



**BIRZEIT UNIVERSITY**

**The Contribution of ISO9001 certification towards EFQM  
Excellence Model as perceived by ISO9001-certified  
organizations in Palestine**

إسهام نظام إدارة الجودة ISO9001 في الوصول إلى نظام التميز الأوروبي EFQM من وجهة  
نظر المؤسسات الفلسطينية الحاصلة على نظام ISO9001

**By: Mohammad A. Naser-Eddeen**

**Supervised By: Dr. Samir Baidoun**

**The Graduate Faculty  
Birzeit University  
Palestine  
August 2009**



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Degree in Business Administration from the Graduate Faculty at Birzeit  
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**Palestine  
2009**

## **Acknowledgment**

I would like to express my sincere thanks and appreciation to all of those who supported me to complete this study. I ask Allah that this research would be for the benefit of the Palestinian people and economy.

I would like to express my deep gratitude, appreciation and thankfulness to my supervisor Dr. Samir Baidoun for his endless support and assistance, generous encouragement and unfathomable supervision during all phases of this study, as well as in all the time of research and writing up this thesis.

My deep appreciation to the supervisory committee, Prof. Nidal Sabri and Dr. Munther Najem for reviewing my thesis, and for their kind support and encouragement.

My profound appreciation to my friends Dr. Khaled Hijjeh, Iyad Amro, Maher Barrouk from Jawwal, and Rafiq Nasrallah, my MBA colleague for their many advice and tips that helped me a lot in staying at the right track.

I am grateful to my manager Kamal Ratrouf for the kind cooperation and support he used always to give me.

I am deeply indebted to my parents, Ali and Haifa. They have been providing me with such a wonderful encouragement throughout the period of my study. Both of them have taught me the good things that really matter in life.

Surely, my profound thanks and unfathomable love to my beloved wife Ula who has been an amply source of encouragement, considerable help in questionnaires' data entry, unlimited patience and endless assistance. Without her love, kindheartedness, endurance, patience, support and assistance; I would not have been able to continue with my MBA and completing this dissertation.

Finally, I do not forget to say to my lovely daughter Haifa and my cute sons Ali and Younes: "I do love you dear, and wish you always the best."

Thank you all.

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## ملخص بالعربية

### إسهام نظام إدارة الجودة ISO9001 في الوصول إلى نظام التميز الأوروبي EFQM من وجهة نظر المؤسسات الفلسطينية الحاصلة على شهادة ISO9001

صممت هذه الدراسة من أجل بحث مدى إسهام نظام إدارة الجودة ISO9001 في الوصول إلى نظام التميز الأوروبي EFQM من وجهة نظر المدراء العامين ومدراء الجودة في المؤسسات الفلسطينية الحاصلة على شهادة ISO9001 ، وكذلك من أجل دراسة المحفزات التي أثرت في قرار المؤسسات الفلسطينية للحصول شهادة إدارة الجودة ISO9001، بالإضافة إلى المنافع التي اكتسبتها نتيجة لحصولها على شهادة إدارة الجودة ISO9001. من أجل تحقيق الأهداف العامة لهذه الدراسة، تم صياغة خمس أسئلة بحث لأغراض الدراسة، وتم تصميم استبانة خاصة مكونة من ثلاثة أجزاء رئيسية أرسلت بالبريد الإلكتروني إلى 46 مؤسسة فلسطينية حاصلة على شهادة إدارة الجودة ISO9001. استناداً إلى تحليل الردود ، التي شكلت 57.6 % من العينة ، تم الوصول على النتائج التالية :

أولاً: إن أهم المحفزات التي أثرت في قرار المؤسسات الفلسطينية للحصول شهادة إدارة الجودة ISO9001 هي: تحسين الجودة في العمليات الداخلية، ومقدمة إلى "إدارة الجودة الشاملة"، و تحسين الجودة في المنتجات النهائية، في حين أن أقلها أهمية هي: متطلبات الزبائن الحالية، و دخول أسواق جديدة، و حصول المنافسين على شهادة إدارة الجودة ISO9001.

ثانياً: إن أهم المنافع التي اكتسبتها المؤسسات الفلسطينية نتيجة لحصولها على شهادة إدارة الجودة ISO9001 هي: تطوير ثقافة الجودة، وتواصل أفضل مع الزبائن ورفع درجة رضاهم، وتحسين جودة المنتج النهائي وتحسين الهيكلية والعمليات الداخلية، في حين أن أقل المنافع أهمية هي: رفع درجة رضى الموظفين و زيادة مشاركة الموظفين في صنع القرار، و دخول أسهل وأفضل للأسواق الجديدة، وأخيراً زيادة حجم المبيعات. ثالثاً: إن مستوى أداء أي محور من محاور نظام التميز الأوروبي EFQM مرتبط بشكل ايجابي مع مستوى أداء كل المحاور الأخرى، وذلك قبل وبعد الحصول على شهادة إدارة الجودة ISO9001. رابعاً: تم إثبات أن تحسين الأداء (ما قبل وبعد الحصول على شهادة إدارة الجودة ISO9001) ذو أهمية عالية إحصائياً بالنسبة لكل واحد من العناصر المفصلة التي تصف EFQM، مما يشير إلى أن نظام إدارة الجودة ISO9001 يساهم في الوصول إلى ممارسات نظام التميز الأوروبي EFQM في المؤسسات الحاصلة على الشهادة.

أخيراً، توصي الدراسة المؤسسات الفلسطينية الحاصلة على نظام ISO9001 برفع مستوى نظام إدارة الجودة عندهم إلى مستوى نظام التميز الأوروبي EFQM وذلك بشكل تدريجي. كما ينبغي لها أن تركز على تحسين الممارسات ذات الأداء المنخفض كخطوة أولى نحو التميز، وخاصة في مجالات رضى الموظفين وزيادة مشاركتهم، و إدارة الموارد المالية والاستراتيجيات، وتعزيز الأنشطة البيئية والاجتماعية والثقافية في المجتمع الفلسطيني.

## ABSTRACT

### **The Contribution of ISO9001 certification towards EFQM Excellence Model as perceived by ISO9001-certified organizations in Palestine**

*This research aims to investigate the contribution of ISO9001:2000 certification towards EFQM excellence model as perceived by the General Managers and the Quality Managers of the Palestinian ISO9001-certified organizations. In addition, the study aims to investigate the motives that influenced the Palestinian organizations' decision for ISO9001 certification, as well as the benefits gained from the ISO9001 certification. In order to achieve the general objectives of this study, five related study questions have been stated. A special questionnaire of three parts was designed and directed by e-mail to 46 Palestinian organizations that are registered to the ISO9001 certification. Based upon the analysis of responses, which formed 57.6% of the sample, the following conclusions were found:*

*First: The most significant motives that influenced the Palestinian organizations' decision to the ISO certification are: the quality improvement of internal operations, introduction to TQM and quality improvements of final products. Whereas the least significant motives found are: current customer demand, entry to foreign market and certification of competitors.*

*Second: the most significant benefits gained from the ISO9001 certification are: development of quality culture, improving the communication with customers and increasing their satisfaction, and improving final product quality and internal organization and operation. The least significant benefits are: increasing employee satisfaction and participation, easier penetration to new markets, and increasing the sales volume.*

*Third: the performance of any EFQM enablers is positively related to the performance of all other enablers, both before and after the ISO9001 certification.*

*Fourth: The performance improvement (performance after ISO certification vs. performance before ISO certification) was proved to be statistically significant for each one of the detailed elements describing the EFQM Enablers, indicating that the ISO9001 standard contribute towards the implementation of the EFQM practices in the certified organizations.*

*Finally, the study recommends the Palestinian ISO9001 certified organization to upgrade their quality management to the EFQM Excellence model in a gradual manner. Also they should focus on the low improvement practices as a first step towards excellence, especially in the areas of employees' satisfaction and participation, managing the financial resources and strategies, and promoting environmental, social and cultural activities.*

**Key words:** Palestinian organizations, ISO9001 motives, ISO9001 benefits, EFQM, EFQM Enablers, and Excellence.

# **Chapter One**

## **Introduction**

# **Chapter One**

## **Introduction**

### **1.1 Introduction**

Today, it is necessary but not sufficient to satisfy or even delight customers. Organizations have also to satisfy the others stakeholders like the organization's workforce, partners and suppliers and the society while achieving best financial results for the organization's shareholders (EFQM, 2005); all with well planned strategies and causal results. This is what is called business excellence that several excellence models worldwide are trying to achieve.

The ISO9001 is the famous quality management system. The ISO9001 standard specifies requirements for a quality management system where an organization needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements (ISO 9001:2000). Thus the main theme of the ISO9001 standard is defining customer-related and product-related processes while well planning and maintaining them, in addition to managing and provisioning the human and infrastructure resources. Actually, the ISO9001:2000 standard lacks the

requirements to define long-term strategies; to define the financial and risk managements; and to assess the causality of the results.

**Excellence** is defined as “the outstanding practice in managing the organization and achieving results”. Truly Excellent organizations are those that strive to satisfy their stakeholders by what they achieve, how they achieve it, what they are likely to achieve and the confidence they have that the results will be sustained in the future (EFQM, 2005).

In general, the business excellence models are more advanced, recognized and respected than the ISO9001 standard mainly for three reasons:

- The excellence models are more mature than the ISO9001 standard in terms of TQM factors and compliancy (Wiele, Dale and Williams, 2000b).
- The ISO9001 standard focuses on the “hard” TQM elements (e.g. process management and quality data) much more than the “soft” elements (e.g. leadership, employee participation and empowerment, management involvement, human resource management and customer relations) (Fotopoulos and Psomas, 2009; Gotzamani, Tsiotras, Nicolaou, Nicolaides and Hadjiadamou, 2007), while Excellence models generally represent both hard and soft elements of TQM and focus more on the soft elements since they have higher influence on performance improvement (Fotopoulos and Psomas, 2009; Gotzamani *et al.*, 2007).

- The literature states that the self-assessment approach –supported by the excellence models– is derived from internal reasons and motivation which have stronger impact on the implementation's success. On the contrary, the drive for the ISO implementation is mainly external reasons (Wiele *et al.*, 2000a).

According to Wiele (*et al.*, 1997), ISO 9000 series registration is often done largely by the quality manager who writes manuals and procedures for other managers who afterwards just confirm and approve them without necessarily understanding them. Thus senior management is not personally involved, nor is any of the lower level employees. Excellence models, on the other hand, are diametrically opposed to this approach. It cannot be done by the quality manager. It has to be led by management and involve all members of the organization.

Vouzas and Gotzamani (2005) showed that the excellence models are considered far more vital and challenging than the ISO 9000 standards in terms of their purpose, goals and context, and they're mainly used as means to promote quality awareness to all “internal” and “external” customers.

Overall, the results of the empirical research in Cyprus industry, aligned with those of similar empirical studies conducted elsewhere, indicating that efforts after certification should focus on the “soft” elements of TQM (leadership, employee

participation and empowerment, management involvement, human resource management and customer relations), since these are the ones with the least improvement from ISO certification. (Gotzamani *et al.*, 2007). According to Gotzamani, improvements in these elements are particularly important, since there is adequate research proving that the key to excellence performance does not lie in tools and techniques (hard enablers) such as ISO 9001 certification and benchmarking. The “soft” enablers of TQM and excellence (leadership, management involvement, human resource management and customer focus) have a higher influence on performance improvement than do the “hard” ones focused by the ISO9001 (Gotzamani *et al.*, 2007; Fotopoulos and Psomas, 2009).

In Palestine, there are several private companies that are registered to the ISO9001:2000 standard's certification. According to MAK international (the accredited agent for Lloyds Register Quality Assurance; the only international certification body in Palestine), there are 46 Palestinian organizations registered to the ISO9001:2000 certification until June 2009; both in West Bank and Gaza Strip. A list of these organizations could be found in Appendix C. While many Palestinian companies are registered to the ISO9001 standard mainly due to external pressures (customers, headquarters, or other factors); there are almost **no** Palestinian companies which adopt itself to any business excellence model. Many recognized

excellence models are being given a considerable amount of attention by organizations throughout the world.

In the Arab countries in general, there is no great attention to the business excellence or excellence models. According the EFQM members list (EFQM, 2009), only 36 Arab organizations and institutions from seven Arab countries have a membership in EFQM as shown in the down Table 1 (no Palestinian organizations among them):

<b>Country</b>	<b>No. of organizations as member in the EFQM</b>
UAE	24
Qatar	4
Saudi Arabia	3
Egypt	2
Kuwait	1
Bahrain	1
Jordan	1

**Table 1: Arab Organizations adopting EFQM Model**

## **1.2 Study Objectives and Questions**

This empirical research conducted among ISO9001 certified Palestinian organizations in order to investigate the contribution of ISO9001:2000 certification towards excellence. Since the central point in the study is the ISO9001 certification itself, there is a need to investigate the motives that influenced the Palestinian organizations' decision for ISO9001 certification, as well as the benefits gained from the certification. When this research was conducted, the number of certified Palestinian organizations reached 46, while the implementation of excellence models

such as the European Foundation for Quality Management (EFQM) excellence model in Palestine is still a dream, where no organization adopts it.

Thus, the main objectives of the research are:

1. To investigate the motives behind ISO9001:2000 certification in the Palestinian organizations.
2. To investigate the contribution of ISO9001:2000 towards excellence as perceived by the Palestinian organizations.
3. To investigate the benefits gained from ISO9001:2000 certification in the Palestinian organizations.

Based on the above objectives, this study should come out with answers to the following questions:

1. *What are the motives that lead the Palestinian organizations to ISO9001 certification, and what are their rankings of importance as perceived by the Palestinian organizations?*
2. *What are the performance improvements from the ISO9001 implementation in EFQM elements?*
3. *How much the ISO9001 certification can contribute to EFQM excellence model, as perceived by Palestinian organizations?*
4. *Is there any relationship between the performances of the EFQM enablers?*
5. *What are the internal and external benefits or positive results that the Palestinian organizations gained from ISO9001 certification?*

### **1.3 Significance of the study**

#### **1- Lack of awareness of the business excellence approach and its implementation:**

Organizations' top management are questioning the lack of empirically sound models to assist in effective quality management. They recognize that currently available approaches to implementation are organizationally and politically naïve (Dean and Bown, 1994). Therefore, a model development to explain effective quality management implementation by organizing, synthesizing, and empirically validating the various key quality factors should serve the needs of practitioners, and this is derived by adopting excellence models.

#### **2- Lack of the empirical researches, in general, in the developing countries.**

Palestine as a developing country has many organizations that are register to the ISO9001:2000 standard certificate, at the same time, those organizations –and the society in general– lack the access and knowledge to the empirical researches that contribute in the progress and improvement of their businesses.

### **1.4 Study Limitation**

Due to the nature of the study and its methodology, some limitations are existing that may prevent the generalization of the study; they are:

- The results are based on the quality perceptions of both the General Manager and the Quality Manager in each organization. Therefore, the actual implementation level of ISO9001 requirements or the “perceived” EFQM enablers’ elements in the ISO certified organizations are not measured specifically in this study.
- This study mainly examines the perception of both the General Manager and the Quality Manager only and not all employees of each organization, thus no complete holistic view could be generated.
- The ISO certified organizations are distributed all among West bank areas and Gaza strip, so the questionnaire has been distributed to them via E-mail and Fax, and the research idea and objectives were explained mainly on phone. No direct face-to-face interview was conducted in order to well explain the research objectives.

## **1.5 Structure of the report**

The thesis is presented in five chapters; these chapters cover the following aspects:

The first chapter (the current chapter) provides a general introduction and an overview of the study. The thesis structure will be maintained by the following chapter (Two), which will include a comprehensive literature review about quality and TQM history, the excellence models and why the EFQM model was specifically used.

The next chapter (Three) will summarize the study methodology, sampling process, the designed questionnaire as a measurement instrument for answering the study questions, and the goodness of the measure.

The followed chapter (Four) is an analysis and discussion for results obtained from data gathered from the questionnaire and calculation. The final chapter (Five) will summarize the main conclusion and recommendations obtained from the fourth chapter.

## **1.6 Terms Definition**

**Quality Management:** it is the overall management functions and practices that determine the quality policy of organization.

**Total Quality Management (TQM):** it is a set of systematic activities, carried out by the whole organization, to effectively and efficiently achieve its strategic objectives and operational goals, so as to provide products and services with a level of quality that satisfies customers, at the appropriate time and price.

**ISO9001:** ISO 9001 is the internationally recognized standard for the quality management of businesses. It applies to the processes that create and control the products and services an organization supplies. Certification to an ISO 9001 standard does not guarantee any quality of end products and services; rather, it certifies that

formalized business processes are being applied. ISO9001:2000 is the version released in the year 2000. In this study, the terms ISO9001 and ISO9001:2000 are used interchangeably.

**Excellence:** An outstanding practice in managing the organization and achieving results. It's the goal of every modern organization and can be defined as the next step after TQM, for the success of enterprise on the competitive path.

**EFQM:** EFQM or European Foundation for Quality Management is a non-profit membership foundation that seeks to support organizations and their senior leaders in their need to implement strategies. Every year, EFQM awards the EFQM Excellence Award to the organization that is the best proponent of Excellence.

**EFQM Enablers:** Part of the EFQM framework (5 Enablers) that covers what an organization does.

**EFQM Results:** The other part of EFQM framework (4 Results) covers what an organization achieves.

**General Manager:** the general manager of the Palestinian ISO9001-certified organizations or the authorized senior staff who answered the questionnaire of this study under the permission of the general manager.

**Quality Manager:** the quality manager in the Palestinian ISO9001-certified organizations who answered the questionnaire of this study, or any related person with different job title who is responsible of quality initiatives, practices, policies, control and follow up in his organization.

**Chapter Two**  
**Literature Review**

## **Chapter Two**

### **Literature Review**

#### **2.1 Introduction**

Both ISO9001 and Excellence models are considered as frameworks in which they explain the philosophy of TQM, but in different levels of maturity, depth and long-term vision perspective. The majority of companies worldwide that is currently ISO9001-certified pay attention to the performance of the Excellence models and look forward to comply with their requirements in their TQM journey. Of course it is not the case of “overnight” job to comply with the requirements, methodology, and philosophy of the Excellence models. Today, there are a lot of prestigious excellence models around the world that many organizations adopt itself to one of them.

This chapter aims to present the literature of TQM and the related relationships with the ISO9001 quality management in a sequential manner. First the quality journey will be presented passing through the TQM and Excellence in general, and then a section about the most prestigious Excellence models will be presented, demonstrating the common concepts between them. Afterward we will explain the fundamental concepts of TQM, ISO9001 quality management system and Business Excellence and the relationships between them, as well as the motives and benefits

of the ISO9001 system. Among the excellence models, the EFQM model was chosen to be the core of this study, and the explanation behind that is presented in a separate section. Finally, a section is presented showing some related international studies which represent the base of our study.

## **2.2 Journey of the quality**

The journey of an organization from quality to sustainable excellence can be divided into five steps (EEQM, 2005; Wiele *et al.*, 2000b); they are: Quality Control, Quality Assurance, Total Quality Management, Business Excellence, and Sustainable Excellence & Integrated Management Systems.

### **2.2.1 Quality Control (QC)**

QC strictly speaking, relates to the inspection of finished products prior to shipment. It occurs largely in the area of manufacturing. The usual use of the term QC involves taking a sample of finished goods, testing them for quality, and extrapolating the general quality of that sample. It's a form of quality sampling. QC tends to find the defects in a given product by a monitoring, audit, and assessment process.

### **2.2.2 Quality Assurance (QA)**

ISO 8402/1994 defines quality assurance as “all the planned and systematic activities implemented within a quality system and demonstrated a needed, to provide adequate confidence that an entity will fulfill requirements for quality.”

The quality assurance brings especially the rigor and the systematic application of the approaches deployed to reach the quality requirements of the product or service. Without that strength, the next steps are often, if not always, difficult to deploy efficiently across an organization.

### **2.2.3 Total Quality Management (TQM)**

Total Quality Management is a set of systematic activities, carried out by the whole organization, to effectively and efficiently achieve its strategic objectives and operational goals, so as to provide products and services with a level of quality that satisfies customers, at the appropriate time and price.

TQM introduces generalized and systematic customer orientation and strong people involvement to reach more than conformity to requirements, to achieve corporate performance goals.

### **2.2.4 Business Excellence & Integrated Management System**

The fundamental concepts of excellence as results orientation, customer focus, leadership, consistency of purpose and strategy, management by processes and facts, people development and involvement, partnership development, innovation and breakthrough thinking, cooperation and teamwork, continuous learning and permanent improvement. Few organizations in the world have already introduced an integrated QSEE (Quality, Security, Environment and Ethics) management system.

These kinds of systems help effectively fulfilling obligations to all stakeholders and society and taking care of the environment and the future generations.

Each step does not demolish the previous one. It is quite the contrary. Each step will give the following one a new dimension where it will be integrated in a larger approach (EFQM, 2005). The whole journey goes from operational level toward the strategic level and increases the level of TQM Maturity (Wiele *et al.*, 2000b). That means that the more an organization progresses on this way, the more it will reinforce its requirements towards leadership, from the lower layers up to the top layer of the executive committee.

### **2.3 Excellence models**

All excellence models are helpful in defining TQM in a way in which management can more easily understand. They help organizations to develop and manage their continuous improvement activities in a number of ways.

There are many prestigious excellence models around the world (EFQM, 2005). All these frameworks are underpinned by a systemic and systematic approach of organizations. In each of them, convergence and synergies of a certain number of key factors and enablers create organizational emergencies and generate exceptional results. Here are some famous excellence models:

### **2.3.1 Japanese Deming Prize**

It was established in 1951 by the JUSE (Union of Japanese Scientists and Engineers) in commemoration of the late Dr. William Edwards Deming who contributed greatly to strengthen the Nippon Quality movement. Its purpose is to promote quality control by recognizing the organizations that excel in this manner.

