The effectiveness of the ISO 9001 quality management system and its influential critical factors in Greek manufacturing companies. *International Journal of Production Research*, 53(7), 2089-2099.
- Ramesh, R., Kumar, S. (2014). Role of employee empowerment in organizational development. *International Academic Journal of Organizational Behaviour and Human Resource Management*, 3(5), 9-16.
- Rana, G. (2014). Performance appraisal powers growth at Havell's India : Company identifies and invests in talented people early. *Human Resource Management International Digest* , 22 (5), 8-10
- Randolph, W. A. (1995). Navigating the journey to empowerment. *Organizational dynamics*, 23(4), 19-32.
- Rankin, N.(2004), *The new prescription for performance: the eleventh competency benchmarking survey. Competency and emotional intelligence benchmarking supplement* . London: IRS.
- Rao, S. S., Ragu-Nathan, T. S., & Solis, L. E. (1997). Does ISO 9000 have an effect on quality management practices? An international empirical study. *Total quality management*, 8(6), 335-346.
- Raquib, A. (2010). Empowerment practices and performance in Malaysia: An empirical study. *International Journal of Business Management*, 5(1),
- Raquib, M. A., Anantharaman, R. N., Eze, U. C., & Murad, M. W. (2010). Empowerment practices and performance in Malaysia-an empirical study. *International Journal of Business and Management*, 5(1), 123.
- Raweni, A. (2018). Developing of quality improvement model on ISO 9001: 2015 platform using Taguchi method.
- [Redman, T . Brian P. Mathews](#), (1998) "Service quality and human resource management: A review and research agenda", *Personnel Review*, Vol. 27 Issue: 1, pp.57 7, <https://doi.org/10.1108/00483489810368558>
- Reisi, Puran. Nassiripour, Amir Ashkan. Hessam, Somayeh (2009) *Performance Evaluation for Universal Quality Management (ISO 9001: 2000) in Tehran Social Security Organization Hospitals, Health Management*.

- Rezaie, A., & Bagheri, G. (2014). Studying the link between organizational learning and employees' empowerment (case study: Qom Maskan bank selected branches). *International Journal of Management, Accounting and Economics*, 1(2), 147-162.
- Riahi Behrouz (1381). *Comprehensive management in the public sector*. First Printing, Iran Research and Production Research Center.
- Richer, S. F., Blanchard, C., & Vallerand, R. J. (2002). A motivational model of work turnover. *Journal of Applied Social Psychology*, 32(10), 2089-2113.
- Robbins, S. P (2002). *Organizational Behavior*. India: Printice Hall publication.
- Rondeau, A. (1999), "Transformer l'organisation: comprendre les forces qui font l'organisation and le travail," *Gestion*, 24, 3, 148-157.
- Sahaney, S., Banwet, D.K., and Karunes S.(2004), "conceptualizing total quality management in higher education", the TQM magazine, 16 (2), 145 - 159.
- Saks, A.M. (2006), "Antecedents and consequences of employee engagement", *Journal of Managerial Psychology*, Vol. 7 No. 4, pp. 600-619
- Saleh, A. (2013). Psychological empowerment and job satisfaction. *International Journal of Academic Research in Business and Social Sciences*. 6(2), 2222-6990.
- Salgado, S., Sharaiha, R., Gaidhane, M., & Kahaleh, M. (2014). Ablation therapies for pancreatic cancer: an updated review. *Minerva gastroenterologica e dietologica*, 60(4), 215-225.
- Samson, D., & Terziovski, M. (1999). The relationship between total quality management practices and operational performance. *Journal of operations management*, 17(4), 393-409.
- Saraph, J. V., Benson, P. G., & Schroeder, R. G. (1989). An instrument for measuring the critical factors of quality management. *Decision sciences*, 20(4), 810-829.
- Sarstedt, M., Ringle, C. M., Henseler, J., & Hair, J. F. (2014). On the emancipation of PLS-SEM: A commentary on Rigdon (2012). *Long range planning*, 47(3), 154-160.
- Saunderson, R. (2004), "Survey Findings of the Effectiveness of Employee Recognition in the Public Sector," *Public Personnel Management*, 33, 3, 255-276.
- Saunderson, R. (2004). Survey findings of the effectiveness of employee recognition in the public sector. *Public Personnel Management*, 33(3), 255-275.
- Saunderson, W. (2005). Gender (In) Equity in Mass Higher Education: The Need for Change. *Beyond Mass Higher Education: Building On Experience: Building on Experience*, 185.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness studies*, 3(1), 71-92.
- Schermerhorn, J., Osborn, N., Uhl-Bien, M., Hunt, J. (2012). *Organizational Behavior*. 12th Edition. John Wiley & Sons, Inc.
- Schoonover (2003). what is competencies . [http://www. Schoonover.com](http://www.Schoonover.com).
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*. psychology press.