Its key factors are: Management policies and their deployment, information analysis and utilization of information technologies, new product development, work process innovation, maintenance and improvement, management system, & human resource development.

### **2.3.2 The Canadian Quality Award**

It was established in 1984 by the Canadian Government, which entrusted the NQI (National Quality Institute of Canada) with the program administration. Its purpose was to recognize outstanding achievement and high level of organizational excellence.

Its key factors are: leadership and innovation, planning, customer/citizen/client focus, people focus, process management, supplier/partner focus, & organizational performance.

### **2.3.3 The US Malcolm Baldrige National Quality Award (MBNQA)**

It was established in 1987 by an act of the One hundredth Congress of the USA, with the objective of encouraging American business and other organizations to practice

effective quality control in the provision of their goods and services. It's managed by the NIST (National Institute of Standards and Technology) in cooperation with the ASQ (American Society of Quality).

Its key factors are: leadership, strategic planning, customers and market focus, measurement, analysis and knowledge management, human resource focus, process management, & business results.

#### **2.3.4 The Australian Business Excellence Award**

It was developed in 1987 by a team of management and leadership experts in Standards Australia International Limited, in response to both Commonwealth Government and general industry calls for more efficiency and competitiveness in Australian companies. It is managed by Business Excellence Australia, a division of Standards Australia International Limited.

Its key factors are: leadership and innovation, strategy and planning process, data, information and knowledge, people, customer and market focus, processes, products and services, & business results.

#### **2.3.5 The European EFQM Quality Award**

In 1991, the European foundation for Quality Management launched the European Quality Award to recognize companies and other organizations which show a high level of commitment to Total Quality, and outstanding results depending on it.

Its key factors are: leadership, policy and strategy, people, partnership and resources, processes, customer results, people results, society results, & key performance results.

### **2.3.6 The Brazilian Prêmio Nacional da Qualidade**

As its beginning in 1992, the Brazilian excellence framework was based on Malcolm Baldrige National Quality Award criteria. Later it was influenced by European contributions. Today it's an autonomous framework supported by an enthusiastic community to promote the awareness of management excellence.

Its key factors are: leadership, strategy and plans, customers, society, information and knowledge, people, & processes.

### **2.3.7 The Japan Quality Award**

The Japan Quality Award was established in 1995 by the Japan Productivity Center for Socio-Economic Development (JPC-SED). It was inspired by the Malcolm Baldrige National Quality Award and modified to accommodate Japanese management practices. Its aim is to help companies to create new values through the continuous process of self-innovation to transfer their overall management systems into customer-oriented structures.

Its key factors are: leadership of senior leaders, social responsibility of management, understanding and responding to customer and market needs, strategy planning and

deployment, improving employee and organizational capabilities, customer value creation processes, information management, & activity results.

### **2.3.8 The South African Excellence Award**

Since 1998 the South African Excellence Foundation (SAEF) has been recognizing outstanding organizations. The South African Excellence Award is South Africa's most prestigious award for organizational excellence offering to excellent organizations an opportunity to celebrate and showcase their overall performance.

Its key factors are: leadership, policy and strategy, customer and market focus, people management, resources and information management, processes, impact on society, customer satisfaction, people satisfaction, supplier and partnership performance, & business results.

These models were at first introduced as frameworks for assessing and improving organizations, in order that they might achieve sustainable performance by competing in quality awards based on them. All these models are based on and share some fundamental concepts of excellence:

→ Delighting stakeholders:

- Customer orientation, understanding customers' value,
- Partnership development, Cooperation with suppliers,
- People involvement and development, enthusiasm, resourcefulness and participation,

- Corporate social responsibility, concern of ensuring a safe, fair and prosperous society,
  - Results for shareholders.
- Striving for performance:
- Clear direction, soundly based strategy and plans,
  - Values based leadership, inspiring constant role models,
  - Management by processes,
  - Continuous improvement,
  - Innovation and breakthrough thinking,
  - Use of facts, data and knowledge,
  - Collective learning.

## **2.4 ISO9001 and Excellence models vs. TQM**

According to Sun, Li, Ho, Gertsen, Hansen and Frick (2004), the slogan “Go beyond ISO 9000” does not mean that the ISO9000 era is finishing and that another fad “TQM” is coming. “Go beyond ISO 9000” aims to incorporate both ISO 9000 standards and TQM principles. To incorporate the two approaches, a full understanding of the aims, functions and limitations of each is a necessity. Previous debate or criticism concerning ISO 9000 as well as TQM models may be due to misunderstandings of the two frameworks. ISO 9000 standards aim to assist companies establish a quality system that maintains the quality level. Asking too

much from ISO 9000 is therefore not realistic. However, the use of ISO9000 standards only is not enough, which is why companies are encouraged to go further and additionally adopt TQM. TQM may have been misunderstood narrowly as a tool for quality improvement only. The principles of TQM aim to improve business performances in terms of cost, productivity, quality, customer satisfaction, delivery, market share, and (finally) profit.

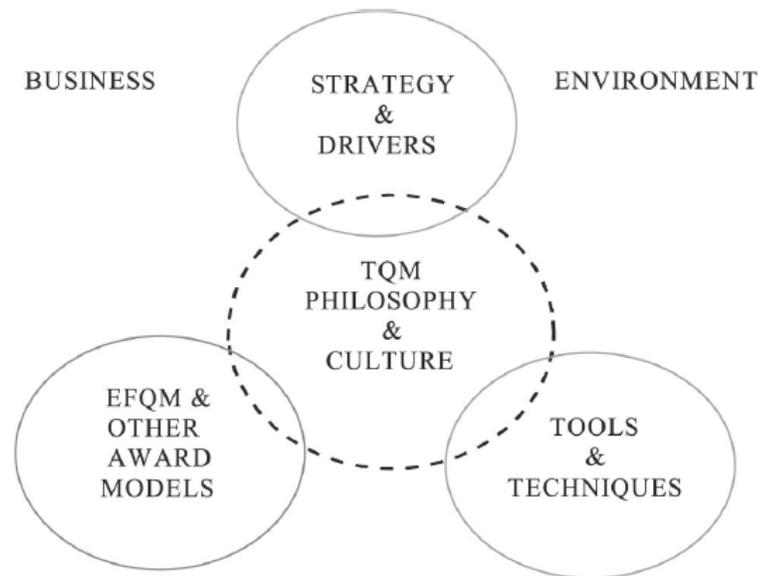
Both ISO9001 and excellence models explain the TQM principles but in different levels of maturity. An example for explanation is the area of “Process Management” where both frameworks (ISO9001 and excellence models) are concentrating on: From ISO9001 point of view, processes have to be clearly defined in terms of procedures, and defects also have to be handled in the prescribed way (Wiele *et al.*, 2000b). On the other hand, excellence models understand the processes in a deeper way where –in excellence models– the processes relate to the organization’s overall strategy and goals, and focus on understanding the processes’ variation and control, and how they can benefit in achieving the organization’s key indicators.

The vast majority of half a million companies worldwide that are currently registered to ISO 9000 standards still lag behind the levels of performance excellence required by the quality awards criteria (Boys, Karapetrovic, and Wilcock, 2004). Unfortunately, due to the largely differing purpose, nature and methodology, one cannot simply cut the additional requirements of a business excellence model and

paste them onto an ISO 9001-compliant quality management system. Overnight excellence is simply not possible.

Lewis, Pun, and Lalla (2006) and Sila and Ebrahimpour (2002) stated that TQM factors can be grouped within 25 main factors representing 13 soft factors and 12 hard factors. The “soft” factors are generally intangible and difficult to be measured and assessed, whereas the “hard” factors are those that are more systems oriented. Sila and Ebrahimpour (2002) identified those 25 factors using factor analysis of 347 journal articles and then ranked them according to their frequency of appearance by number of articles. These “ranked” factors are: 1) Customer focus and satisfaction, 2) people training, 3) top management commitment, 4) teamwork, 5) employee involvement, 6) continuous improvement and innovation, 7) information and performance measurement, 8) supplier management, 9) communication, 10) process management, 11) strategic planning, 12) process control, 13) rewards and recognition, 14) human resource management, 15) product and service design, 16) employee empowerment, 17) benchmarking, 18) quality culture, 19) employee satisfaction, 20) flexibility, 21) quality systems, 22) quality assurance, 23) just in time, 24) social responsibility, and 25) zero defect.

The critical factors along side with the Quality and Excellence Models as well as the strategy drivers together explain and formulate the whole view of TQM (Zhang, 2000). Figure 1 illustrates that.



**Figure 1: TQM relationships**

Several studies (Lewis *et al.*, 2006) have been conducted and a review of the literature to determine whether TQM and ISO 9000 complemented or contradicted each other. ISO 9000, being a series of international standards for quality assurance and management practices, focuses on assuring a company's efficient operation at its status quo. It forms a baseline for TQM that helps management to review and improve quality of the company's products and services continuously through gradual changes. Researchers contend that ISO 9000 is an important part of TQM, and the implementation of both approaches together will lead to organizational success and competitive advantages. The main conclusion drawn from a summarization of different views from the literature is that the long-term effectiveness and real value of ISO 9000 is not based on its content and

requirements, but on the way in which these are adopted and implemented. According to Lewis *et al.* (2006), in light of the findings from the literature review, the most frequently covered critical factors are considered to represent the “soft” factors.

Those companies who have met the requirements of the ISO 9000 series are looking towards the excellence models as the next step on their TQM journey. However, there is a wide gap between the requirements of the ISO 9000 series and the level of TQM maturity demanded by the excellence models (Wiele *et al.*, 2000b).

Organizations focusing on the ISO 9000 series are, in general, only aiming at becoming certified to this standard and can fulfill its requirements by just describing their key processes (Wiele *et al.*, 2000b). It is expected that every organization at least has some control already in place over its processes, and thus going for ISO 9000 series certification does not need many organizational changes. Once the organization is certified, it might become the responsibility of the quality assurance manager to keep the quality system working. The implementation of self-assessment against an excellence model should focus on the whole organization and on continuous improvement in every aspect of the organization. This process usually involves many people. Organizations interested in using self-assessment against an excellence model must have clearer defined goals and objectives and be aware of the costs and resources required. Implementing self-assessment against the award

criteria is an organizational change process involving deep changes and it can be expected that there will be resistance to the change.

#### **2.4.1 The motives and benefits of ISO9001**

A high number of reasons motivated different organizations for obtaining the ISO 9001 certificate or its predecessors. Several studies took place in Greece (Gotzamani and Tsiotras, 2002), Spain (Escanciano, Fernandez and Vazquez, 2001) and UAE (Zaramdini, 2007) to examine the motives that could motivate their companies in seeking ISO9001 certification.

The revised literature summarizes the ISO9001 motives as: the ISO9001 standard's implementation may help enhance internal organization and operation, external and internal communication through clearly defined responsibilities and duties, employees' awareness in quality issues, quality variations with the relate quality costs, and customers' satisfaction and trust to the organization through improved products' conformance. The standard provides also a well-structured tool to start with quality, making the top management's commitment easier to it.

In this study, and after an extensive review of previous literature, we selected 10 common reasons that could motivate the Palestinian organizations in seeking ISO 9001 certification. The ten motives are listed in Table 2.

<b>Motive</b>
1- Part of overall quality policy
2- Quality improvement of final products
3- Quality improvement of internal operations
4- Current customer demand
5- Future customer demand
6- Improvement of internal communication
7- Introduction to TQM
8- Entry to foreign markets
9- Competitive advantage
10- Certification of competitors

**Table 2: Motives of ISO9001 certification**

Different authors studied the benefits of ISO 9001: 2000 certification from the viewpoint of quantitative financial performance or qualitative performances. For example, (Buttle, 1997) found that “improving efficiency”, “improving awareness of procedural problems” and “better management control” were the top three benefits perceived by the firms studied, followed by “using standard as a promotional tool” and “increasing customer satisfaction”. (Escanciano et al., 2001) found similar results where “better understanding of processes/responsibilities” and “company image in the market improved” were considered as the most important benefits. Table 3 lists all the 20 benefits items collected from different articles.

<b>Benefit</b>
1- Improvement of internal organization and operation.
2- Development of quality culture.
3- Final product quality improvement.
4- Improved customer satisfaction.
5- Better communication with customers.
6- Improved competitive position.
7- Development of teamwork.
8- Improved employee-management relationships.
9- Better relationships among employees.
10- Improved suppliers' performance.
11- Less rework and waste.
12- Easier penetration to new markets.
13- Less customer complaints.
14- Less customer returns.
15- Increased employee satisfaction.
16- Increased employee participation.
17- Higher sales.
18- Increased productivity.
19- Higher profits.
20- Reduction of employees absences.

**Table 3: Benefits of ISO9001 certification.**

#### **2.4.2 What is the meaning of Excellence?**

In the literature, there are many definitions for the Excellence; all lead almost to the same meaning:

- “The outstanding practice in managing the organization and achieving results” (EFQM, 2005).
- “The goal of every modern organization and can be defined as the next step after TQM, for the success of enterprise on the competitive path” (Mele and Colurcio, 2006).
- “An outstanding practice in managing the organization and achieving results” (Martin-Castilla & Rodriguez-Ruiz, 2008)

According to Martin-Castilla & Rodriguez-Ruiz (2008), the Excellence is based on eight principles (see Figure 2):

- (1) Results orientation: Organizational actions have to be oriented by the needs of stakeholders (employees, customers, allies, society and those who have economical or non economical interests in the organization). It is necessary to reach a balance between different interests.
- (2) Customer focus: The customer is the judge of product quality. The organization should focus on satisfying customers’ current and future expectations.
- (3) Leadership and constancy of purpose: The management team has to be involved in the development of a culture of excellence. It is necessary to have an entrepreneurial view of the organization’s future.
- (4) Management by processes and facts: The excellent organization manages activities as processes. Owners are specifically identified and defined. Activities

concerning process improvement are carried out following a quality management system.

(5) People development and involvement: People are the most valuable asset in organizations. Corporations have to pay increasing attention to shared values, promoting an environment of confidence, responsibility assumption and personal development.

(6) Learning, innovation and continuous improvement: Correct management of knowledge, experiences, creativity and innovation is necessary for the development of a continuous improvement culture.

(7) Partnership development: The search for excellence involves mutually beneficial collaboration and cooperative relations. This sort of relationship is based on confidence. Knowledge socialization is essential for creating value in customer service.

(8) Corporate social responsibility: Ethical principles should inspire organizational behavior. Ambitious continuous improvement objectives will exceed the limited objectives of compulsory norms.



**Figure 2: Fundamental Concepts of Excellence**

The main drive which can shift an organization from TQM level to business excellence level lies in innovation (Mele and Colurcio, 2006). Innovation creates value and implies customer (and stakeholder) satisfaction allowing the enterprise to gain sustainable competitive advantage focuses on measurement and individuates the main feature of Business Excellence in simultaneously measuring the satisfaction of the various stakeholders in order to obtain a comprehensive evaluation of the organizational performance. Then, it is very important that business excellence is measured taking into consideration the precise views of the various stakeholders.

## **2.5 Why EFQM?**

It is apparent that the EFQM is the excellence model discussed most frequently in the literature (Boys *et al.*, 2004) and it's awarded to the most successful adopter of

TQM in Europe (Rawabdeh, 2008). This model uses self-assessment as a tool to identify the strengths as well as the areas in which an organization has room for improvement. In other words, self-assessment implies comprehensive and regular review of an organization's activities and results against the criteria of the model (Bou-Llugar, Escrig-Tena, Roca-Puig and Beltra'n-Martin, 2005). Its outcome is a structured plan for improvement, which is subsequently monitored for progress. In addition to this self-assessment component, the EFQM assists organizations with their continuous improvement initiatives by facilitating measurement of progress against TQM, identification of improvement opportunities, as well as benchmarking and organizational learning (Bou-Llugar *et al.*, 2005; Boys *et al.*, 2004). Truly effective use of the excellence models for continuous improvement requires the input of so many managers and staff that, for maximum benefit, it must be effectively marketed by top management and internalized by the staff of the organization. The self assessment process also allows a methodology to be adopted that will assess progress towards excellence on a regular basis by providing a comparison of scores from assessments to track the real improvement achieved (Bou-Llugar *et al.*, 2005; Wiele *et al.*, 2000a).

Moreover, Mavroidis, Toliopoulou and Agoritsas (2007) mentioned in their study on the European national quality awards that EU countries doesn't have a common framework to address business excellence, whereas the EFQM is the most

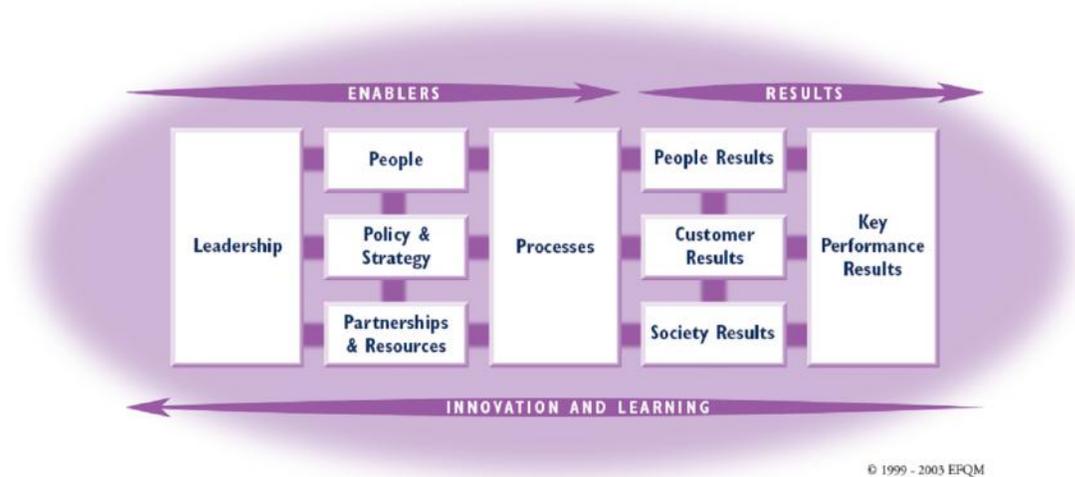
widespread model in the previous decade. In fact, analyzing and comparing the European national quality awards with the EFQM model showed that:

- Almost 58% of the European national quality awards are based on EFQM excellence model in its complete or with a few modifications.
- Almost 16% of the European national quality awards are based on EFQM model but are modified to the special requirements and conditions of their countries.
- Almost 26% of the European national quality awards are based on own developments and/or other models.

National quality awards are referred to all those awards which are supported by their governments both in the sense of financial-administrative point of view and in the sense of the content of the relative criteria. It's important to note that the Malcolm Baldrige National Quality Award in USA (as its name indicates) is considered as national quality award, whereas the EFQM doesn't belong in the category of "National Quality Award," it could be considered as international quality award.

The driving forces of development of EU national quality awards and other non-EU national quality awards are closely related to the political status, the law, the interaction and dependence between government and private and public sector, the business, organization culture, and administrative philosophy (Mavroidis *et al.*, 2007).

The EFQM Excellence Model, a non-prescriptive framework based on nine criteria, can be used to assess an organization's progress towards excellence. The Model recognizes there are many approaches to achieving sustainable excellence in all aspects of performance. It is based on the premise that: *“Excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Policy and Strategy, that is delivered through People, Partnerships and Resources and Processes.”* (EFQM, 2003). The EFQM model is shown in Figure 3.



**Figure 3: EFQM Model**

The EFQM model consists of nine criteria, five “Enablers” and four “Results.” Enabler criteria are concerned with how the organization undertakes key activities;

Results criteria are concerned with what results are being achieved (Bou-Llusar *et al.*, 2005). The nine criteria have 32 sub-criteria (Nabitz, Klazinga and Walburg, 2000) and about 188 areas to address working as guidance points (Bou-Llusar *et al.*, 2005) that exemplify what the organization has to do in order to develop the criteria. The main nine criteria and their 32 sub-criteria are shown below:

### **1. Leadership**

- 1a. Leaders develop the mission, vision, values and ethics and are role models of a culture of Excellence.
- 1b. Leaders are personally involved in ensuring the organization's management system is developed, implemented and continuously improved.
- 1c. Leaders interact with customers, partners and representatives of society.
- 1d. Leaders reinforce a culture of Excellence with the organization's people
- 1e. Leaders identify and champion organizational change.

### **2. Policy and Strategy**

- 2a. Policy and Strategy are based on the present and future needs and expectations of stakeholders.
- 2b. Policy and Strategy are based on information from performance measurement, research, learning and external related activities.
- 2c. Policy and Strategy are developed, reviewed and updated.

2d. Policy and Strategy are communicated and deployed through a framework of key processes

### **3. People**

- 3a. People resources are planned, managed and improved.
- 3b. People's knowledge and competencies are identified, developed and sustained.
- 3c. People are involved and empowered.
- 3d. People and the organization have a dialogue.
- 3e. People are rewarded, recognized and cared for.

### **4. Partnership and resources**

- 4a. External partnerships are managed.
- 4b. Finances are managed.
- 4c. Buildings, equipment and materials are managed.
- 4d. Technology is managed.
- 4e. Information and knowledge are managed.

### **5. Processes**

- 5a. Processes are systematically designed and managed.
- 5b. Processes are improved, as needed, using innovation in order to fully satisfy and generate increasing value for customers and other stakeholders.

5c. Products and Services are designed and developed based on customer needs and expectations

5d. Products and Services are produced, delivered and serviced.

5e. Customer relationships are managed and enhanced.

## **6. Customer Results**

6a. Perception measures.

6b. Performance Indicators.

## **7. People Results**

7a. Perception measures.

7b. Performance Indicators.

## **8. Society Results**

8a. Perception measures.

8b. Performance Indicators.

## **9. Key Performance Results**

9a. Key Performance Outcomes.

9b. Key Performance Indicators.

The EFQM excellence model is based on the logical assumption that there is an internal structure between the enabler criteria (Bou-Llusar *et al.*, 2005). The EFQM model illustrated in Figure 3 shows that leadership drives policy and strategy, people management and partnerships and resources, and these elements influence the results

through suitable processes (EFQM, 2003). Some empirical works support the interrelation between the enabler elements in the EFQM excellence model (Boullusar et al., 2005; Dijkstra, 1997). The studies' results indicated that positive and moderate associations exist between the enabler criteria because a common latent general factor existing behind them. Any of the enabler criteria in the EFQM excellence model can be interrelated with the others (Dijkstra, 1997; Esquildsen, Kristensen and Juhl, 2001; Naylor, 1999).

## 2.6 Related International Studies

Several studies have been conducted by Dr. Katerina Gotzamani and other researchers (Gotzamani and Tsiotras, 2001; 2002; Gotzamani *et al.*, 2007; Vouzas and Gotzamani, 2005) to study the contribution of ISO9001 certified organizations towards TQM as well as Excellence Models, besides revealing the motives behind ISO9001 certification and the overall benefits gained from it. Among them, we can name:

- 1- An empirical study of the ISO9000 standard's contribution towards **TQM**, true motives behind ISO9000 certification and their effect on the overall certification benefits. The study took place in 2001 and 2002 on all **Greek** ISO9001 certified organizations (~147 organizations).
- 2- An empirical study of the ISO9000 standard's contribution towards **Excellence**, true motives behind ISO9000 certification and their effect on the

overall certification benefits. The study took place in 2005 on ten selected **Greek** ISO9002 certified organizations (Vouzias and Gotzamani, 2005).

- 3- An empirical study of the ISO9000 standard's contribution towards **Excellence**, true motives behind ISO9000 certification and their effect on the overall certification benefits. The study took place in 2007 on all **Cypriot** ISO9001 certified organizations (~346 organizations) (Gotzamani *et al.*, 2007).

In her studies, Dr. Gotzamani developed a questionnaire (Gotzamani, 2005; 2007) to examine her researches questions. Parts from the questionnaire are:

- One part from the questionnaire examined the motives that lead the organizations to certification utilizing a list consisting of 10 different possible motives for implementation. The surveyed organizations were asked to indicate the degree to which each one of these motives influenced their decision to pursue ISO 9001 certification.
- Another part examined the contribution of the ISO 9001 system towards excellence. The description of excellence practices was based on the five enabler-criteria of the European Foundation for Quality Management (EFQM) excellence model and included the criteria of (Leadership, Policy and Strategy, Partnerships and Resources, People [Human Resources], and Management of Processes). For the description of the above five dimensions,

85 questions were used, covering excellent practices in all of these dimensions. These practices were derived from the EFQM excellence model, from existing literature, from information received from various Cypriot organizations, as well as from other similar international research and mainly from a similar study that was carried out in Greek industry (Gotzamani and Tsiotras, 2001). The organizations that took part in the research were asked to evaluate the degree to which they applied each one of these practices before and after certification.

- Another part examined the certification benefits, with the use of a list of 20 possible types of benefits and three negative results that were derived from literature review.

In all parts of the questionnaire, a measurement scale of six points was used (0 = Not at all, 1 = Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high), in order to avoid the central tendency error.

As Eskildsen and Dahlggaard (2000) and Eskildsen and Kanji (1998) pointed out, the EFQM material is a suitable input for the development of questionnaires. This supports Dr. Gotzamani's approach in evaluating the organizations' performance improvement in the five enablers of the EFQM excellence model; both before and after ISO certification.

Since the last two studies took place in 2005 and 2007 on the Greek and Cypriot organizations were intended mainly to study the ISO9001 standard's contribution towards Excellence (and EFQM model was chosen in both studies), and our study is in the same manner; so our study in the Palestinian market will be based on and similar to these two studies.

### **2.6.1 The results of the study on the Greek organizations**

The data was gathered from ten selected Greek organizations that were considered as representative in the market. They are all recipients of the European Foundation for Quality Management (EFQM) award for commitment to excellence and they are all either certified, or under certification, to the ISO 9001:2000 quality standard. The data collection was carried out by using extensive interviews using a semi-structured questionnaire with open – ended questions in all ten organizations, asking several respondents, i.e. the plant manager, the quality manager, and the production manager. The data analysis provides some ground for generalizations.

Based on the data collected, it was found the most important motives that lead the organizations to pursue ISO9001 were meeting future customer demand, utilizing human resources, improving final product quality and prompting quality culture.

The study's participants said that the quality policy and culture were improved. The ISO9001 standard helped initially to develop quality policy in the organizations; moreover the EFQM model seems to provide more holistic quality policy and

strategy by integrating more aspects of the quality system. More than setting coherent quality policy and strategy, the EFQM sets a strong basis for building quality awareness in the whole organization.

An unexpected finding was the absence of systematic estimation of the various quality initiatives as the ISO9001 standard was not used as an overall internal appraisal tool. It is more focusing on the “process” or quantitative aspects of quality instead of focusing on strategic quality elements covering all organizations functions. On the other hand, after implementing the EFQM model, the model assists in emphasizing the process management as to achieve organizational “results” more than just following the process-related requirements of the ISO9001 standard.

After the HR issues and functions were found to be the most problematic area during the ISO9001 implementation; these issues have been improved after the EFQM development since they are at the core of the EFQM model.

Studying the benefits that have been gained as a result of the ISO9001 implementation revealed the most important and ranked benefits of increased productivity, final product quality improvement, reduction of customer complaints, improved quality reputation by both customers and suppliers, and development of organizational quality environment.

### **2.6.2 The results of the study on the Cypriot organizations**

The data was gathered from all ISO-certified Cypriot organizations which count to 346 organizations. The data collection was carried out by using a special questionnaire to cover the whole study objectives, which were mainly to examine the contribution of the ISO9001 standard towards the EFQM excellence model, to investigate the motives to and benefits of the ISO9001 certification, and to investigate the effects of the motives on both the benefits gained and the performance improvements in EFQM practices, which consists of 85 excellent practices describing the 5 main EFQM enablers.

The results –using the 2-paired t-test– showed that the performance improvement between the periods before and after the ISO9001 certification was statistically significant for each one of the 85 elements describing the five enablers of excellence as well as the overall five main enablers, indicating that the development and implementation of the ISO9001 standard can contribute towards the implementation of the EFQM Excellence model in the certified organizations.

The contribution of the ISO9001 standard towards each one of the five EFQM enablers was found to be ranked by importance as: 1) Process Management, 2) Policy and Strategy, 3) Human Resources, 4) Partnership and Resources, and 5) Leadership.

Overall, the practices with the greatest improvement from ISO 9001 certification among all practices included in the questionnaire are: “Establishment of a formal

process management system”; “Systematic recording of process performance data”; “Systematic monitoring of internal indicators related to customer satisfaction”; and “Demand for quality proofs from partners”.

On the contrary, the practices with the lowest improvement from certification are: “Promoting social and cultural activity of personnel”; “Managing risks related to financial resources”; “Developing business strategy based on information from the external environment”; and “Developing long-lasting relations with suppliers”.

The study also shows that there is a statistical significant but negative relationship between the surveyed organizations’ performance before ISO9001 certification and the performance improvement in each one of the 85 individual EFQM elements and the overall EFQM enabler. This finding proves that the organizations that have high performance in excellence practices before the ISO9001 certification have less to gain from the EFQM model when implementing it, compared to organizations with a lower performance on excellence practices before ISO9001 certification which will make greater efforts than others when implementing the EFQM model.

**Chapter Three**  
**Research Methodology**

## **Chapter Three**

### **Research Methodology**

#### **3.1 Introduction**

This chapter is concerned with discussing the methodology used in this study in an elaborated manner. First the type and nature of the study will be discussed, and then the sampling process will be explained. Afterwards the Data Collection method will be discussed taking into account the questionnaire design. Then the Validity and the Reliability of the questionnaire will be discussed presenting the Goodness of Measures used. Finally, a detailed discussion about how the data was entered, coded and checked will be presented.

#### **3.2 Type and Nature of the study**

This empirical research is intend to measure the perception of both the Quality Manager and the General Manager in each of these 46 Palestinian organization on how much the ISO9001 certification can contribute towards EFQM excellence model; based on the detailed elements of the EFQM enablers, as well as measuring the perceived motives that influenced the organizations' decision for ISO9001 certification and the perceived benefits that the organizations gained as a result of the

ISO9001 certification (as perspective of both the General Manger and the Quality Manager in each organization).

Therefore, since no studies have been conducted in that area, then we are actually conducting an **exploratory** study, in **cross-sectional** time basis and **non-contrived** setting, in which we are obtaining a good grasp of the EFQM model through demonstrating its basic elements.

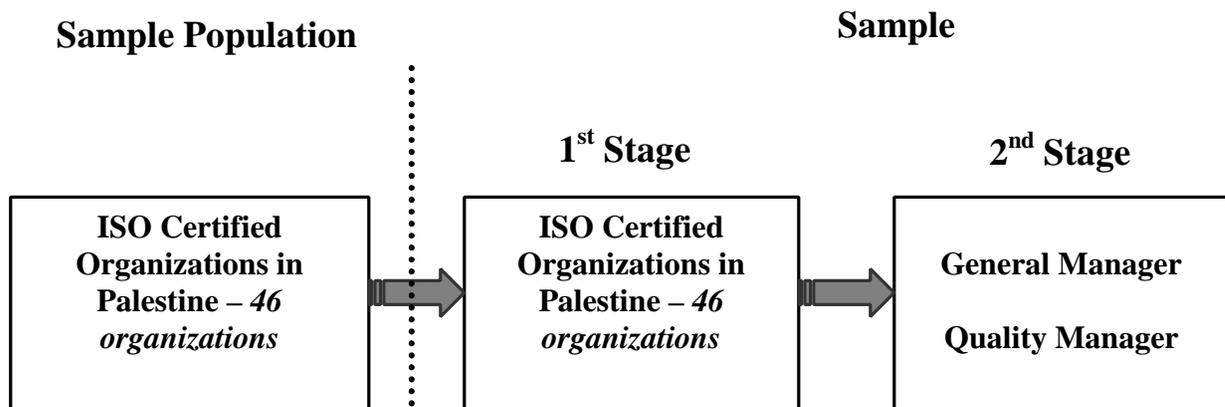
### **3.3 Sampling Design**

According to the exploratory nature of our study, we are actually seeking a sampling design that provides us with the information sought from the right people having this information. Therefore, we have decided to consider the ISO certification as the determinant of our sample population in order to assure a certain level of quality practices in the organization. Accordingly, our sample population consists of all the ISO9001 certified organizations in Palestine, which counts to 46 organizations. These organizations are distributed around the whole areas of West Bank as well as Gaza Strip, and cover many fields in industry such as manufacturing, services, health care, education and chambers of commerce. In such a case, the only viable method for obtaining the required type of information is the non-probability multistage sampling.

In the **first stage** of the sampling process, we decided to consider the **sample** to be the same as the sample population of the study. In the **second stage**, two persons in certain positions within each organization were selected purposively to be the units of analysis (individual unit of analysis). These two persons are the General Manger of the organization (or any one acting in his position, like the plant manager in a factory) and the Quality Manager. People filling those positions were specifically targeted since they are sought to be the most people have the authority and vision to answer the study questionnaire from their position perspective.

A list of all ISO9001 certified organizations was provided by MAK International; the only accredited agent for “Lloyds Register Quality Assurance” (the ISO9001 certification body in Palestine) which audit on and certify the Palestinian Organizations for ISO9001 registration. The list was checked and updated at the date of preparing this study. This list could be found in Appendix C.

So, the sampling design process is simplified in the Figure 4 below:



**Figure 4: Sampling Design Process**

### 3.4 Data Collection Method

In order to fulfill the study objectives and answer its questions, a special questionnaire was designed comprising three main parts:

**Part One** of the questionnaire examined the motives that lead the organizations to ISO9001 certification utilizing a list consisting of 10 different possible motives for implementation. The surveyed Palestinian organizations were asked to indicate the extent to which each one of these motives influenced their decision to pursue ISO9001 certification.

**Part Two**, the main part of the questionnaire, examined the contribution of the ISO9001 certification towards EFQM excellence model based on the five enabler-criteria of the EFQM excellence model and included the criteria of:

- Leadership,
- Policy and Strategy,
- Human Resources,
- Partnerships and Resources, and
- Process Management.

For the description of these five main dimensions, 94 questions were used, covering excellent practices in all of these dimensions, and divided among the five enablers dimensions as follows: Leadership (19 questions), Policy and Strategy (15

questions), Human Resources (17 questions), Partnerships and Resources (23 questions), and Process Management (20 questions).

These practices were derived mainly from the EFQM Excellence model (since the EFQM material is a suitable input for the development of questionnaires as pointed out by Eskildsen and Dahlgard (2000) and Eskildsen and Kanji (1998)) and from similar international researches carried out in Greek and Cypriot industries (Gotzamani *et al.*, 2007; Vouzas and Gotzamani, 2005). The organizations that took part in the research were asked to evaluate the degree to which they applied each one of these practices **before** and **after** ISO9001 certification. In this way, it was sought to find the contribution of the standard towards the organizations' performance in these practices and to check whether this contribution was significant or not. Although some may argue that answers may be rather subjective and respondents may not remember exactly what they did before certification so as to judge their improvements from it, this was deemed the most robust way to "isolate" ISO 9001's contribution from other managerial and/or environmental attributes and parameters.

**Part Three** of the questionnaire examined the ISO9001 certification benefits using a list of 20 possible types of benefits. The surveyed Palestinian organizations were asked to indicate the extent to which their organizations gained each one of these benefits as a result of the ISO9001 certification.

In all parts of the questionnaire, an Itemized Rating Scale of six points was used (0=not at all, 1=very low, 2= low, 3=moderate, 4=high, 5= very high) in order to avoid the central tendency error. Because the respondents are professional enough to answer the questions included in the questionnaire (from their position point); the answer “*I don’t know*” was not used in the measurement scale.

The questionnaire was written in both English and Arabic languages, and both versions were distributed to all organization respondents asking them to fill any one they prefer and feel more comfort towards; since both versions were validated by quality experts as described in the following section.

The English version of the questionnaire could be found in Appendix A, while the Arabic version could be found in Appendix B.

### **3.5 Goodness of Measures**

#### **3.5.1 Validity**

When we ask a set of questions through a questionnaire (the measurement instrument) in hopes that we’re tapping the concept, validity means we’re reasonably sure that we are measuring the concept we set out to measure and not something else.

Different types of Validity tests are available to test the goodness of measures. In this study, we’ll use the Content Validity test.

### *3.5.1.1 Content Validity*

Content Validity ensures that the measures include an adequate and representative set of items that tap the concept, (Sekaran, 2003). In other words, it measures the degree to which the elements of the questionnaire designed by the researcher fully cover the phenomena that is examined, in this case EFQM.

Content Validity can only be checked subjectively, by its approval from experts on the subject that it concerns, in this case, by experts on quality and EFQM. The designed questionnaire has been reviewed and ascertained by both:

1. Dr. Samir Baidoun: the MBA Program Director, Birzeit University, Palestine,  
and
2. Dr. Katerina Gotzamani: Assistant Professor, Department of Business  
Administration, University of Macedonia, Greece.

Both Dr. Samir and Dr. Katerina offered their opinions and made suggestions to improve the contents of the questionnaire. Modifications on the questionnaire elements have been made accordingly, as appropriate. Their e-mails containing their suggestions are inserted in Appendix D.

The original questionnaire was written in English and validated by Dr. Samir Baidoun and Dr. Katerina Gotzamani as described above. Then Dr. Samir; the supervisor asked to translate the English questionnaire into Arabic since the English language may act as an obstacle for some respondents not to answer the questionnaire, thus lowering the response rate by a dramatic percentage. The

translation took about one week including the translating itself, and the review by MBA colleagues and by Dr. Samir Baidoun who gave some suggestions and asked for minor modifications in order for the Arabic questionnaire to be well understood by the respondents and to be synchronized with the original English version in terms of meaning, content and representation. Hence the Arabic version of the questionnaire has been tested for its Content Validity.

### **3.5.2 Reliability**

According to Sekaran (2003), the reliability of a measure indicates the extent to which the measure is without bias and hence ensures consistent measurement across time and across the various items in the instrument. In other words, the reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the “goodness” of a measure. There are several types of reliability tests. In our study, we are actually concerned with the internal consistency of measures which is an indicative of the homogeneity of the items in the measure that tap the construct. One popular form of examining the internal consistency is the inter-item consistency reliability.

#### *3.5.2.1 Inter-item consistency reliability*

This is a test of the consistency of respondents’ answers to all items in a measure. To the degree that items are independent measures of the same concept, they will be correlated with one another. The most popular test of inter-item consistency

reliability is the Cronbach's Alpha coefficient. The closer the Cronbach's alpha gets to 1.0, the best and the higher the internal consistency of a dimension. In general, values higher than 0.8 are considered satisfactory, between 0.7 and 0.8 are considered accepted, while less than 0.7 are considered poor.

Therefore, using the SPSS software Cronbach's alpha coefficient was calculated for each EFQM dimension and the results proved the internal consistency of each enabler's elements in the questionnaire, since the Cronbach's alpha coefficient for all EFQM dimensions were greater than 0.8. The exact coefficients for each enabler are presented in Table 4 below.

<b>EFQM Enabler</b>	<b>Cronbach's alpha</b>
Leadership	0.956
Policy and Strategy	0.954
Human Resources	0.944
Partnership and Resources	0.961
Process Management	0.962

**Table 4: Cronbach's alpha reliability coefficients for each EFQM Enabler**

Also, the Cronbach's alpha coefficient was calculated for the motives and the benefits variables. The results proved the internal consistency of the motives variables together as well as the benefits variables together. The consistency of the motives variables is considered accepted since its value is between 0.7 and 0.8, while

the consistency of the benefits variables is considered satisfactory since its value is greater than 0.8. Table 5 below illustrates that.

<b>Dimension</b>	<b>Cronbach's alpha</b>
Motives	0.706
Benefits	0.874

**Table 5: Cronbach's alpha reliability coefficients for ISO motives and benefits**

## **3.6 Data Check and Data Entry**

### **3.6.1 Distributing the questionnaires**

Data collection period took place in the period from 9<sup>th</sup> of June until 11<sup>th</sup> of July 2009, where the respondents have been contacted based on the contact information provided by the Auditing Agent (MAK International).

The initial contact was through phone call with the quality manager or representative, explaining to him the purpose of the research, asking him to provide an e-mail address for better contact, asking him to fill the questionnaire and passing the questionnaire to the General Manager (or the person on his behalf). Immediately after the phone call, an e-mail was sent to the provided e-mail address. The e-mail body contains more explanation about the research purpose, the questionnaire design, the targeted sample and the reason behind contacting the General Manager and Quality Manager particularly in this regard. The e-mail attachment contains an

official letter from the University asking for assistance, as well as both Arabic and English versions of the questionnaire.

Several reminders –using e-mails and phone calls– took place later in order to encourage respondents who didn't respond yet to fill the questionnaire. Sometimes, personal visits to some organizations premises were needed to either ask again filling the questionnaires or deliver back the filled questionnaires.

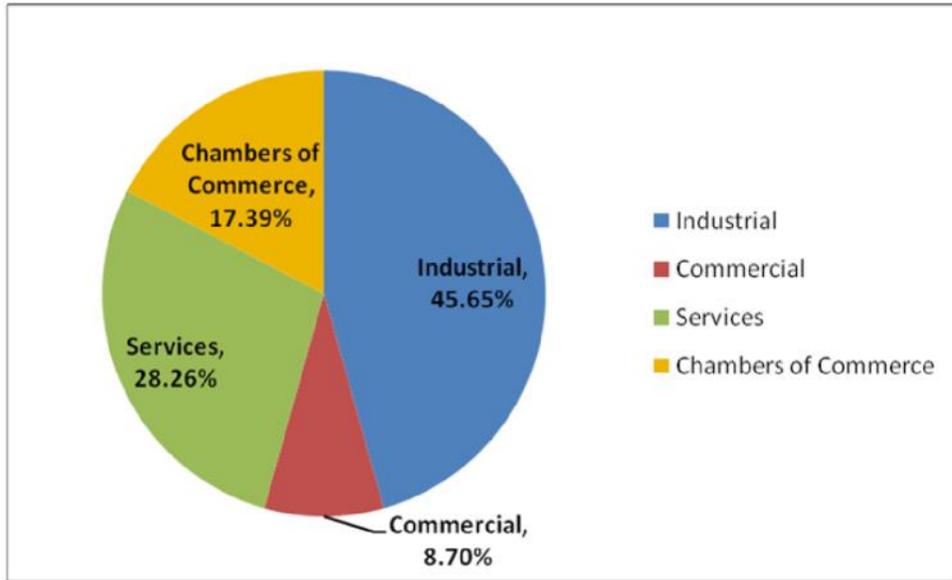
The 46 ISO9001-certified organizations targeted in this study are grouped in four different sectors mainly, which are:

1. Industrial (**21** organizations),
2. Commercial (**4** organizations),
3. Services (**13** organizations), and
4. Chambers of Commerce (**8** chambers of commerce).

Figure 5 below shows the distribution of these organizations among the four main sectors.