- Seibert, S. E., Silver, S. R., & Randolph, W. A. (2004). Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of management Journal*, 47(3), 332-349.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Shalhaf O. (2014). Value Basis of Total Quality Management. *Ethics in science and Technology*. 8(4) :24-34.
- Sherman, R. (2001). Management competencies and sample indicators for the improvement of adult education program, A Publication of Building Professional Development Partnerships for Adult Educators Project . <http://www.prenet2333.com>.
- Shuck, B., & Wollard, K. (2010). Employee engagement and HRD: A seminal review of the foundations. *Human resource development review*, 9(1), 89-110.
- Shukla, Sh. (2014). "Teaching Competency, Professional Commitment and Job Satisfaction-A Study of Primary School Teachers", *IOSR Journal of Research & Method in Education (IOSR-JRME)*,14(3), 44-64.
- Siegrist, J. (1996), "Adverse Health Effects of High-Effort/Low-reward Conditions," *Journal of Occupational Health Psychology*, 1, 27-41.
- Sila, I. (2007). Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study. *Journal of Operations management*, 25(1), 83-109.
- Sinclair, R. R., & Tetrick, L. E. (1995). Social exchange and union commitment: A comparison of union instrumentality and union support perceptions. *Journal of Organizational Behavior*, 16(S1), 669-680.
- Sinnott, G. C., Madison, G. H., & Pataki, G. E. (2002). Competencies: Report of the competencies workgroup, workforce and succession planning work groups. New York State Governor's Office of Employee Relations and the Department of Civil Service.
- Sohal, A., & Terziovski, M. (2000). TQM in Australian Manufacturing: Factors Critical to Success. *International Journal of Quality & Reliability Management*, 17(2), 158-168
- Solis, L. E., Raghu-Nathan, T. S., & Rao, S. S. (2000). A regional study of quality management infrastructure practices in USA and Mexico. *International Journal of Quality & Reliability Management*.
- Soltani, M., Chaker, M., Haddad, E., Kruzelecky, R. V., & Margot, J. (2004). Effects of Ti-W codoping on the optical and electrical switching of vanadium dioxide thin films grown by a reactive pulsed laser deposition. *Applied physics letters*, 85(11), 1958-1960.
- Spreitzer, G. M., Kizilos, M. A., & Nason, S. W. (1997). A dimensional analysis of the relationship between psychological empowerment and effectiveness satisfaction, and strain. *Journal of management*, 23(5), 679-704.
- Statistics Canada and Human Resources Development Canada (2001), *Employer and Employee Perspectives on Human Resource Practices: The Evolving Workplace Series*, accessed November 2006 from: <http://www11.hrsdc.gc.ca/en/cs/sp/hrsdca/publications/research/2002-000149/page00.shtml>
- Sun, H., & Cheng, T. K. (2002). Comparing reasons, practices and effects of ISO 9000 certification and TQM implementation in Norwegian SMEs and large firms. *International Small Business Journal*, 20(4), 421-442.