The Industrial sector contains organizations work in different fields which are pharmaceutical, food and drink manufacturing, stone and marble, glass factories and doors factories. The Commercial sector contains organizations work in different fields which are furniture trading, electrical appliances trading, and water-related equipment trading, whereas the Services sector contains organizations work in different fields which are software services, accounting services, consultancy,

education and health care sector. The 46 organizations and their sector category are listed in Appendix C.



**Figure 5: Organizations' business sectors**

Since our sample counts to 46 ISO-9001 certified organizations, and both the General Manager and the Quality Manager are targeted in each organization, so the total number of distributed questionnaires is  $46 \times 2$  which equals to 92 questionnaires. At the end of the data collection period (July the 11<sup>th</sup>, 2009), a total of 53 answered questionnaires were delivered, giving a relatively high rate of response (57.6 percent), taking into consideration the method of contact (by e-mail, phone and personal visit) and the large size of the questionnaire.

The 53 answered questionnaires were received by hand or by e-mail from 34 organizations. The remaining 12 organizations that didn't share in the study are

categorized as: not contacted at all due to wrong address (4), refused to cooperate (2), and didn't respond back after being contacted (6).

The 53 answered questionnaires are divided in terms of type of respondents into General Managers (22) and Quality Managers (31), and divided in terms of used questionnaire version into English version used (17) and Arabic version used (36).

Table 6 below explains the whole distribution patterns of the questionnaires:

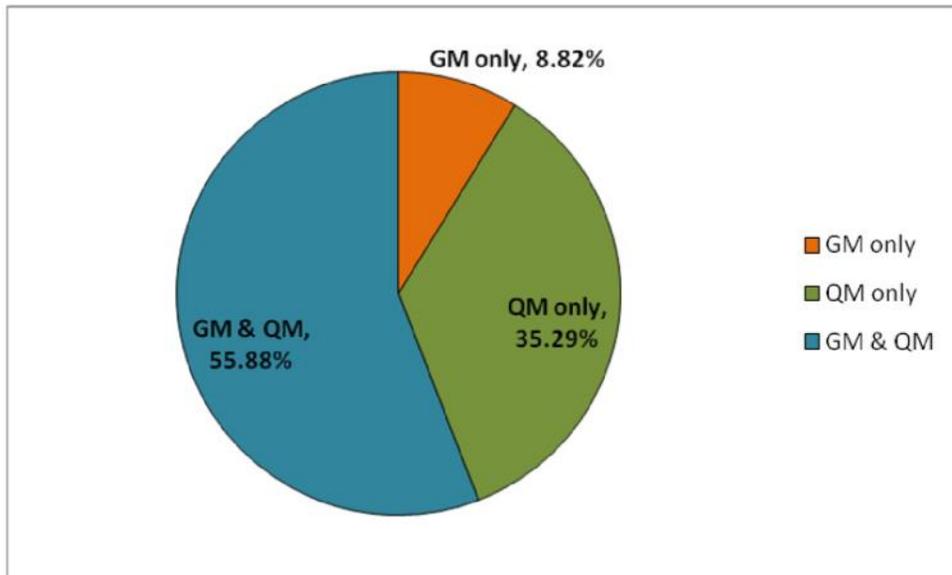
Total Number of Organizations:	46	
Total Number of respondents:	92 (46*2)	
Number of non-responding organizations:	12	
Category of non-responding organizations:		
Not contacted at all due to wrong address:	4	
Refused to cooperate after being contacted:	2	
Didn't respond back after being contacted:	6	
Number of responding organizations:	34	
Number of answered questionnaires:	53	
Distribution based on type of respondents:	General Manager	Quality Manager
	22 (41.51%)	31 (58.49%)
Distribution based on used questionnaire version:	English version	Arabic version
	17 (32.08%)	36 (67.92%)

**Table 6: Questionnaires distribution patterns**

Among the 34 organizations that answered the questionnaire, there are only 19 organizations (55.88%) that answered the questionnaire by both respondents; the General Manager and the Quality Manager, whereas there are 12 organizations

(35.29%) that answered the questionnaire by its Quality Manager only, while 3 organizations (8.82%) answered the questionnaire by their General Manager only.

Figure 6 illustrates the distribution.



**Figure 6: Distribution of organizations who answered the questionnaire based on respondents' type**

### 3.6.2 Questionnaire Coding

Since there are too many variables in the questionnaire, it's necessary to code them in order to avoid confusion while entering them in the SPSS software as follows:

- For part 1 of the questionnaire, the 10 motives that lead the organizations to ISO9001 certification were coded as *Motv1* until *Motv10*. → 10 variables.
- For part 3 of the questionnaire, the 20 benefits gained from ISO9001 certification were coded as *Benf1* until *Benf20*. → 20 variables.

- For the main part; part 2 of the questionnaire, the 94 elements comprising the five main EFQM Enablers were coded as a combination of the enabler name, the element number and either Bef or Aft as follows:
  - Leadership dimension: Its 19 elements were coded as *Lead1Bef*, *Lead1Aft*, *Lead2Bef*, *Lead2Aft*, ..until *Lead19Bef* & *Lead19Aft*. → 38 variables.
  - Policy & Strategy dimension: Its 15 elements were coded as *PolStrat1Bef*, *PolStrat1Aft*, *PolStrat2Bef*, *PolStrat2Aft*, ..until *PolStrat15Bef* & *PolStrat15Aft*. → 30 variables
  - Human Resources dimension: Its 17 elements were coded as *HR1Bef*, *HR1Aft*, *HR2Bef*, *HR2Aft*, ..until *HR17Bef* & *HR17Aft*. → 34 variables.
  - Partnership & Resources dimension: Its 23 elements were coded as *PartnRes1Bef*, *PartnRes1Aft*, *PartnRes2Bef*, *PartnRes2Aft*, ..until *PartnRes23Bef* & *PartnRes23Aft*. → 46 variables.
  - Process Management dimension: Its 20 elements were coded as *Procs1Bef*, *Procs1Aft*, *Procs2Bef*, *Procs2Aft*, ..until *Procs20Bef* & *Procs20Aft*. → 40 variables.
  - The total variables for each enabler was computed as the mean of all related variables. For example, *LeadTOT\_Bef* is the mean of

*Lead1Bef, Lead2Bef* until *Lead19Bef*, and *HRTOT\_Aft* is the mean of *HR1Aft, HR2Aft* until *HR17Aft*. → 10 variables.

Accordingly, the total number of coded variables defined in the SPSS software is (10 + 20 + 38 + 30 + 34 + 46 + 40 + 10) which equals to 228 variables.

### **3.6.3 Missed data**

Some questionnaires contained some missed data which have been left unanswered either by mistake or intentionally. These missed data were relatively few in number so a decision must be made about how these missed responses are to be handled.

Many methods exist to handle the missed data (Sekaran, 2003). The used one in our case is to give the missed item the mean value of all those who have responded to that particular item. For example, if variable *Lead3Bef* was missed for respondent no. 10, then it will be given the mean value of *Lead3Bef* variable for the previous 9 respondents already entered in the SPSS.

## **3.7 Data analytic techniques used**

For each question of the study questions, a different analytical tool will be used as appropriate.

For both question one (Motives) and question five (Benefits), a Descriptive statistics was used for both of them to measure the mean of each element and then rank them in descend order.

For questions two and three, a Paired-Sample T-test was used to check if there is a statistical significant difference between each one of the 94 elements describing the five enablers of EFQM as well as the overall Enables themselves; before and after the ISO9001 certification. Some charts will be illustrated for better clarification.

For question four, a bi-variate correlation technique using Pearson coefficient will be used to test possible relationships between the performances of the five EFQM enablers. Since our scale used in the questionnaire is an interval scale, the Pearson correlation coefficient is appropriate for testing possible relationships (Sekaran, 2003).

# **Chapter Four**

## **Findings of the Study**

## **Chapter Four**

### **Findings of the Study**

#### **4.1 Introduction**

This chapter characterizes a comprehensive analysis and discussion for the results obtained from the answered questionnaires, where the design of the analysis will be in a way that elaborates and summarizes the answers of the study questions that was stated in chapter one. Each research question will be answered by presenting the results obtained from the data analysis appropriate for this particular question, and then analyzing them.

#### **4.2 Study Questions and Study Findings**

In order to be more specific in the analysis of the study and the results obtained from the questionnaires, I will review each question of the study questions separately, analyze it with the appropriate tool, and then try to correlate the results with the literature review.

The study questions will be presented in this section again for better review:

- 1. What are the motives that lead the Palestinian organizations to ISO9001 certification, and what are their rankings of importance as perceived by the Palestinian organizations?*

2. *What are the performance improvements from the ISO9001 implementation in EFQM elements?*
3. *How much the ISO9001 certification can contribute to EFQM excellence model, as perceived by Palestinian organizations?*
4. *Is there any relationship between the performances of the EFQM enablers?*
5. *What are the internal and external benefits or positive results that the Palestinian organizations gained from ISO9001 certification?*

#### **4.2.1 The First Question**

The first question of the study questions is:

*“What are the motives that lead the Palestinian organizations to ISO9001 certification, and what are their rankings of importance as perceived by the Palestinian organizations?”*

Part one of the questionnaire examined the motives that lead the organizations to ISO9001 certification utilizing a list consisting of 10 different possible motives for implementation. The surveyed Palestinian organizations were asked to indicate the extent to which each one of these motives influenced their decision to pursue ISO9001 certification. The processing of answers in this part of the questionnaire using the Descriptive Statistics gave the hierarchy shown in Table 7. The score for each motive was calculated as the mean value of all answers to that motive as provided by the 53 respondents.

<b>Motive</b>	<b>Mean score</b>
Quality improvement of internal operations	4.28
Introduction to TQM	4.26
Quality improvement of final products	4.13
Part of overall quality policy	4.08
Future customer demand	4.04
Improvement of internal communications	3.96
Competitive advantage	3.89
Current customer demand	3.85
Entry to Foreign markets	3.49
Certification of competitors	3.45

**Table 7: Hierarchy of ISO9001 certification motives**

Table 7 explains the ISO9001 certification motives as perceived by Palestinian organizations and ranked according to their importance to them.

The above hierarchy proves that the most significant ISO9001 certification motives stemmed from the organizations' intension for real internal improvements and they are:

1. The quality improvement of internal operations;
2. Introduction to TQM; and
3. Quality improvement of final products.

The exact answers to these most significant motives: quality improvement of internal operations, introduction to TQM, and quality improvement of final products are presented in Figure 7, Figure 8, and Figure 9 respectively.

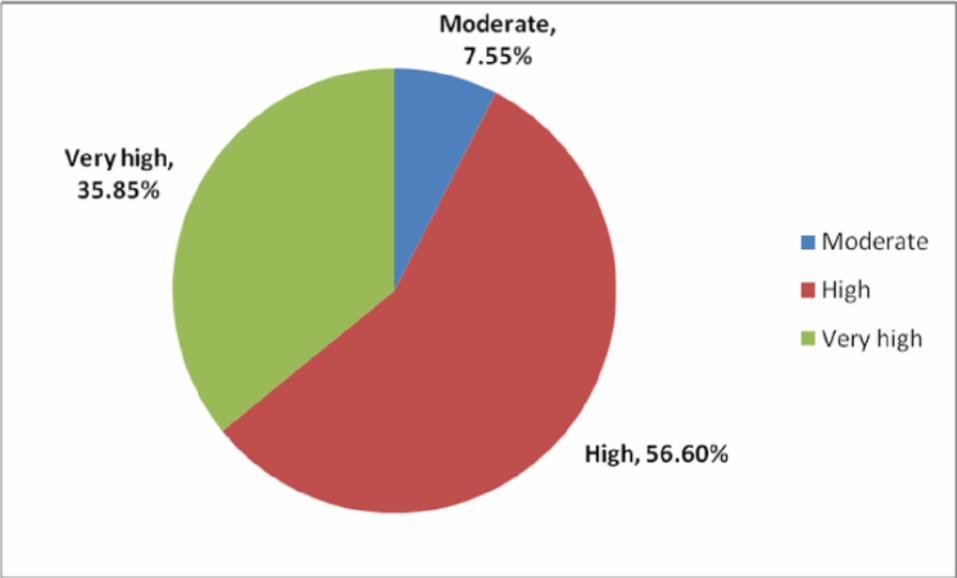


Figure 7: “Quality Improvement of internal operations” as an ISO9001 motive

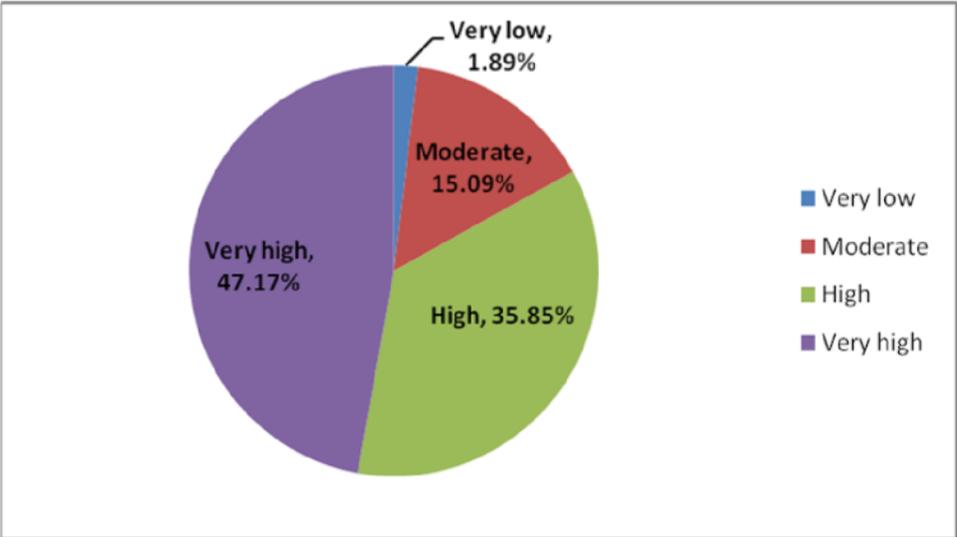
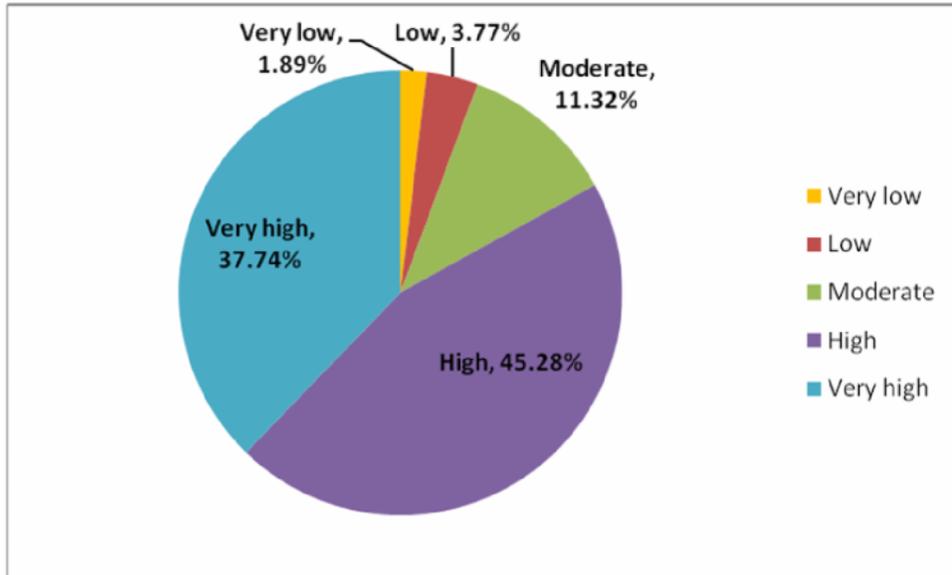


Figure 8: “Introduction to TQM” as an ISO9001 motive



**Figure 9: “Quality improvement of final products” as an ISO9001 motive**

Notice that among these three significant motives, “Introduction to TQM” motive gets the highest percentage for the score “Very high” (47.17%), even it was overall ranked as the second significant motive.

Fulfillment of future customer demand, improvement of internal communications and gain of competitive advantage were all considered as secondary motives in hierarchy, while market pressure to enter foreign markets and competitor’s certification, which are so-called “force to certification”, came last in the hierarchy.

Two remarkable points are remaining. The first one is that the fulfillment of future customer demand (score 4.04) is ranked higher than the fulfillment of current customer demand (score 3.85). Definitely, satisfying the future customer demand

require initially to satisfy the current customer demand, but it is interesting to see the Palestinian organizations focus on the long-term part of their customer satisfaction as part of their strategies and rank it first. The second remarkable point is the short distance between the highest score and the lowest score of the motives (range is 0.83 out of 5), and comparatively they all considered as high (lowest is 3.85 out of 5). This reflects the concept that the Palestinian organizations are generally look for all motives as important and want to get as much deliverables out of the system as possible.

#### **4.2.2 The Second and Third Questions**

This section will treat with the second and third questions of the study questions since they are correlated.

The second question of study questions is:

*“What are the performance improvements from the ISO9001 implementation in EFQM elements?”*

And the third question of the study questions is:

*“How much the ISO9001 certification can contribute to EFQM excellence model, as perceived by Palestinian organizations?”*

Part Two, the main part of the questionnaire, examined the contribution of the ISO9001 certification towards EFQM excellence model based on the five enabler-criteria of the EFQM excellence model and included the criteria of:

- Leadership,
- Policy and Strategy,
- Human Resources,
- Partnerships and Resources, and
- Process Management.

For the description of these five main dimensions, 94 questions were used, covering excellent practices in all of these dimensions, and divided among the five enablers dimensions as follows: Leadership (19 questions), Policy and Strategy (15 questions), Human Resources (17 questions), Partnerships and Resources (23 questions), and Process Management (20 questions).

The organizations that took part in the research were asked to evaluate the degree to which they applied each one of these practices **before** and **after** ISO9001 certification.

As described in section 3.6.2 (Questionnaire Coding), each element in part two of the questionnaire was coded as a combination of the enabler name, the element number and either the suffix *Bef* or *Aft*.

The organizations' performance improvement (performance after ISO9001 certification versus performance before ISO9001 certification) were tested for each one of the 94 EFQM elements described in the questionnaire. The Paired-Sample T-test was used to check if there is a statistical significant difference between each one of the 94 elements describing the five enablers of EFQM as well as the overall

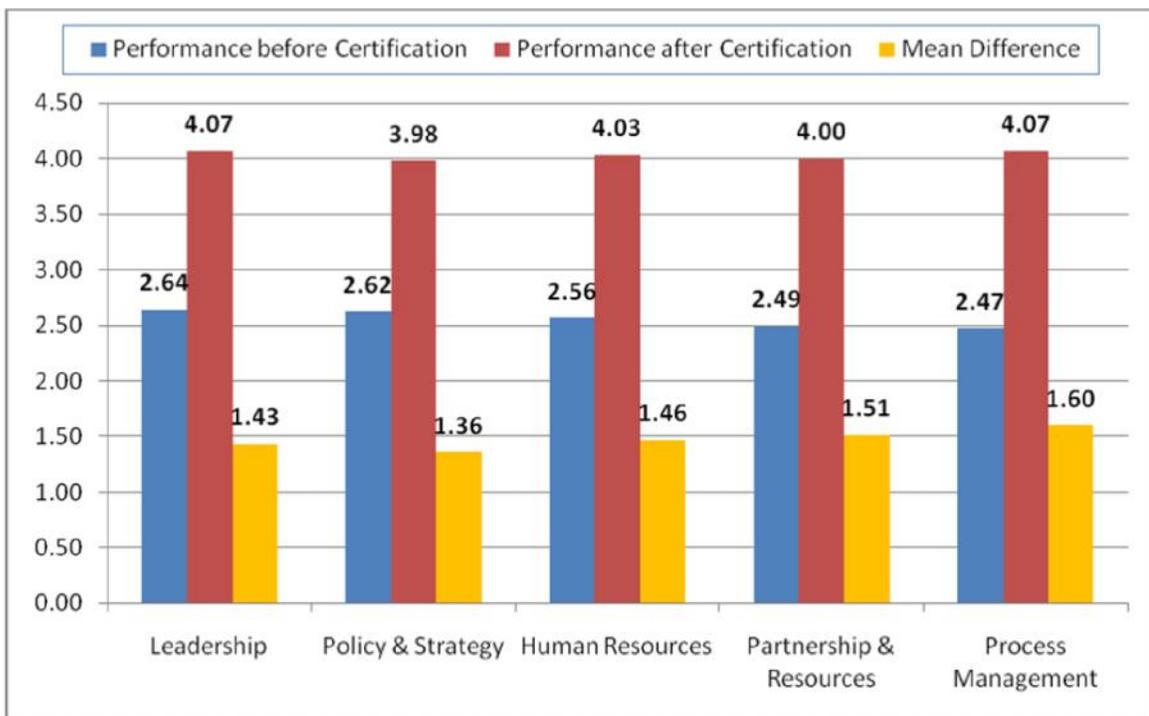
Enables themselves; before and after the ISO9001 certification. The score of each Enabler as a whole was calculated as the mean score of the extent of implementation of the elements describing this enabler. For example, the score of the Leadership enabler before the ISO9001 certification was calculated as the mean of (*Lead1Bef*, *Lead2Bef*            *Lead19Bef*) and took the code *LeadTOT\_Bef*, while the score of the Leadership enabler after the ISO9001 certification was calculated as the mean of (*Lead1Aft*, *Lead2Aft*            *Lead19Aft*) and took the code *LeadTOT\_Aft*, and so on. The result of the Paired-Sample T-test shows that performance improvement (performance after ISO9001 certification versus performance before ISO9001 certification) was **statistically significant** in 95% confidence interval for each one of the 94 elements describing the five enablers of EFQM, as well as the total EFQM enablers. The result of the T-test for the total Enablers is presented in Table 8.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	LeadTOT_Bef - LeadTOT_Aft	1.43226	.76016	.10442	1.64179	1.22274	13.717	52	.000
Pair 2	PolStratTOT_Bef - PolStratTOT_Aft	1.35642	.72797	.09999	1.55707	1.15576	13.565	52	.000
Pair 3	HRTOT_Bef - HRTOT_Aft	1.46377	.72774	.09996	1.66436	1.26318	14.643	52	.000
Pair 4	PartnResTOT_Bef - PartnResTOT_Aft	1.50755	.73581	.10107	1.71036	1.30473	14.916	52	.000
Pair 5	ProcsTOT_Bef - ProcsTOT_Aft	1.59811	.75243	.10335	1.80551	1.39072	15.462	52	.000

**Table 8: T-test results of the main Enablers dimensions**

The findings obtained from the T-test gives an answer to the question of Palestinian organizations about the effectiveness of ISO9001 standard, indicating that the development and certification to the ISO9001 standard **contributes** towards the implementation of EFQM practices in the certified organizations.

More specifically, the performance before and after ISO9001 certification as well as the performance improvement achieved from ISO certification in each one of the five EFQM enablers is shown in Figure 10.



**Figure 10: Performance in EFQM enablers before & after ISO certification**

The ISO standard's most important contribution was in the "Process Management" criteria. While the mean performance in this criteria before ISO certification was less

than moderate ( $\bar{x} = 2.47$ ) and actually it was the lowest of all dimensions, it reached the highest level ( $\bar{x} = 4.07$ ) after ISO certification, thus its performance improvement scored the highest value among all others ( $\bar{x} = 1.6$ ). The reason for its highest performance improvement could be ascribed to the ISO standard's requirement for systematic documentation, maintenance and control of critical processes for the quality of products and customer satisfaction, and provides a solid basis for continuous improvement. The most significant improvements in this dimension were related to setting process indicators and performance targets ( $\bar{x} = 1.98$ ), systematic monitoring of internal indicators related with customer satisfaction ( $\bar{x} = 1.92$ ), and systematic measurement of customers' satisfaction ( $\bar{x} = 1.91$ ), where generally they are related to processes concerning customer satisfaction. The lowest improvements in the Process management criteria were in the areas of marketing the value proposition, piloting the implementation of new or changed process, and using creativity of both internal and external partners to develop new products and services.

The ISO standard's least important contribution was in the "Policy and Strategy" criteria. While its mean performance before ISO certification was among the highest levels ( $\bar{x} = 2.62$ ), its mean performance after the ISO certification scored the lowest ( $\bar{x} = 3.98$ ) and it is the only dimension that scored lower than 4 after ISO certification (others scored 4 or higher). This gives the Policy and Strategy

dimension the lowest performance improvement from ISO certification ( $\bar{x} = 1.36$ ). This indicates the poor awareness regarding the importance of formulating policies and strategies in the Palestinian organizations. The most significant improvements in this dimension were related to reviewing and updating the policy and strategy systematically ( $\bar{x} = 1.7$ ), Policy and Strategy are based on internal performance indicators ( $\bar{x} = 1.64$ ), and Policy and Strategy are periodically evaluated for their relevance and effectiveness ( $\bar{x} = 1.55$ ). The lowest improvements in the Policy and Strategy criteria were in the areas of formulating them based on analysis of new technologies' impact and risk assessment, as well as updating them by aligning social and environmental standards with partners.

The leadership criteria shows the highest performance in both before ISO certification ( $\bar{x} = 2.64$ ) and after ISO certification ( $\bar{x} = 4.07$ ), thus its performance improvement scored around the median among others ( $\bar{x} = 1.43$ ). The most significant improvements in this dimension were: ensuring effective organizational structure and process management system ( $\bar{x} = 1.66$ ), measuring and reviewing the effectiveness of changes ( $\bar{x} = 1.66$ ), and ensuring an appropriate process management system and assigning clear responsibilities and ownerships for all processes ( $\bar{x} = 1.6$ ), while the lowest improvements were in participating in professional bodies and conferences, recognizing and praising people efforts in a

timely and appropriate manner, and reviewing and improving the effectiveness of personal leadership behavior.

Both “Human Resources” and “Partnership and Resources” criteria show relatively moderate scores of performance before and after ISO certification, also in the performance improvement as a result.

The most significant improvements in the Human Resources dimension were training people on quality issues ( $\bar{x} = 1.91$ ), promoting awareness in health, safety, environment and social responsibility issues ( $\bar{x} = 1.77$ ), and developing people through work experience and the use of empowerment skills ( $\bar{x} = 1.6$ ). On the other hand, the lowest improvements were: promoting people well being, satisfaction and development ( $\bar{x} = 1.15$ ), promoting social and cultural activities ( $\bar{x} = 1.21$ ), and involving people in developing human resources plans and policies ( $\bar{x} = 1.26$ ).

The most significant improvements in the Partnership and Resources dimension were: having a comprehensive system for evaluating partners ( $\bar{x} = 1.75$ ), requiring quality certificate from partners ( $\bar{x} = 1.75$ ), and the systematic recording of process performance data ( $\bar{x} = 1.7$ ), while the lowest improvements were: Developing and implementing financial strategies and processes for using financial resources in support of overall policy and strategy ( $\bar{x} = 1.3$ ), Identifying and leveraging core

competencies of partners; and generating innovative thinking through them ( $\bar{x} = 1.32$ ), and managing risks to financial resources ( $\bar{x} = 1.32$ ).

The above findings are presented clearly in Table 9 below, which shows the highest and the lowest improvement items in each EFQM enabler criteria with their statement and number in the questionnaire, beside their mean improvement scores.

Practices with highest improvements	Practices with lowest improvements
<b>Leadership ( <math>\bar{x} = 1.43</math> )</b>	
1- Ensuring effective organizational structure and process management system to deliver policy and strategy. ( $\bar{x} = 1.66$ )	13- Participating in professional bodies, conferences and seminars; and supporting and engaging in activities in the fields of excellence, environment, society and interests of future generations. ( $\bar{x} = 1.09$ )
19- Measuring and reviewing the effectiveness of changes, and sharing the knowledge gained. ( $\bar{x} = 1.66$ )	5- Recognizing and praising people efforts in a timely and appropriate manner. ( $\bar{x} = 1.21$ )
10- Ensuring an appropriate process management system and assigning clear responsibilities and ownerships for all processes. ( $\bar{x} = 1.60$ )	8- Reviewing and improving the effectiveness of personal leadership behavior, and encourage collaboration within the organization. ( $\bar{x} = 1.32$ )
<b>Policy and Strategy ( <math>\bar{x} = 1.36</math> )</b>	
2- Policy and strategy are systematically reviewed and updated. ( $\bar{x} = 1.70$ )	14- Policy and strategy are updated continuously by aligning and developing social and environmental standards with partners. ( $\bar{x} = 1.11$ )
3- Policy and strategy are based on internal performance indicators. ( $\bar{x} = 1.64$ )	10- Policy and strategy are formulated based on risk assessment, with clear ways for addressing these risks. ( $\bar{x} = 1.21$ )
15- Policy and strategy are periodically evaluated for their relevance and effectiveness. ( $\bar{x} = 1.55$ )	8- Policy and strategy are based on analysis of new technologies' impact, as well as long and short terms social, environmental, safety and legal issues. ( $\bar{x} = 1.21$ )

<b>Human Resources ( <math>\bar{x} = 1.46</math> )</b>	
7- Training people on quality issues. ( $\bar{x} = 1.91$ )	5- Promoting people well being, satisfaction and development. ( $\bar{x} = 1.15$ )
3- Promoting awareness in health, safety, environment and social responsibility issues. ( $\bar{x} = 1.77$ )	4- Promoting social and cultural activity. ( $\bar{x} = 1.21$ )
15- Developing people through work experience and the use of empowerment skills. ( $\bar{x} = 1.60$ )	6- Involving people in developing human resource plans and policies. ( $\bar{x} = 1.26$ )
<b>Partnership and Resources ( <math>\bar{x} = 1.51</math> )</b>	
3- Having a comprehensive system of evaluating partners. ( $\bar{x} = 1.75$ )	9- Developing and implementing financial strategies and processes for using financial resources in support of overall policy and strategy. ( $\bar{x} = 1.30$ )
2- Require quality certificates from partners. ( $\bar{x} = 1.75$ )	8- Identifying and leveraging core competencies of partners; and generating innovative thinking through them. ( $\bar{x} = 1.32$ )
1- Systematic recording of process performance ( $\bar{x} = 1.70$ )	4- Managing risks to financial resources. ( $\bar{x} = 1.32$ )
<b>Process Management ( <math>\bar{x} = 1.60</math> )</b>	
4- Setting process indicators and performance targets. ( $\bar{x} = 1.98$ )	20- Marketing, communicating the value proposition, and selling products and services to existing and potential customers. ( $\bar{x} = 1.21$ )
2- Systematic monitoring of internal indicators related with customer satisfaction. ( $\bar{x} = 1.92$ )	15- Piloting and controlling the implementation of new or changed processes. ( $\bar{x} = 1.36$ )
3- Systematic measurement of customers' satisfaction. ( $\bar{x} = 1.91$ )	17- Using creativity, innovation and key competences of both internal and external partners to design and develop competitive products and services for both the current established market and potential markets. ( $\bar{x} = 1.45$ )

**Table 9: The highest & lowest Performance Improvement in EFQM practices**

For the improvement scores for all 94 elements of the five EFQM enablers, please see Appendix E.

### 4.2.3 The Fourth Question

The fourth question of the study questions is:

*“Is there any relationship between the performances of the EFQM enablers?”*

To test the possible relationships between the EFQM enablers’ performances, the bivariate correlation technique using Pearson coefficient will be used.

The enablers will be tested for the two cases; before and after the ISO9001 certification. In terms of coded variables, the variables (*LeadTOT\_Bef*, *PolStratTOT\_Bef*, *HRTOT\_Bef*, *PartnResTOT\_Bef* and *ProcsTOT\_Bef*) was measured together to test possible relationships for the “Before” case, while the variables (*LeadTOT\_Aft*, *PolStratTOT\_Aft*, *HRTOT\_Aft*, *PartnResTOT\_Aft*) and *ProcsTOT\_Aft*) was measured together to test possible relationships for the “After” case. The results of both “Before” and “After” tests are presented in Table 10 and Table 11 respectively.

		LeadTOT_Bef	PolStratTOT_Bef	HRTOT_Bef	PartnResTOT_Bef	ProcsTOT_Bef
LeadTOT_Bef	Pearson Correlation	1	.906(**)	.858(**)	.813(**)	.807(**)
	Sig. (2-tailed)		.000	.000	.000	.000
	N	53	53	53	53	53
PolStratTOT_Bef	Pearson Correlation	.906(**)	1	.897(**)	.836(**)	.807(**)
	Sig. (2-tailed)	.000		.000	.000	.000
	N	53	53	53	53	53
HRTOT_Bef	Pearson Correlation	.858(**)	.897(**)	1	.818(**)	.768(**)
	Sig. (2-tailed)	.000	.000		.000	.000
	N	53	53	53	53	53
PartnResTOT_Bef	Pearson Correlation	.813(**)	.836(**)	.818(**)	1	.876(**)
	Sig. (2-tailed)	.000	.000	.000		.000
	N	53	53	53	53	53
ProcsTOT_Bef	Pearson Correlation	.807(**)	.807(**)	.768(**)	.876(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	53	53	53	53	53

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Table 10: Pearson’s correlation coefficients between the EFQM enablers before the ISO certification**

		LeadTOT_ Aft	PolStratTOT _Aft	HRTOT_ Aft	PartnResTOT_ Aft	ProcsTOT _Aft
LeadTOT_Aft	Pearson Correlation	1	.828(**)	.733(**)	.696(**)	.772(**)
	Sig. (2-tailed)		.000	.000	.000	.000
	N	53	53	53	53	53
PolStratTOT_Aft	Pearson Correlation	.828(**)	1	.862(**)	.733(**)	.712(**)
	Sig. (2-tailed)	.000		.000	.000	.000
	N	53	53	53	53	53
HRTOT_Aft	Pearson Correlation	.733(**)	.862(**)	1	.665(**)	.762(**)
	Sig. (2-tailed)	.000	.000		.000	.000
	N	53	53	53	53	53
PartnResTOT_Aft	Pearson Correlation	.696(**)	.733(**)	.665(**)	1	.765(**)
	Sig. (2-tailed)	.000	.000	.000		.000
	N	53	53	53	53	53
ProcsTOT_Aft	Pearson Correlation	.772(**)	.712(**)	.762(**)	.765(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	53	53	53	53	53

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Table 11: Pearson's correlation coefficients between the EFQM enablers after the ISO certification**

The above results show that the performance of any EFQM enabler is positively related to the performance of all other enablers, both before and after the ISO certification, since all Pearson's correlation coefficients were found to be **positive** and **statistically significant** at a significance level less than or equal to 0.01. This result is in alignment with other international studies that proved the interrelation between the enabler elements in the EFQM excellence model and indicated that positive and moderate associations exist between the enabler criteria because a common latent general factor existing behind them. Any of the enabler criteria in the

EFQM excellence model can be interrelated with the others (Bou-Llusar et al., 2005; Dijkstra, 1997; Esquildsen *et al.*, 2001; Naylor, 1999).

#### 4.2.4 The Fifth Question

The fifth question of the study questions is:

*“What are the internal and external benefits or positive results that the Palestinian organizations gained from ISO9001 certification?”*

Part three of the questionnaire examined the ISO9001 certification benefits using a list of 20 possible types of benefits. The surveyed Palestinian organizations were asked to indicate the extent to which their organizations gained each one of these benefits as a result of the ISO9001 certification. The processing of answers in this part of the questionnaire using the Descriptive Statistics gave the hierarchy shown in Table 12. The score for each benefit was calculated as the mean value of all answers to that benefit as provided by the 53 respondents.

<b>Benefit</b>	<b>Mean score</b>
Development of quality culture	4.42
Better communication with customers	4.32
Improved customer satisfaction	4.28
Final product quality improvement	4.25
Improvement of internal organization and operation	4.08
Improved competitive position	4.08
Less customer returns	4.06

Improved employee-management relationships	4.04
Improved suppliers' performance	4.02
Less customer complaints	3.98
Increased productivity	3.98
Better relationships among employees	3.96
Less rework and waste	3.91
Higher profits	3.89
Development of teamwork	3.87
Reduction of employees absences	3.85
Increased employee participation	3.68
Increased employee satisfaction	3.64
Easier penetration to new markets	3.53
Higher sales	3.11

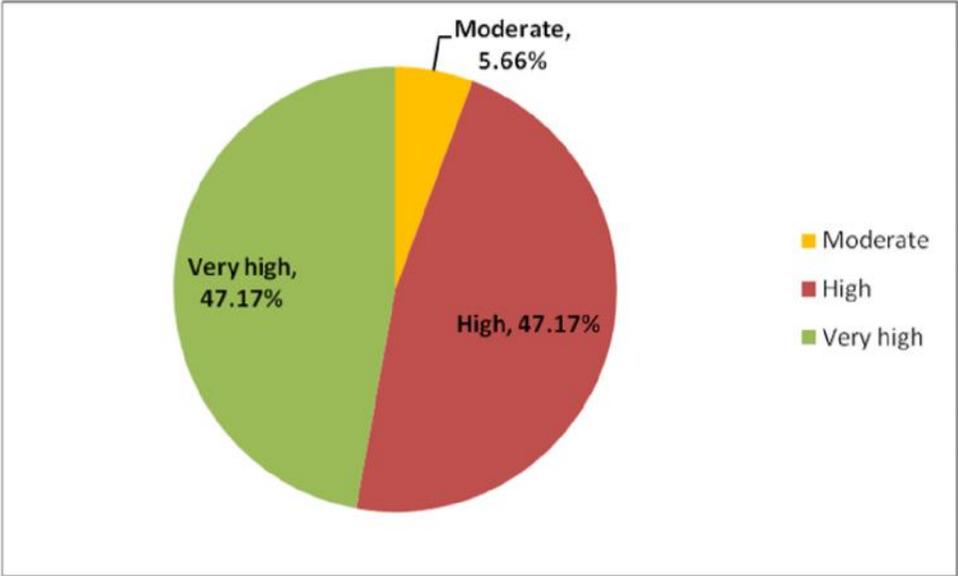
**Table 12: Hierarchy of ISO9001 certification benefits**

Table 12 explains the ISO9001 certification benefits as perceived by Palestinian organizations and ranked according to their importance to them.

The above hierarchy proves that the most significant ISO9001 certification benefits stemmed from the organizations' intension for real internal improvements and they are:

1. Development of quality culture;
2. Better communication with customers
3. Improved customer satisfaction
4. Final product quality improvement, and
5. Improvement of internal organization and operation

The exact answers to these most significant benefits: development of quality culture, better communication with customers, improved customer satisfaction, final product quality improvement and improvement of internal organization and operation are presented in Figure 11, Figure 12, Figure 13, Figure 14 and Figure 15 respectively.



**Figure 11: “Development of quality culture” as an ISO9001 benefit**

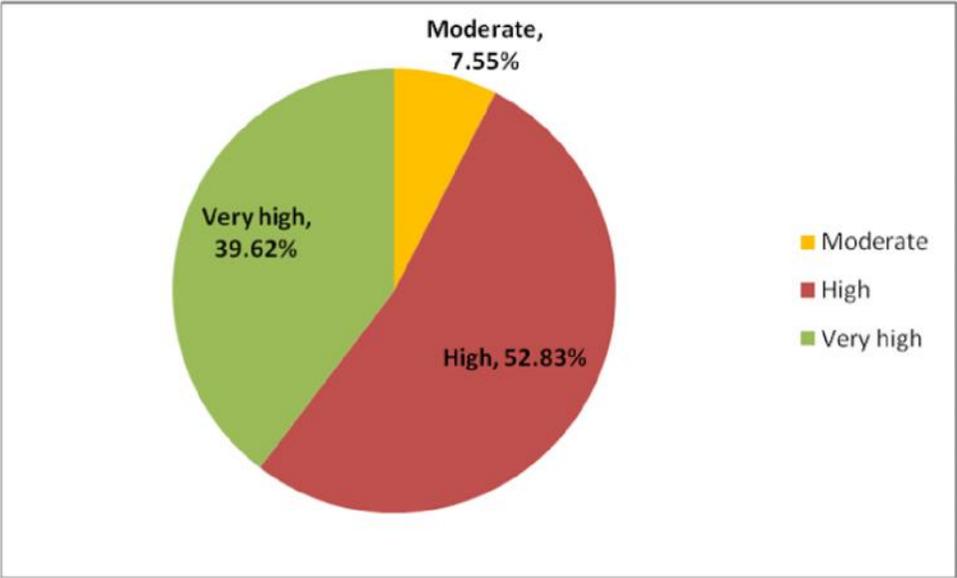


Figure 12: “Better communication with customers” as an ISO9001 benefit

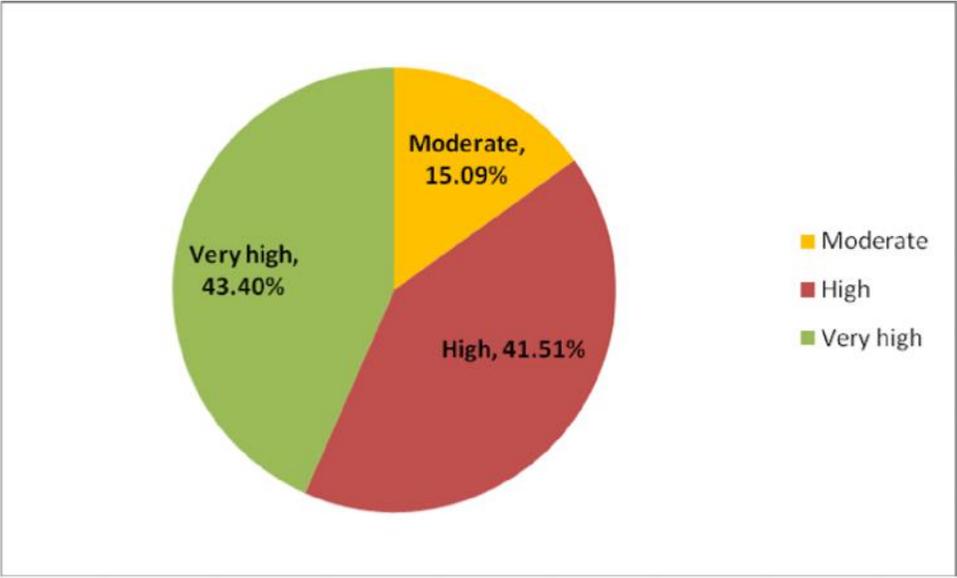


Figure 13: “Improved customer satisfaction” as an ISO9001 benefit

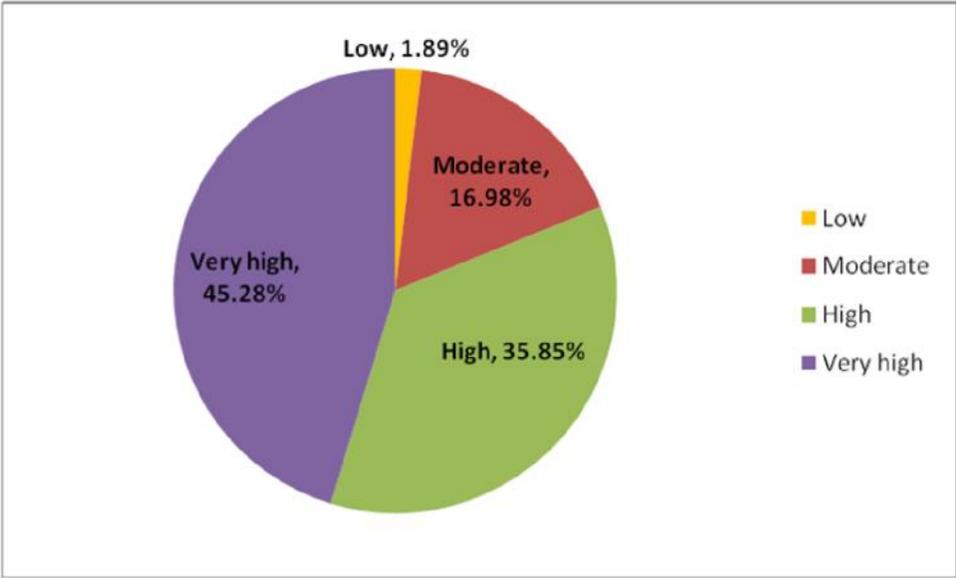


Figure 14: “Final product quality improvement” as an ISO9001 benefit

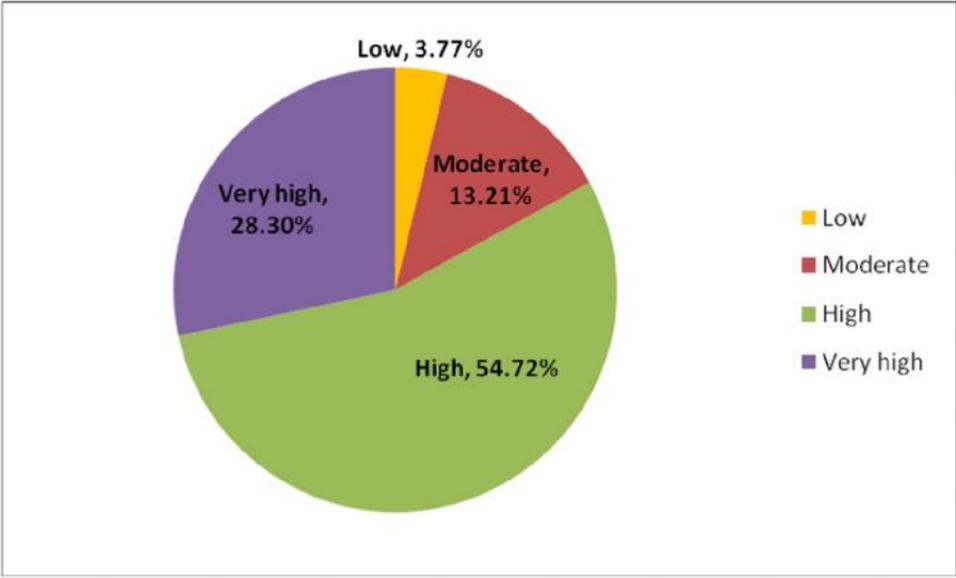


Figure 15: “Improvement of internal organization & operation” as an ISO9001 benefit