- Taddese, F., & Osada, H. (2010). Process Techno-innovation using TQM in developing countries empirical study of deming prize winners. *Journal of technology management & innovation*, 5(2), 47-65.
- Tarí, J., José Francisco, M.-A., & Iñaki, H. (2013). Benefits of the ISO 9001 and ISO 14001 standards: A literature review. *Journal of Industrial Engineering and Management*, 297-322.
- Tenenhaus, M., Amato, S., & Esposito Vinzi, V. (2004, June). A global goodness-of-fit index for PLS structural equation modelling. In *Proceedings of the XLII SIS scientific meeting* (Vol. 1, pp. 739-742).
- Thériault, J.Y. (2000), "De´mocratie et solidarite´," in *La de´mocratie dans tous ses e´tats*, Chaire Unesco d'e´tude des fondements philosophiques de la justice et de la socie´te´ de´mocratique, UQAM, accessed November 2006 from: <http://philo.uqam.ca/UNESCO/Cthe.htm>
- Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. *Academy of management review*, 15(4), 666-681.
- Towers Perrin (2003) „Working Today: Understanding What Drives Employee Engagement“ in www.towersperrin.com.
- Tremblay, M., Gay, P., and Simard, G. (2000), L'engagement organisationnel et les comportements discre´tionnaires: l'influence des pratiques de gestion des ressources humaines, Centre interuniversitaire de recherche en analyse des organisations (CIRANO), accessed November 2006 from: <http://perso.wanadoo.fr/etics/cours%20staps/grh/theorie.pdf>
- Triantafylli, A., & Ballas, A. (2010). Aligning strategy and performance measurement systems in the service sector companies: The Greek example. In *Performance Measurement and Management Control: Innovative Concepts and Practices*. Emerald Group Publishing Limited.
- Tripathi, K., & Agrawal, M. (2014). Competency based management in organizational. *Global Journal of Finance and Management*, 6(4), 349-356.
- United Nations Industrial Development Organization. UNIDO Competencies. <http://www.unido.org> 2002.
- Valmohammadi, C., & Kalantari, M. (2015). The moderating effect of motivations on the relationship between obtaining ISO 9001 certification and organizational performance. *The TQM Journal*.
- Van Houten, G. (2000). ISO 9001: 2000. *Information Management*, 34(2), 28.
- Vouzas, F. (2007). Investigating the human resources context and content on TQM, business excellence and ISO 9001: 2000. *Measuring Business Excellence*.
- Vroom, V. H. (1964). *Work and motivation*.
- Wang, C. C., Hsieh, H. H., & Wang, Y. D. (2020). Abusive supervision and employee engagement and satisfaction: the mediating role of employee silence. *Personnel Review*.
- Warner, R. M. (2008). *Applied statistics: From bivariate through multivariate techniques*. sage.
- Webster, M. (2016). *Organisational Excellence. So what is organizational excellence*.
- West, J. (2000). Quality management principles: Foundation of ISO 9000: 2000 family. *Quality Progress*, 33(2), 113.
- Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS quarterly*, 177-195.
- Wilkinson, A. & Witcher, B (1990) *TQM in the United Kingdom – Fitness for Use* (Durham: Durham University Business School)

- Wilkinson, A., & Witcher, B. (2007). Fitness for Use? Barriers to Full TQM in the UK. *Management Decision*, 29(8), 46-51.
- Wils, T., Labelle, C., Guérin, G., & Tremblay, M. (1998). Qu'est-ce que la «mobilisation» des employés. *Gestion*, 23(2), 30-39.
- Witcher B. (1995) The Changing Scale of Total Quality Management .*Quality Management Journal* 2(4), 9-29.
- Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, 24(1), 1-32.
- Wood, S. (2016). High-involvement management. In *Encyclopedia of Human Resource Management*. Edward Elgar Publishing Limited.
- Yusefi, Ahmad; Mysticism, Maryam.(2009) The role of supervisor competencies in the development of human capital, automotive and industrial engineering.
- Zehir, Cemal., Ertosun, Öznur Gülen., Zehir, Songül., Müceldilli, Büşra. (2012). TQM Practices' Effects on Quality Performance and Innovative Performance, *Social and Behavioral Sciences*, 41, 273–280.
- Zhang, Z.(1997). Developing a TQM quality management method model, Faculty of Management and Organization University of Groningen

Appendix A

Questionnaire questions

ISO 9001

Customer focus:

Does the organization provide customer-related information about products and services?

Does the organization has implemented a process for customer complaints?

Leadership:

Does the senior management assured of the quality management system?

Does senior management support their employees and their ideas?

Involvement of people:

Are employees contributing on the improvement of the quality management system?

Are employees aware of the organization objectives and results?

Process approach:

Does the process approach improve organizational performance?

Does the process approach allow the organization to plan its processes and their interactions?

Continual improvement:

Does the organization pursue the goals of continuous service improvement?

Does the organization review the quality management system periodically?

factual approach to decision making:

Does the organization created a design, development, implementation, and maintenance process for future services?

Does the organization controlled documentary information required by the quality management system?

System approach to management (communication management):

Does the organization determines the required knowledge to effectively implement processes and achieve product and service compliance?

Does the organization has identified the infrastructure needed for information and communication technology?

Beneficial supplier relationship:

Does the organization have a process for evaluating the best suppliers?

Does the organization have a process for monitoring the suppliers?

Empowering employees

Efficiency in performing job tasks

According to the ISO 9001 standard, do employees have a conscience and ability to perform their duties and responsibilities?

Is ISO 9001 lead to sustainability in reaching the highest quality standards in the staff?

Improve efforts at job tasks

Is ISO 9001 allow employees to work with their job tasks and changes in order to better do their job or create more useful work?

Is ISO 9001 increase employee quest for job performance?

Effective collaboration

Is ISO 9001 increased the willingness of employees to work in a team?

Is ISO 9001 lead to improved cooperation and promote teamwork among employees in the organization?

Improvement effort in work group

Is ISO 9001 lead the business unit performance by employees and ultimately to improve the efficiency of the team?

According to ISO 9001, do staff provide ways to improve collaboration in the workgroup?

Involvement at organization

According to the ISO 9001 standard, do employees, with the participation of the organization, work to maintain and improve organizational efficiency?

According to the ISO 9001 standard, do staff provide suggestions for improving the organization's performance?

Employees recognition

Ethical perspective

Is ISO 9001 could affect senior manager actions according to treat employee's fairly?

Is ISO 9001 could be affective on managers ethical and moral perspective?

Humanistic and existential view

Is ISO 9001 principles could affect personnel humanistic vision through organization goals and strategies?

Is ISO 9001 could effect on personal humanistic view through employees precaution and flexible programs?

Is ISO 9001 leads to employee job promotion and provide facilities for obtaining knowledge and training?

Psychodynamics school

Is ISO 9001 can increase the recognition of the expertise and competence of each employee to improve the psychological training?

Is ISO 9001 principals may lead to increase diagnosis expertise and competence of each employee to improve mental training?

Is ISO 9001 leads to employee engagement and psychodynamic school by encouraging innovation and reward program?

Behavioral outlook

Is ISO 9001 increase employee rewards for outstanding contribution and thus improve the behavioral outlook?

Is ISO 9001 impact to increase the number of evaluation meeting?

Is ISO 9001 effective for employees to reach to specific target and improve the behavioral approaches?

Employee competency

attribute

Is ISO 9001 can manage behaviors associated with emotional responses?

Is ISO 9001 on health status and activity affect employees?

Skills

Is ISO 9001 able to solve emergency problems by influencing individual skills?

Is ISO 9001 effective on the information reported by employees in the field?

Related knowledge

Is ISO 9001 can be effective in maintaining situational awareness?

Is ISO 9001 capable of solving the crisis in abnormal conditions by creating relevant knowledge?

Employee engagement

Is ISO 9001 make employee satisfaction with "Independence at Work"?

Is the ISO 9001 offer attractive salaries for conditions and work responsibilities, as well as adequate compensation for work?

Is ISO 9001 lead to intra-organizational equality among employees?

Is ISO 9001 lead to improved work-life balance by employees? (Better understanding of personal needs and empowering time with family)

Is ISO 9001 lead to a close relationship between employees and senior management will be?

Does ISO 9001 provide the conditions for professional and career development for employees?

Does ISO 9001 lead to transparent promotion of job promotion policies for employees?

In line with ISO 9001, is there an orientation between employees for teamwork?