The above results prove that the ISO9001 standard can help the organization’s introduction to TQM (was rated by the Palestinian organizations as the second

significant motive), since the first significant benefit from the ISO9001 was proved to be the development of quality culture.

The second significant benefit was proved to be the improvement of communication with customers, which is considered as one of the core concepts of TQM and Excellence. It is expected –and interesting– to have it among the most significant benefits that the Palestinian organizations gained from ISO9001 certification. Palestinian organizations perceive the customers as particularly positive and encouraging for the long- term success of the certified organizations. On the contrary, the improvement of competitive position as a benefit (which was ranked the sixth), although positive for the short-run success of the business, cannot alone guarantee the organization success in the future, since the short-run competitive advantage of ISO certification is very easily lost once the competitors also get ISO certification.

The third significant benefit as perceived by the Palestinian organizations is improving the customer satisfaction, which could be considered as a subsequent to the second benefit; the improvement of communication with customers. The much the customer is communicated well and in a proper manner, the much he is satisfied. The customer satisfaction is explicitly stated in the ISO9001 requirements and the processes to assure the measurement and recording of the customer satisfaction indicators should be documented, maintained and communicated. It is not surprising

that it was ranked significantly as a benefit for the Palestinian organizations who implement the ISO standard.

The quality improvement of final products was ranked fourth in significance as a benefit of the ISO9001 certification, and it comes with alignment with the third significant motive which was the motive or willingness to improve the quality of final products. Even the improvement of final products is indirectly related to the ISO9001's implementation and certification, it was proved to be among the most significant motives, and accordingly among the most significant benefits.

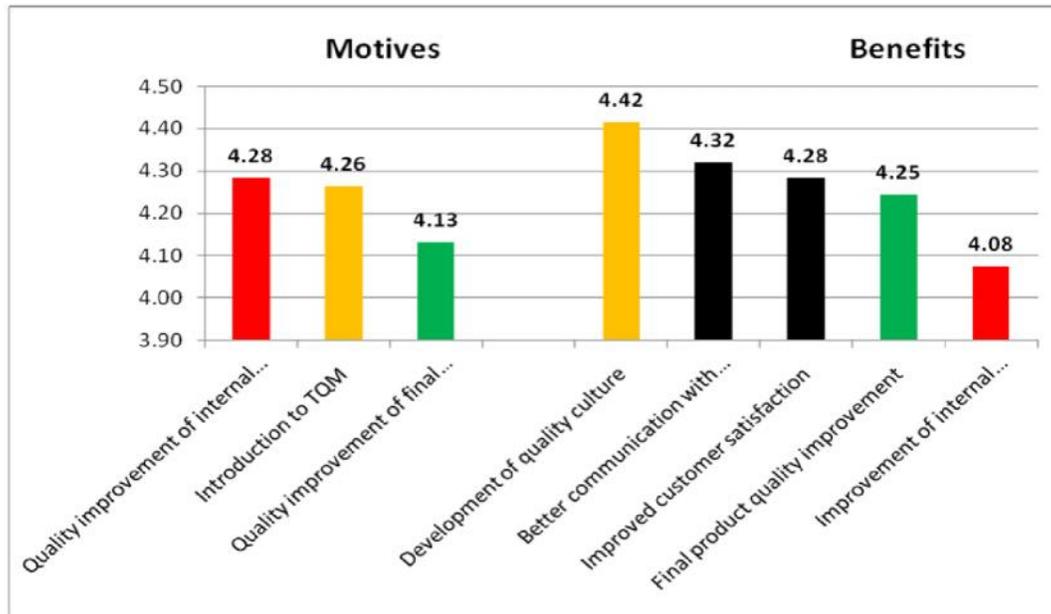
The improvement of internal organization and operation proved to be the fifth in significance among the benefits of ISO9001. This proves that the ISO standard sets a strong basis for the internal operations and structure of the organization, especially when this benefit achieved after it was considered as a motive and ranked the first and most significant motive.

Figure 16 combines the first three significant motives and the first five significant benefits as perceived by the Palestinian organizations. The following combinations could be noticed:

1. The quality improvement of internal operations was ranked the **first** significant motive and achieved perceptively as the **fifth** significant benefit.
2. Introduction to TQM was ranked the **second** significant motive and achieved perceptively as the **first** significant benefit as development of quality culture.

3. Quality improvement of final products was ranked the **third** significant motive and achieved perceptively as the **fourth** significant benefit.

The mutual colors in Figure 16 clarify that.



**Figure 16: Significant motives and benefits together**

The benefit of improvement the competitive position comes in the sixth rank with the same score as improvement of internal organization and operation (4.08). Even gaining competitive advantage was ranked the seventh among the ten motives, it was perceived as one of the important benefits. The Palestinian market has many organizations that work in each field of industry, for that the companies that need to excel in the market should find a way to put it in the top of all companies working around. The registration to ISO9001 was chosen to be the motive for that and eventually it helped the companies to gain this benefit.

Moderate improvements were achieved regarding development of teamwork, employees' relationships, employee-management relationships, improved supplier performance, increased productivity, higher profits, reduction of rework and waste, reduction of customer returns and customer complaints.

Even the ISO9001's main requirements are to establish documented processes on how to deal with customers and suppliers as well as many aspects, which may need changing the way of doing the work, thus enhancing it; but it seems the documented processes didn't enhance the teamwork and the relationships between employees who are affected directly with this change of doing work. This also affected the employee-management relationship which was ranked as moderate benefit. Also it was surprisingly noticed that the suppliers' performance was ranked in a moderate level as well, which is explicitly claimed by the ISO9001 requirements.

The reduction of rework and waste, reduction of customer returns and customer complaints represent improvements in the internal and external "Cost of Bad Quality", the reduction of which is one of the main concerns of TQM. Reductions in rework and waste (internal Cost of Bad Quality) lead to successful combination of quality and productivity improvements. On the other hand, the reductions in customers' returns and complaints (external Cost of Bad Quality) improve customer satisfaction and enhance the organization's image, avoiding the organization the bad effect of dissatisfied customers.

Finally, the less significant benefits were achieved in employee participation and satisfaction, reduction of employees' absences, easier penetration to new markets, and higher sales.

## **Chapter Five**

### **Conclusion and Recommendations**

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#### **5.1 Introduction**

This research is devoted to study the contribution of ISO9001 certification towards EFQM Excellence Model as perceived by ISO9001-certified organizations in Palestine. Since the study was conducted particularly on the Palestinian ISO9001-certified organizations, there was a need to explore also the motives that influenced these organizations' decision for ISO9001 certification as well as exploring the perceived benefits that these organizations gained as a result of the ISO9001 certification.

This last chapter will summarize and conclude the major findings of this study as presented in chapter Four, in order to draw the suggested recommendations to be provided to the Palestinian economy in general and to the Palestinian ISO9001-certified organizations in particular.

#### **5.2 Conclusion**

To explore the motives that influence the Palestinian ISO9001-certified organizations' decision for ISO9001 certification, ten motives were listed and ranked by the Palestinian organizations as described in Table 7. The study shows that the

most significant motives were: quality improvement of internal operations, introduction to TQM, and quality improvement of final products.

On the other hand, in order to explore the benefits that the Palestinian ISO9001-certified organizations gained as a result of the ISO9001 certification, twenty benefits were listed and ranked by the Palestinian organizations as described in Table 12. The study shows that the most significant benefits as perceived by the Palestinian organizations are: development of quality culture, better communication with customers, improved customer satisfaction, final product quality improvement as well as improvement of internal organization and operation.

The fact that the “quality improvement of internal operations” is the most significant ISO9001 motive as perceived by the Palestinian industry verifies the culture of the Palestinian organizations and their intend to enhance their way of doing work internally. This motive is really claimed to be one of the main deliverables of implementing the ISO9001 quality system, and successfully it was achieved perceptively as a high-ranked benefit.

The high score of the motive, “Introduction to TQM”, shows that the Palestinian organizations understand the ISO9001 standard as a “kickoff” step towards TQM and that ISO 9001 standard aims to assist companies establish a quality system that maintains the quality level (Sun *et al.*, 2004). The Palestinian organizations see the

ISO9001 as a well-structured tool to “start with quality” for those organizations that become aware of quality and look for improving their quality management system (Vouzias and Gotzamani, 2005). It was proved that the implementation of ISO9001 boosts quality commitment and quality culture as it was proved to be the most significant benefit achieved.

The third most significant motive for ISO9001, which is the “quality improvements of final products” shows that companies look at their final products as their companies’ image or brand, and they expect –and want– that the final products’ quality will eventually be improved as a consequence of improving the production process itself, even the ISO9001 standard assure the quality of the end-to-end production process and NOT the quality of the products themselves. Expressively, the quality improvement of final products was achieved as a significant benefit.

The least significant motives, which are entry to foreign markets and certification of competitors, prove that ISO9001 certification in the Palestinian industry came mainly as a result of internal motivation for improvement, instead of organizations’ external pressure or enforcement towards this direction. This contradicts with the literature that the drive for the ISO9001 implementation is mainly external reasons (Wiele *et al.*, 2000a), but, at the same time, this finding is interesting and important, because external pressure for certification –which leads to quick and “just do it”

implementation of the standard– are indicated as among the most important and frequent reasons for the failure of the standard (Vouzas and Gotzamani, 2005). It is important that the Palestinian organizations realize this dilemma and accordingly concentrate more on improving the internal environment as the leading step. Moreover, it is natural to see the drive for implementing the ISO9001 standard in the Palestinian organizations comes mainly from internal pressure because it is the willingness for internal operation's improvement that concerns the Palestinian organization without any external force for ISO implementation. Only the pharmaceutical sector that has external force for implementing ISO9001 quality standard, and even more tough standards (e.g. GMP).

The above findings generally prove that the Palestinian organizations seek ISO9001 certification mainly in order to improve their internal operations and their products and much less in order to satisfy the market demand and external pressure.

Sadly, the improvement of internal communications was initially ranked in a moderate level as a motive for the ISO9001, which shows that the employees' issues (both between themselves and between them and the top management) were not considered enough as a motive for improving the organization performance, and it was ranked in a moderate level benefit. It was not a surprise also to see these issues' consequences to be ranked the worst as achieved benefits. The teamwork,

employees' absences and employees' participation and satisfaction didn't take the required attention while implementing the ISO9001, thus their improvement have not been achieved as prioritized benefits.

It is noticeable that the customer satisfaction –as a benefit– was ranked in an advanced position while the employees' satisfaction was ranked comparatively badly. The same case with the communication improvement, since the communication with customers was enhanced and was ranked –as a benefit– in an advanced position, while the improvement of communications and relationships between the employees themselves was ranked moderately. In a way or another, the Palestinian organizations should focus more on the internal customers (the employees) while focusing on the external customers.

As discussed in chapter four, it was found that the fulfillment of future customer demand is ranked higher than the fulfillment of current customer demand. It is interesting to see the Palestinian organizations focus on the long-term customer satisfaction, but some doubts may rise about if this long-term focus may affect the improvement of short-term customer satisfaction. A compromising methodology should always be available between current and future customer satisfaction in order not to lose the spirit of the certification.

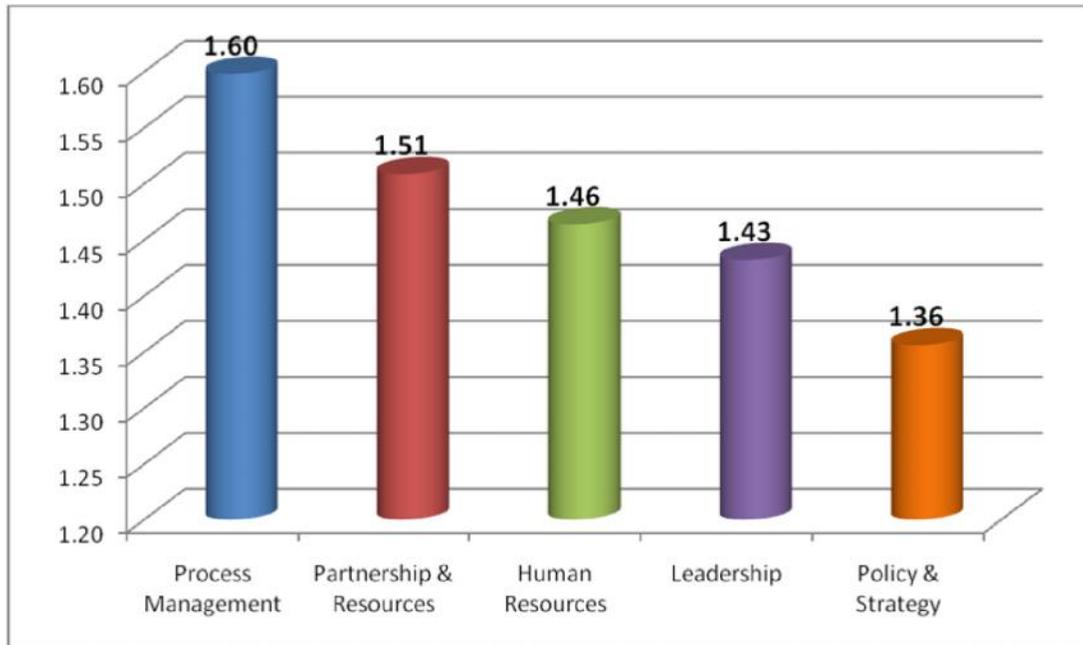
The moderate and low improvements in productivity, sales and profits can be related respectively to the relative low reductions in elements related to internal and external “cost of bad quality”, justifying the ISO9001’s criticism for not requiring any proof of positive performance results (Hongyi, 1999). Moreover, the moderate and low improvements in productivity, sales and profits could be reasoned to the low improvements in employees’ satisfaction. The more the employees are satisfied, the more their productivity and the consequence sales and profits, and vice versa.

In summary, the three significant motives that have been ranked by the Palestinian organizations have been achieved as improvements to the performance of the organizations as significant perceived benefits. This result in Palestine about the effect of ISO9001 motives on overall benefits and performance improvement is verified and supported by many studies in many countries, which prove that active motivation influences good quality performance. More specifically, Fenghueih, Ching, and Cleve (1999) prove that the role of active motivation stands out in particular, influencing most performance factors and benefits. Similar results are revealed by Douglas, Kirk, Brennan, and Ingram (1999) through a case study that ISO9001 benefits can only be achieved if the motives for the certification are true and internal and it is part of an overall quality strategy. According to Withers and Ebrahinpour (2000), the quality does improve as a result of ISO9001

implementation, but the extent of improvement is influenced by the motives or reasons for seeking implementation.

As perceived by the General Managers and the Quality Managers of the Palestinian organizations, the ISO9001 can **contribute** to the EFQM Excellence model. This was proved by examining the five EFQM enablers comprising 94 EFQM practices, where the General Manager and the Quality Manager in each organization were asked to evaluate the degree to which they applied each one of these practices before and after ISO9001 certification. The result of the Paired-Sample T-test shows that performance improvement (performance after ISO9001 certification versus performance before ISO9001 certification) was statistically significant in 95% confidence interval for each one of the 94 elements describing the five enablers of EFQM, as well as the total EFQM enablers.

Generally, the performance improvement achieved from ISO9001 certification in the five EFQM enablers is presented in descending order in Figure 17.



**Figure 17: Performance improvements in EFQM enablers in descending order**

The Palestinian organizations put great efforts on managing the process system they have, regardless of if this system is automated or not. Neither the ISO9001 system nor the EFQM excellence model requires automating the process management system the organizations own, but it requires that these processes are well documented, maintained, controlled and communicated in a systematic way, and to be improved continuously.

On the other extreme, the Palestinian organizations are not aware enough of the importance of the policy and strategy, and pay less attention on formulating them. This dimension is very important in directing the organization strategically in the market, and this direction is evaluated and determined basically by the top management and leaders who formulate the vision, mission, goals and objectives of

the organization. The leadership dimension is ranked fourth in improvement; generally low and just before the Policy and Strategy dimension.

Overall, the practices with the greatest improvements from ISO9001 certification among all the 94 EFQM practices are (refer back to Table 9):

- “Setting process indicators and performance targets” ( $\bar{x} = 1.98$ );
- “Systematic monitoring of internal indicators related to customer satisfaction” ( $\bar{x} = 1.92$ );
- “Systematic measurement of customers’ satisfaction” ( $\bar{x} = 1.91$ );
- “Training people on quality issues” ( $\bar{x} = 1.91$ );
- “Promoting awareness in health, safety, environment and social responsibility issues” ( $\bar{x} = 1.77$ );
- “Having a comprehensive system of evaluating partners” ( $\bar{x} = 1.75$ ); and
- “Require quality certificate from partners” ( $\bar{x} = 1.75$ ).

On the contrary, the practices with the lowest improvements from ISO9001 certification among all the 94 EFQM practices are:

- “Policy and Strategy are updated continuously by aligning and developing social and environmental standards with partners” ( $\bar{x} = 1.09$ );
- “Policy and Strategy are updated continuously by aligning and developing social and environmental standards with partners” ( $\bar{x} = 1.11$ );
- “Promoting people well being, satisfaction and development” ( $\bar{x} = 1.15$ );

- “Recognizing and praising people efforts in a timely and appropriate manner” ( $\bar{x} = 1.21$ );
- “Policy and Strategy are formulated based on risk assessment, with clear ways for addressing these risks” ( $\bar{x} = 1.21$ );
- “Promoting social and cultural activity” ( $\bar{x} = 1.21$ );
- “Involving people in developing human resource plans and policies” ( $\bar{x} = 1.26$ );
- “Developing and implementing financial strategies and processes for using financial resources in support of overall policy and strategy” ( $\bar{x} = 1.30$ ); and
- “Managing risks to financial resources” ( $\bar{x} = 1.32$ ).

Under the umbrella of the five EFQM enablers, there is a common strength or improvement in related practices as well as a common weakness or improvement in other related practices.

The highest improvements are related to measurement of customer satisfaction and monitoring the internal indicators that relate to customer satisfaction. The Palestinian organizations pay a lot of attention to their customers –both current and potential customers– and how to satisfy them. This result is in accordance with the proof of identifying the customer satisfaction as most significant motives to the ISO9001 quality standard and fulfilling their satisfaction as a most significant benefit from the ISO quality standard.

On the other side, the lowest improvements are related to promoting the employees satisfaction and their participation in developing policies and strategies and change activities. Again, this result is in alignment with the proof of identifying the benefits “increasing the employees’ satisfaction and participation” as the least benefits gained from the ISO quality standard. This result is consistent with an empirical study in Norway (Hongyi, 1999) which proved that although ISO9001 implementation was significantly related to several positive business results; it was not significantly related to employee satisfaction.

Also, it is noticed that the financial practices like financial strategies, risk assessment and management, and managing risks to financial resources are among the lowest improvements. Managing the financial resources comes mainly with the practices of the Partnership and Resources enabler which was scored totally as the second in significance. This means that other partnership and resources practices are treated in a proper manner better than the financial practices. The Palestinian organizations need to focus more in the financial practices in order to align the organization activities with their results, especially the financial indicators.

At the same time, the promoting of environmental and social accountability activities by the Palestinian organizations seems to be at the minimum levels. Actually, while the world is concerning more and more in the environment and social responsibility, fostering these tenets is very crucial in seeking excellence for any organization (Boys

*et al.*, 2004). Organizations must consider how to improve financial and non-financial results, especially the public responsibility issues.

Finally, and as described in the previous chapter, the performance of any EFQM enabler is positively related to the performance of all other enablers, both before and after the ISO certification, since all Pearson's correlation coefficients were found to be positive and statistically significant at a significance level less than or equal to 0.01. This indicates that the Palestinian organizations with a high or low performance in one EFQM enabler –as a whole– tend to have similar performance in all five EFQM enablers, presenting the holistic nature of the EFQM excellence model.

### **5.3 Recommendations**

In addition to the above discussed and detailed conclusions, that converge and focus on the contribution of ISO9001 towards EFQM as well as the motives to and benefits of the ISO9001, the following main points may illustrate additional recommendations that should be taken by the Palestinian organizations if they would like to enhance their quality journey.

Moreover, based on the findings and conclusions of this study, the following recommendations may be addressed below:

- The Palestinian organizations that are ISO9001 certified can “upgrade” their quality practices and work on registering to the EFQM Excellence model, since the contribution of the ISO9001 standard to EFQM excellence model is assured by many studies (Douglas *et al.*, 1999; Fenghueih *et al.*, 1999; Gotzamani *et al.*, 2007; Gustafsson, Klefsjo, Berggren and Wellements, 2001; Withers and Ebrahinpour, 2000).
- Implementation of EFQM Excellence model should be in a gradual manner (Boys *et al.*, 2004), because moving from “just perform” culture of ISO9001 to results-based measurement of performance like EFQM may have sudden and bad impression.
- Palestinian organizations should focus more on the low improvement practices as a first step towards excellence, since these practices was found to have low performance improvement as perceived by the Palestinian organizations –as stated in the “findings of the study” and “conclusion” sections–, especially in the areas “soft” elements like:
  - Enhancing the employees satisfaction,
  - Increasing employees participations in developing policies and strategies, and in the change processes,
  - Managing the financial resources, practices and strategies,
  - Participating more in quality and excellence conferences, seminars, and professional bodies, and

- Promoting environmental, social and cultural activities.
- Palestinian organizations should focus on satisfying the market demand and external pressure like entry to foreign markets and certification of competitors. While looking for excellence, external pressure factors are also important as the case with the internal pressure factors.
- Palestinian organizations should focus on both the short-term and long-term customer satisfaction, and continuously try to compromise between them.
- Palestinian organizations should focus on the internal and external “cost of bad quality” elements in order to show positive performance results in productivity, sales and profits.
- In general, Palestinian organizations should focus and pay more attention on improving the whole practices of leadership and policy and strategy. These practices are in the core of the EFQM model, and enhancing them could enhance other practices in other dimensions as well.

At the end, some points were not highlighted in this study and could be handled in further researches. These points are:

- This study was conducted on organizations that are ISO9001 –certified. A question can be raised if the non-certified organizations can adopt themselves to the EFQM excellence model directly or it is better to register first to

ISO9001 standard as a first step to quality. Many other factors may be needed to be taken into account while conducting such research.

- This study depends on the perception of General Managers and Quality Managers only. There was no focus on the perception of other employees and there was no evidence on hard or real improvements in quality or excellence practices. This issue needs further research as well.
- This study was exploring the effect of ISO certification on criteria related to EFQM enablers. It is important to have further research exploring the effect of ISO certification on criteria related to EFQM results also. Although excellence enablers are critical for long-term performance and success, excellence results are crucial in judging the overall effectiveness and efficiency of the system's performance.

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## **Appendices**

## **Appendix A: Questionnaire (in English)**

Dear Mr. / Ms.,

This questionnaire is designed to assess the contribution of ISO9001 quality management system towards the European EFQM excellence model, through the Palestinian private companies holding the certificate for Quality Management System ISO9001.

I ask your cooperation with me in answering the questions on this questionnaire and I have confidence that your answers will remain for the purposes of scientific research only.

Please accept my apologies for the size of questionnaire, but this model of excellence requires to be studied with all its detailed dimensions for the purpose of accuracy and comprehensiveness.

Finally, I would like to thank you in advance for your cooperation in filling this questionnaire.

Sincerely,

Mohammad A. Naser-Eddeen

MBA Student / Birzeit University

E-mail Address: [Mohammad.nasereddeen@jawwal.ps](mailto:Mohammad.nasereddeen@jawwal.ps)

Mobile: 059-9000039

Organization name: \_\_\_\_\_

Position: \_\_\_\_\_

## Part 1: Motives

Please put an “X” sign in the place that represents the extent to which each one of the following **motives** influenced your organization’s decision for ISO9001 certification, on the scale

(0=not at all, 1=very low, 2= low, 3=moderate, 4=high, 5= very high):

Motive	0	1	2	3	4	5
1- Part of overall quality policy						
2- Quality improvement of final products						
3- Quality improvement of internal operations						
4- Current customer demand						
5- Future customer demand						
6- Improvement of internal communication						
7- Introduction to TQM						
8- Entry to foreign markets						
9- Competitive advantage						
10- Certification of competitors						

**Part 2: EFQM practices**

In each main criteria, please put an “X” sign in the place that represents the extent to which your organization applied each one of the following **practices** before and after ISO9001 certification, on the scale (0=not at all, 1=very low, 2= low, 3=moderate, 4=high, 5= very high) &

(**Bef.** = Before certification, **Aft.** = After certification):

<b>Criteria (1): Leadership</b>							
<b>Practice</b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Ensuring effective organizational structure and process management system to deliver policy and strategy.	<b>Bef.</b>						
	<b>Aft.</b>						
2- Encouraging and supporting creativity, innovation and people involvement in improvement activities.	<b>Bef.</b>						
	<b>Aft.</b>						
3- Communicating the organization mission, vision, values, strategy, policy, plans and objectives to people.	<b>Bef.</b>						
	<b>Aft.</b>						
4- Achieving effective communication with people and responding to their needs.	<b>Bef.</b>						
	<b>Aft.</b>						
5- Recognizing and praising people efforts in a timely and appropriate manner.	<b>Bef.</b>						
	<b>Aft.</b>						
6- Communicating with customers, partners and representatives of society, meeting their needs and expectations, and actively participating in joint improvement activities.	<b>Bef.</b>						
	<b>Aft.</b>						
7- Developing the organization’s mission, vision, culture, and ethics and public responsibilities that support the culture.	<b>Bef.</b>						
	<b>Aft.</b>						
8- Reviewing and improving the effectiveness of personal leadership behavior, and encourage collaboration within the organization.	<b>Bef.</b>						
	<b>Aft.</b>						
9- Encouraging, supporting and acting upon the findings of Learning Activities, and ensuring a process to identify, plan and improve them.	<b>Bef.</b>						
	<b>Aft.</b>						

10- Ensuring an appropriate process management system and assigning clear responsibilities and ownerships for all processes.	<b>Bef.</b>						
	<b>Aft.</b>						
11- Ensuring a process of the effective governance of the organization.	<b>Bef.</b>						
	<b>Aft.</b>						
12- Ensuring a process for the measurement, review and improvement of key results, and prioritizing the improvement activities.	<b>Bef.</b>						
	<b>Aft.</b>						
13- Participating in professional bodies, conferences and seminars; and supporting and engaging in activities in the fields of excellence, environment, society and interests of future generations.	<b>Bef.</b>						
	<b>Aft.</b>						
14- Helping and supporting people to achieve their plans, objectives and targets; and manage change.	<b>Bef.</b>						
	<b>Aft.</b>						
15- Being accessible, actively listening, uniting and responding to people, and promoting equal opportunities and diversity.	<b>Bef.</b>						
	<b>Aft.</b>						
16- Understanding the internal and external drivers of change for the organization, and communicating the reasons for them to all stakeholders.	<b>Bef.</b>						
	<b>Aft.</b>						
17- Securing investment, resources, support for change, and managing the delivery and risk of the overall portfolio of change programs.	<b>Bef.</b>						
	<b>Aft.</b>						
18- Identifying and selecting the appropriate changes, and making it clear to all internal and external stakeholders, and leading the development of change plans.	<b>Bef.</b>						
	<b>Aft.</b>						
19- Measuring and reviewing the effectiveness of changes, and sharing the knowledge gained.	<b>Bef.</b>						
	<b>Aft.</b>						

<b>Criteria (2): Policy and Strategy</b>							
<b>Practice</b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Policy and strategy are deployed through a network of key processes, plans and objectives.	<b>Bef.</b>						
	<b>Aft.</b>						

2- Policy and strategy are systematically reviewed and updated.	<b>Bef.</b>						
	<b>Aft.</b>						
3- Policy and strategy are based on internal performance indicators.	<b>Bef.</b>						
	<b>Aft.</b>						
4- Policy and strategy are based on information from the market.	<b>Bef.</b>						
	<b>Aft.</b>						
5- Policy and strategy are based on information from comparisons with competitors, both current performance and potential competences.	<b>Bef.</b>						
	<b>Aft.</b>						
6- Policy and strategy are based on analysis of the external environment.	<b>Bef.</b>						
	<b>Aft.</b>						
7- Policy and strategy are based on the present and future needs and expectations of stakeholders and balancing their short and long term dimensions.	<b>Bef.</b>						
	<b>Aft.</b>						
8- Policy and strategy are based on analysis of new technologies' impact, as well as long and short terms social, environmental, safety and legal issues.	<b>Bef.</b>						
	<b>Aft.</b>						
9- Policy and strategy are communicated to stakeholders; and their awareness is evaluated.	<b>Bef.</b>						
	<b>Aft.</b>						
10- Policy and strategy are formulated based on risk assessment, with clear ways for addressing these risks.	<b>Bef.</b>						
	<b>Aft.</b>						
11- Policy and strategy are delivered by identifying core capabilities and needs for partnership/alliances.	<b>Bef.</b>						
	<b>Aft.</b>						
12- Policy and strategy are developed and updated by identifying present and future competitive advantage.	<b>Bef.</b>						
	<b>Aft.</b>						
13- Policy and strategy are developed and updated by identifying critical success factors of the organization.	<b>Bef.</b>						
	<b>Aft.</b>						
14- Policy and strategy are updated continuously by aligning and developing social and environmental standards with partners.	<b>Bef.</b>						
	<b>Aft.</b>						
15- Policy and strategy are periodically evaluated for their relevance and effectiveness.	<b>Bef.</b>						
	<b>Aft.</b>						

<b>Criteria (3): People [Human Resources]</b>							
<b>Practice</b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Developing HR policies, strategies and plans.	<b>Bef.</b>						
	<b>Aft.</b>						
2- Aligning HRM with strategic objectives.	<b>Bef.</b>						
	<b>Aft.</b>						
3- Promoting awareness in health, safety, environment and social responsibility issues.	<b>Bef.</b>						
	<b>Aft.</b>						
4- Promoting social and cultural activity.	<b>Bef.</b>						
	<b>Aft.</b>						
5- Promoting people well being, satisfaction and development.	<b>Bef.</b>						
	<b>Aft.</b>						
6- Involving people in developing human resource plans and policies.	<b>Bef.</b>						
	<b>Aft.</b>						
7- Training people on quality issues.	<b>Bef.</b>						
	<b>Aft.</b>						
8- Promoting and ensuring fairness in all terms of employment (recruitment, career terms with policy and strategy.	<b>Bef.</b>						
	<b>Aft.</b>						
9- Using people surveys and other forms of feedback to improve HR policies, strategies and plans.	<b>Bef.</b>						
	<b>Aft.</b>						
10- Aligning individual and team objectives with the organization targets; and reviewing and updating these objectives.	<b>Bef.</b>						
	<b>Aft.</b>						
11- Encouraging and supporting individual and team involvement and participation in improvement activities.	<b>Bef.</b>						
	<b>Aft.</b>						
12- Developing team skills, and encouraging people to work together in teams.	<b>Bef.</b>						
	<b>Aft.</b>						
13- Identifying communication needs, and developing communication policies, strategies and plans based on them.	<b>Bef.</b>						
	<b>Aft.</b>						

14- Developing and using top down, bottom up and horizontal communication channels.	<b>Bef.</b>						
	<b>Aft.</b>						
15- Developing people through work experience and the use of empowerment skills.	<b>Bef.</b>						
	<b>Aft.</b>						
16- Supporting innovative and creative behavior.	<b>Bef.</b>						
	<b>Aft.</b>						
17- Using innovative organization methodologies to improve the way of working (e.g. restructuring the supply chain, flexible team working).	<b>Bef.</b>						
	<b>Aft.</b>						

<b>Criteria (4): Partnership and Resources</b>							
<b>Practice</b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Systematic recording of process	<b>Bef.</b>						
	<b>Aft.</b>						
2- Require quality certificates from partners.	<b>Bef.</b>						
	<b>Aft.</b>						
3- Having a comprehensive system of evaluating partners.	<b>Bef.</b>						
	<b>Aft.</b>						
4- Managing risks to financial resources.	<b>Bef.</b>						
	<b>Aft.</b>						
5- Developing long-lasting relations with suppliers.	<b>Bef.</b>						
	<b>Aft.</b>						
6- Systematic collection of data for comparison with excellent organizations for learning and improving.	<b>Bef.</b>						
	<b>Aft.</b>						
7- Forming supply chain partnerships that add value to customers.	<b>Bef.</b>						
	<b>Aft.</b>						
8- Identifying and leveraging core competencies of partners; and generating innovative thinking through them.	<b>Bef.</b>						
	<b>Aft.</b>						

9- Developing and implementing financial strategies and processes for using financial resources in support of overall policy and strategy	<b>Bef.</b>						
	<b>Aft.</b>						
10- Using financial mechanisms and parameters to ensure an effective and efficient resourcing structure.	<b>Bef.</b>						
	<b>Aft.</b>						
11- Developing a strategy for managing technology, information and knowledge that supports the organization's policy and strategy.	<b>Bef.</b>						
	<b>Aft.</b>						
12- Identifying and evaluating alternative and emerging technologies in the light of their impact on business and the society.	<b>Bef.</b>						
	<b>Aft.</b>						
13- Developing innovative and environmentally friendly technologies (i.e. conserving energy, waste and emissions minimization, encouraging recycle and reuse).	<b>Bef.</b>						
	<b>Aft.</b>						
14- Minimizing any adverse global impact of products, production processes and services.	<b>Bef.</b>						
	<b>Aft.</b>						
15- Optimizing material inventories, consumption of utilities and transportation usage.	<b>Bef.</b>						
	<b>Aft.</b>						
16- Using information technology to support internal communication and information and knowledge management.	<b>Bef.</b>						
	<b>Aft.</b>						
17- Assuring and improving information availability, validity, integrity and security.	<b>Bef.</b>						
	<b>Aft.</b>						
18- Providing appropriate access, for both internal and external users, to relevant information and knowledge.	<b>Bef.</b>						
	<b>Aft.</b>						
19- Measuring and managing any adverse effects of the organization's assets on the community and employees (including ergonomics, health and safety).	<b>Bef.</b>						
	<b>Aft.</b>						
20- Evaluating investment in and divestment of all assets with the use of appropriate financial planning and reporting mechanisms.	<b>Bef.</b>						
	<b>Aft.</b>						
21- Managing the maintenance and utilization of assets to improve total life cycle performance.	<b>Bef.</b>						
	<b>Aft.</b>						

22- Managing the technology portfolio including the identification and replacement of out dated technology.	<b>Bef.</b>						
	<b>Aft.</b>						
23- Using technology, information and knowledge to support improvement and creative thinking.	<b>Bef.</b>						
	<b>Aft.</b>						

<b>Criteria (5): Process Management</b>							
<b>Practice</b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Establishing process management system.	<b>Bef.</b>						
	<b>Aft.</b>						
2- Systematic monitoring of internal indicators related with customer satisfaction.	<b>Bef.</b>						
	<b>Aft.</b>						
3- Systematic measurement of customers' satisfaction.	<b>Bef.</b>						
	<b>Aft.</b>						
4- Setting process indicators and performance targets.	<b>Bef.</b>						
	<b>Aft.</b>						
5- Providing service before, during and after sales.	<b>Bef.</b>						
	<b>Aft.</b>						
6- Designing and developing new products and services together with partners and customers.	<b>Bef.</b>						
	<b>Aft.</b>						
7- Designing products aimed at customer satisfaction rather than lowering cost and satisfying production requirements.	<b>Bef.</b>						
	<b>Aft.</b>						
8- Designing the organization's processes, including those key processes needed to deliver policy and strategy.	<b>Bef.</b>						
	<b>Aft.</b>						
9- Reviewing the effectiveness of the process framework in delivering the organization policy and strategy.	<b>Bef.</b>						
	<b>Aft.</b>						
10- Communicating process changes to all appropriate stakeholders, and ensuring process changes achieve predicted results.	<b>Bef.</b>						
	<b>Aft.</b>						

11- Using market research, customer surveys and other forms of feedback to determine customer current needs and expectations for products and services.	<b>Bef.</b>						
	<b>Aft.</b>						
12- Handling feedback received from day to day contacts including complaints.	<b>Bef.</b>						
	<b>Aft.</b>						
13- Identifying and prioritizing opportunities for improvement, and other changes, both incremental and breakthrough.	<b>Bef.</b>						
	<b>Aft.</b>						
14- Stimulating and bringing to bear the creative and innovative talents of employees, customers and partners in improvements.	<b>Bef.</b>						
	<b>Aft.</b>						
15- Piloting and controlling the implementation of new or changed processes.	<b>Bef.</b>						
	<b>Aft.</b>						
16- Understanding and anticipating the impact and potential of new technologies on products and services.	<b>Bef.</b>						
	<b>Aft.</b>						
17- Using creativity, innovation and key competences of both internal and external partners to design and develop competitive products and services for both the current established market and potential markets.	<b>Bef.</b>						
	<b>Aft.</b>						
18- Proactive involvement with customers in order to discuss and address their needs, expectations and concerns.	<b>Bef.</b>						
	<b>Aft.</b>						
19- Advising customers on the responsible use of products and services.	<b>Bef.</b>						
	<b>Aft.</b>						
20- Marketing, communicating the value proposition, and selling products and services to existing and potential customers.	<b>Bef.</b>						
	<b>Aft.</b>						

### Part 3: Benefits

Please put an “X” sign in the place that represents the extent to which your organization witnessed each one of the following **benefits** as a result of your ISO9001 certification, on the scale (**0**=not at all, **1**=very low, **2**= low, **3**=moderate, **4**=high, **5**= very high):

<b>Benefit</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1- Improvement of internal organization and operation.						
2- Development of quality culture.						
3- Final product quality improvement.						
4- Improved customer satisfaction.						
5- Better communication with customers.						
6- Improved competitive position.						
7- Development of teamwork.						
8- Improved employee-management relationships.						
9- Better relationships among employees.						
10- Improved suppliers' performance.						
11- Less rework and waste.						
12- Easier penetration to new markets.						
13- Less customer complaints.						
14- Less customer returns.						
15- Increased employee satisfaction.						
16- Increased employee participation.						
17- Higher sales.						
18- Increased productivity.						
19- Higher profits.						
20- Reduction of employees absences.						

**Thank you!**

## Appendix B: Questionnaire (in Arabic)

سيدي/ سيدتي العزيزة،  
تحية طيبة،

صممت هذه الإستبانة من أجل تقييم مدى إسهام نظام إدارة الجودة ISO9001 في الوصول إلى نموذج التميز الاوروبي EFQM وذلك من خلال الشركات الفلسطينية الخاصة الحاصلة على شهادة إدارة الجودة ISO9001.

أرجو تعاونكم معي في الإجابة على الأسئلة المتعلقة بهذه الإستبانة، وأرجو أن تكون على ثقة بأن إجاباتك سوف تظل لأغراض البحث العلمي فقط.  
أرجو أن تتقبلوا مني الاعتذار عن حجم الاستبانة، ولكن نموذج التميز هذا يحتاج إلى دراسته بكل أبعاده التفصيلية بغرض الدقة والشمولية.

وأخيرا أود أن أشكر لكم سلفا تعاونكم في ملء هذه الاستبانة.

محمد علي ناصر الدين،

طالب ماجستير إدارة أعمال / جامعة بيرزيت

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المنصب: \_\_\_\_\_

### الجزء الأول: المحفزات

الرجاء وضع إشارة "X" في المكان الذي يدل على درجة كل محفز من المحفزات التالية في التأثير على مؤسستك باتخاذ القرار للحصول على شهادة إدارة الجودة ISO9001، وذلك على المقياس (0 = أبدأ، 1 = قليل جداً، 2 = قليل، 3 = متوسط، 4 = عالي، 5 = عالي جداً)

5	4	3	2	1	0	المحفز
						1- جزء من سياسة الجودة العامة
						2- تحسين الجودة في المنتجات النهائية
						3- تحسين الجودة في العمليات الداخلية
						4- متطلبات الزبائن الحالية
						5- متطلبات الزبائن المستقبلية
						6- تفعيل وتحسين الإتصالات الداخلية
						7- مقدمة إلى "إدارة الجودة الشاملة"
						8- دخول أسواق جديدة
						9- الميزة التنافسية
						10- حصول المنافسين على شهادة إدارة الجودة ISO9001

## الجزء الثاني: تطبيقات EFQM

في كل محور من المحاور الخمس الرئيسية التالية، الرجاء وضع إشارة "X" في المكان الذي يدل على درجة تطبيق كل واحد من التطبيقات الفرعية التالية في مؤسستك، وذلك قبل وبعد الحصول على شهادة إدارة الجودة ISO9001، وذلك على المقياسين (0 = أبدأ، 1 = قليل جداً، 2 = قليل، 3 = متوسط، 4 = عالي، 5 = عالي جداً)

و (قبل = قبل الحصول على الشهادة، بعد = بعد الحصول على الشهادة)

محور رقم (1) من EFQM : القيادة والإدارة العليا							
5	4	3	2	1	0	التطبيق	
						قبل	1- تعمل على ضمان وجود هيكل تنظيمي فعال و نظام إدارة العمليات الذي يؤدي إلى الوصول إلى الإستراتيجية والسياسة العامة.
						بعد	
						قبل	2- تعمل على دعم وتشجيع الإبداع والإبتكار ومشاركة الأفراد في أنشطة التحسين.
						بعد	
						قبل	3- تعمل على توصيل رؤية الشركة وأهدافها وقيمتها، وكذلك الإستراتيجيات والسياسات والخطط، للأفراد.
						بعد	
						قبل	4- تعمل على تحقيق التواصل الفعال مع الأفراد وتلبية احتياجاتهم.
						بعد	
						قبل	5- تعمل على تقدير ومدح جهود الأفراد بالوقت والشكل المناسبين.
						بعد	
						قبل	6- تعمل على التواصل مع العملاء والشركاء وممثلو المجتمع وتلبية احتياجاتهم وتحقيق تطلعاتهم، وتشارك بنشاط في عمليات مشتركة معهم بغرض التحسين.
						بعد	
						قبل	7- تعمل على تطوير مهمة الشركة والرؤية والثقافة والأخلاق والمسؤوليات العامة التي من شأنها دعم الثقافة العامة.
						بعد	
						قبل	8- تعمل على مراجعة وتحسين فعالية سلوك القيادة الشخصي، وتشجع التعاون داخل الشركة.
						بعد	
						قبل	9- تعمل على دعم وتشجيع التصرف بناءً على نتائج أنشطة التعلم، والحرص على توفير آلية لتحديدهم والتخطيط لهم وتحسينهم.
						بعد	

					قبل	10- تعمل على تأمين نظام إدارة العمليات مع توضيح ملكية ومسؤولية كل منهم.
					بعد	
					قبل	11- تعمل على وجود آلية لضمان فاعلية الحوكمة والإدارة في الشركة.
					بعد	
					قبل	12- تعمل على ضمان وجود آلية من أجل استعراض وقياس وتحسين مؤشرات الإدارة الرئيسية، وترتيب أنشطة التحسين حسب الأولوية.
					بعد	
					قبل	13- تشارك في الهيئات المهنية والمؤتمرات والحلقات الدراسية، وتعمل على دعم والانخراط في الأنشطة المتعلقة بالتميز والبيئة والمجتمع ومصالح الأجيال القادمة.
					بعد	
					قبل	14- تعمل على مساعدة الأفراد في تحقيق الخطط والأهداف والغايات؛ وإدارة التغيير.
					بعد	
					قبل	15- تكون منفتحة على الناس، تصغي لما يقال، تتجاوب مع الأفراد، وتعمل على تكافؤ الفرص والتنوع.
					بعد	
					قبل	16- تتفهم القوى المحركة -على الصعيدين الداخلي والخارجي- للتغيير في الشركة، وتعمل على أن تستوعب وتتفهم كل الأطراف المعنية للأسباب التي أدت إلى التغيير.
					بعد	
					قبل	17- تعمل على ضمان الإستثمارات والموارد بشكل صحيح، دعم التغيير، وإدارة ونقل المخاطر لمجمل حركات التغيير.
					بعد	
					قبل	18- تحدد وتختار التغييرات المناسبة، مع جعل ذلك واضحاً لجميع الجهات المعنية، وتقود وتطور خطط التغيير.
					بعد	
					قبل	19- تعمل على مراجعة وقياس مدى فاعلية التغييرات الحاصلة، وتعمل على مشاركة المعلومات المكتسبة.
					بعد	





						قبل	8- تشجيع وضمان المساواة لجميع احكام العمل (التوظيف والتطوير الوظيفي الخ) مع توافق هذه الأحكام مع السياسة والاستراتيجية العامة
						بعد	
						قبل	9- استخدام المسح واستطلاعات الرأي والإستبيانات وغيرها في عملية تطوير سياسات واستراتيجيات وخطط الموارد البشرية.
						بعد	
						قبل	10- توفيق أهداف الأفراد والمجموعات مع أهداف وغايات الشركة، مع مراجعة وتحديث هذه الأهداف.
						بعد	
						قبل	11- تشجيع ودعم مساهمة ومشاركة الأفراد والمجموعات في أنشطة التحسين.
						بعد	
						قبل	12- تطوير مهارات الفريق وتشجيع العمل الجماعي.
						بعد	
						قبل	13- تحديد احتياجات الاتصالات بالإضافة إلى وضع سياسات الاتصالات والاستراتيجيات والخطط المبنية عليها.
						بعد	
						قبل	14- تطوير واستخدام قنوات الاتصال الأفقية والعمودية (كلا الإتجاهين).
						بعد	
						قبل	15- تطوير الأفراد من خلال تجارب العمل والخبرة ومهارات تفويض المهام.
						بعد	
						قبل	16- دعم السلوكيات الخلاقة والمبدعة.
						بعد	
						قبل	17- استخدام منهجيات مبتكرة في طرق العمل (مثل إعادة هيكلة سلسلة التوريد و مواعيد عمل مرنة).
						بعد	

محور رقم (4) من EFQM : الشركاء والموارد							
5	4	3	2	1	0	التطبيق	
						قبل	1- تسجيل منتظم لمعطيات أداء العمليات (مثل الأوقات، المخلفات، التأخيرات، ... الخ).
						بعد	
						قبل	2- طلب شهادة جودة من الموردين والشركاء.
						بعد	
						قبل	3- وجود نظام متكامل لتقييم الموردين والشركاء.
						بعد	
						قبل	4- إدارة المخاطر على الموارد المالية.
						بعد	
						قبل	5- بناء علاقات متينة وطويلة الأمد مع الموردين.
						بعد	
						قبل	6- جمع منتظم للبيانات بغرض المقارنة مع الشركات المميزة من أجل التعلم والتحسين.
						بعد	
						قبل	7- إنشاء شركات حلقة التوريد التي -في النهاية- تضيف قيمة للزبائن.
						بعد	
						قبل	8- تحديد ورفع قدرة الكفاءات الرئيسية للشركاء، و توليد أفكار خلاقة من خلالهم.
						بعد	
						قبل	9- تطوير وتنفيذ العمليات والاستراتيجيات المالية لإستخدام الثروات المالية في دعم الإستراتيجية والسياسة العامة.
						بعد	
						قبل	10- استخدام المتغيرات والتقنيات المالية لضمان هيكلية ثروات وموارد فعالة وكفؤة.
						بعد	
						قبل	11- تطوير استراتيجية إدارة المعلومات والمعرفة والتكنولوجيا التي تدعم السياسة والاستراتيجية العامة للشركة.
						بعد	
						قبل	12- تحديد وتقييم وسائل التكنولوجيا الجديدة والبديلة في ضوء تأثيرها على قطاع الأعمال والمجتمع.
						بعد	
						قبل	13- تطوير وسائل تكنولوجية ابتكارية وصديقة للبيئة (مثل المحافظة على الطاقة وتقليل الانبعاثات والنفايات، وتشجيع إعادة تدويرها وإعادة استخدامها).
						بعد	

						قبل	14- التقليل من أي آثار سلبية على الصعيد الكلي للمنتجات
						بعد	وعمليات الإنتاج والخدمات.
						قبل	15- الإستخدام الأمثل للمخازن والمواد، والحد من استهلاك
						بعد	الخدمات العامة والتنقل.
						قبل	16- استخدام تكنولوجيا المعلومات لدعم الاتصالات الداخلية
						بعد	وإدارة المعلومات والمعرفة.
						قبل	17- ضمان وتحسين توافر المعلومات ، وكذلك سلامة وتكامل و
						بعد	أمن المعلومات.
						قبل	18- توفير إمكانية الوصول ، بالنسبة لكل من المستخدمين
						بعد	الداخليين والخارجيين، للمعلومات والمعارف ذات الصلة.
						قبل	19- قياس وإدارة أي آثار سلبية لأصول الشركة على المجتمع
						بعد	والموظفين (بما في ذلك بيئة العمل والصحة والسلامة).
						قبل	20- تقييم الاستثمار وتصفية جميع الأصول مع الإستخدام
						بعد	المناسب للتخطيط المالي وآليات تقديم التقارير.
						قبل	21- إدارة صيانة واستخدام الأصول لتحسين أدائها على مدى
						بعد	دورة حياتها الكاملة.
						قبل	22- إدارة محفظة التكنولوجيا بما في ذلك تحديد واستبدال
						بعد	التكنولوجيا القديمة.
						قبل	23- استخدام التكنولوجيا والمعلومات والمعارف لدعم التحسين
						بعد	والتفكير الإبداعي.

محور رقم (5) EFQM : إدارة العمليات							
5	4	3	2	1	0	التطبيق	
						قبل	1- إنشاء نظام لإدارة العمليات.
						بعد	
						قبل	2- المراقبة المنتظمة للمؤشرات الداخلية التي تتعلق برضا الزبائن.
						بعد	
						قبل	3- القياس المنظم لدرجة رضا وارتياح الزبائن.
						بعد	
						قبل	4- وضع مؤشرات للعمليات والأهداف المرجوة للأداء.
						بعد	
						قبل	5- توفير الخدمات قبل وأثناء وبعد البيع.
						بعد	
						قبل	6- تصميم وتطوير منتجات وخدمات جديدة بالتعاون مع الشركاء والزبائن.
						بعد	
						قبل	7- تصميم المنتجات التي تهدف إلى إرضاء العميل وليس تخفيض تكلفة الإنتاج وتلبية احتياجات التصنيع.
						بعد	
						قبل	8- تصميم عمليات المنظمة ، بما في ذلك العمليات الرئيسية اللازمة لدعم وإيصال السياسة العامة والاستراتيجية.
						بعد	
						قبل	9- استعراض فاعلية نظام إدارة العمليات في تنفيذ سياسة واستراتيجية الشركة.
						بعد	
						قبل	10- إيصال هدف تغيير العمليات لجميع أصحاب المصالح، وضمان تحقيق التغييرات للنتائج المتوقعة.
						بعد	
						قبل	11- استخدام بحوث السوق ، والدراسات الاستقصائية للزبائن وغير ذلك من أشكال ردود فعل الزبائن لتحديد الاحتياجات والتوقعات الحالية للمنتجات والخدمات.
						بعد	
						قبل	12- التعامل مع المعلومات اليومية بما في ذلك شكاوى الزبائن.
						بعد	

						قبل	13- تحديد وترتيب أولويات فرص التحسين وغيرها من التغيرات، سواء حالاً أو بشكل تدريجي.
						بعد	
						قبل	14- تحفيز المواهب الخلاقة والمبتكرة للموظفين والشركاء والزبائن من أجل التحسين.
						بعد	
						قبل	15- تجريب والتحكم في تنفيذ عمليات جديدة أو مجددة (طراً عليها تغيير).
						بعد	
						قبل	16- فهم وتوقع تأثير التكنولوجيات الجديدة على المنتجات والخدمات.
						بعد	
						قبل	17- استخدام الإبداع والابتكار والكفاءات الرئيسية لكل من الشركاء الداخليين والخارجيين لتصميم وتطوير منتجات وخدمات منافسة سواء للأسواق الحالية أو المحتملة.
						بعد	
						قبل	18- مشاركة نشطة مع الزبائن من أجل مناقشة وتلبية احتياجاتهم وتوقعاتهم ومخاوفهم.
						بعد	
						قبل	19- تقديم المشورة للزبائن عن الاستخدام الأمثل للمنتجات والخدمات.
						بعد	
						قبل	20- تسويق وبيع وتوصيل قيمة المنتجات والخدمات للزبائن الحاليين والمحتملين.
						بعد	

### ثالثاً: المنافع

الرجاء وضع إشارة "X" في المكان الذي يدل على درجة كسب كل منفعة من المنافع التالية في مؤسستك، وذلك كنتيجة لحصولها على شهادة إدارة الجودة ISO9001، وذلك على المقياس (0 = أبداً، 1 = قليل جداً، 2 = قليل، 3 = متوسط، 4 = عالي، 5 = عالي جداً)

5	4	3	2	1	0	المحفز
						1- تحسين الهيكلية والعمليات الداخلية.
						2- تطوير ثقافة الجودة.
						3- تحسين جودة المنتجات النهائية.
						4- رفع درجة رضى الزبائن.
						5- تواصل أفضل مع الزبائن.
						6- تحسين الوضع التنافسي.
						7- تطوير ودعم العمل الجماعي.
						8- تحسين علاقة الإدارة والموظفين، بعضهم ببعض.
						9- تحسين علاقة الموظفين فيما بينهم.
						10- تحسين أداء الموردين.
						11- تقليل المخلفات وإعادة التصنيع.
						12- دخول أسهل وأفضل للأسواق الجديدة.
						13- تقليل شكاوى المشتركين.
						14- تقليل مراجعات الزبائن لنفس السبب بدون داع.
						15- - رفع درجة رضى الموظفين.
						16- زيادة مشاركة الموظفين في صنع القرار.
						17- تحسين في مستوى الرواتب.
						18- زيادة الإنتاجية.
						19- زيادة في الأرباح.
						20- تقليل تغيب الموظفين.

شكراً جزيلاً

### Appendix C: List of ISO9001 certified organizations

No.	Name of Company	Location	Sector
1	Al-Haya Food Industries Ltd.	Al-Eizarieh	Indust.
2	Jerusalm Chamber of Commerce	Al-Ram	Ch. of Comm.
3	Beit Jala Chemical Laboratory	Beit Jala	Indust.
4	Al-Zafran Marble Co.	Beit Jala	Indust.
5	Bethlehem Chamber of Commerce	Bethlehem	Ch. of Comm.
6	Nassar Investment Co. Ltd.	Bethlehem	Indust.
7	Marmara Modern Investment Co.	Bethlehem	Indust.
8	Middle East Pharmaceutical Co.	Gaza	Indust.
9	Badreddin Elredaisi & Partners Co	Gaza	Indust.
10	Sousy Furniture Company Ltd.	Gaza	Comm.
11	Al Haddad Furniture Company Ltd.	Gaza	Comm.
12	Badreddin Public Account	Gaza	Serv.
13	Awda Industrial Group	Gaza	Indust.
14	Building Center for Material Testing & Engineering Studies	Hebron	Serv.
15	Royal Industrial Trading Co.	Hebron	Comm.
16	Al Naba'a AlJadedah Co.	Hebron	Comm.
17	Bani Naim Marble & Stones	Hebron	Indust.
18	Herbawi Industrial & Traiding Co.	Hebron	Indust.
19	Jenin Chamber of Commerce	Jenin	Ch. of Comm.
20	Jericho Chamber of Commerce, Industry & Agriculture	Jericho	Ch. of Comm.
21	AL Eman School	Jerusalem	Serv.
22	Makassad	Jerusalem	Serv.
23	Red Crescent Hospital	Jerusalem	Serv.
24	Basma	Jerusalem	Serv.
25	St. John Eye Hospital	Jerusalem	Serv.
26	Augusta Victoria Hospital	Jerusalem	Serv.
27	St. Joseph Hospital	Jerusalem	Serv.
28	Isra'a Software & Computer Co	Nablus	Serv.
29	Al Safa Diary Plant Factory	Nablus	Indust.
30	Special Hosptial	Nablus	Serv.
31	Qalqilya Chamber of Commerce	Qalqilya	Ch. of Comm.
32	Asal Technologies	Ramallah	Serv.
33	Pharmacare Co.	Ramallah	Indust.

34	Gama Pharmaceutical Company	Ramallah	Indust.
35	Shweiki Sekurit Company	Ramallah	Indust.
36	MBC Inc. for Communication and Advanced Technolo (BCI)	Ramallah	Serv.
37	Jerusalem Pharmaceutical Company Ltd.	Ramallah	Indust.
38	Sinokrot	Ramallah	Indust.
39	Salwa Food Company	Ramallah	Indust.
40	Super Nimer doors	Ramallah	Indust.
41	Birzeit Palestine Pharmaceutical Company	Ramallah	Indust.
42	Palestine Beverage Group (Coca Cola)	Ramallah	Indust.
43	Salfeet Chamber of Commerce	Salfeet	Ch. of Comm.
44	Tubas Chamber of Commerce	Tubas	Ch. of Comm.
45	Tulkarem Chamber of Commerce	Tulkarem	Ch. of Comm.
46	Islamiah Company	Tulkarem	Indust.

**Legend:**

Indust. = Industrial sector

Comm. = Commercial sector

Serv. = Services sector

Ch. Of Comm. = Chamber of Commerce

## Appendix D: Experts approvals on Questionnaire

*E-mail from Dr. Samir Baidoun:*

From: sbaidoon@birzeit.edu [mailto:sbaidoon@birzeit.edu]  
 Sent: Sunday, June 07, 2009 5:41 AM  
 To: Mohammad Naser Eddeen  
 Subject: RE: Questionnaire both in Arabic and English

Please see the change in words in red, if they make sense to you, finalize and go ahead

**Dr. Samir Baidoun**  
**MBA Program Director**  
**Birzeit University**  
**P. O. Box 14**  
**Birzeit, Palestine**  
**Tel. 00970 2 2982185**  
**Fax 00970 2 2982963**  
**alternate email: sbaidoun@cce.birzeit.edu**

*E-mail from Dr. Katerina Gotzamani:*

Dear Mohamed,

I have now gone through the questionnaire, with which I almost totally agree, since it is very close to the one I used for my survey in Cyprus and Greece!

Two minor notices:

- a) I think question 10 in "Leadership" should be re-phrased so as to belong in this category. For example, it could be:  
 "Ensuring an appropriate process management system and assigning clear responsibilities and ownerships for all processes".
- b) In the "Benefits" Part, number 6: "Final Product Quality Improvement", might be better broken into 6a: Quality Improvement as "conformance to specifications" and 6b) Quality Improvement as "quality of design".

However, I believe that even without these changes, the questionnaire still stands well!!

Good Luck with your research and I will be happy to be informed about the results!

Sincerely

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## Appendix E: Performance improvements in all 94 EFQM elements

Leadership elements	Performance before certification	Performance after certification	Mean Difference
1- Ensuring effective organizational structure and process management system to deliver policy and strategy.	2.57	4.23	1.66
2- Encouraging and supporting creativity, innovation and people involvement in improvement activities.	2.66	4.02	1.36
3- Communicating the organization mission, vision, values, strategy, policy, plans and objectives to people.	2.68	4.15	1.47
4- Achieving effective communication with people and responding to their needs.	2.70	4.04	1.34
5- Recognizing and praising people efforts in a timely and appropriate manner.	2.72	3.92	1.21
6- Communicating with customers, partners and representatives of society, meeting their needs and expectations, and actively participating in joint improvement activities.	2.62	4.09	1.47
7- Developing the organization's mission, vision, culture, and ethics and public responsibilities that support the culture.	2.64	4.23	1.58
8- Reviewing and improving the effectiveness of personal leadership behavior, and encourage collaboration within the organization.	2.77	4.09	1.32
9- Encouraging, supporting and acting upon the findings of Learning Activities, and ensuring a process to identify, plan and improve them.	2.64	4.13	1.49
10- Ensuring an appropriate process management system and assigning clear responsibilities and ownerships for all processes.	2.70	4.30	1.60
11- Ensuring a process of the effective governance of the organization.	2.77	4.21	1.43
12- Ensuring a process for the measurement, review and improvement of key results, and prioritizing the improvement activities.	2.64	4.09	1.45
13- Participating in professional bodies, conferences and seminars; and supporting and engaging in activities in the fields of excellence, environment, society and interests of future generations.	2.40	3.49	1.09

14- Helping and supporting people to achieve their plans, objectives and targets; and manage change.	2.51	4.00	1.49
15- Being accessible, actively listening, uniting and responding to people, and promoting equal opportunities and diversity.	2.74	4.11	1.38
16- Understanding the internal and external drivers of change for the organization, and communicating the reasons for them to all stakeholders.	2.53	4.06	1.53
17- Securing investment, resources, support for change, and managing the delivery and risk of the overall portfolio of change programs.	2.72	4.04	1.32
18- Identifying and selecting the appropriate changes, and making it clear to all internal and external stakeholders, and leading the development of change plans.	2.60	3.94	1.34
19- Measuring and reviewing the effectiveness of changes, and sharing the knowledge gained.	2.53	4.19	1.66
<b>Policy and Strategy Elements</b>	<b>Performance before certification</b>	<b>Performance after certification</b>	<b>Mean Difference</b>
1- Policy and strategy are deployed through a network of key processes, plans and objectives.	2.51	3.94	1.43
2- Policy and strategy are systematically reviewed and updated.	2.40	4.09	1.70
3- Policy and strategy are based on internal performance indicators.	2.60	4.25	1.64
4- Policy and strategy are based on information from the market.	2.77	4.17	1.40
5- Policy and strategy are based on information from comparisons with competitors, both current performance and potential competences.	2.53	3.75	1.23
6- Policy and strategy are based on analysis of the external environment.	2.70	3.98	1.28
7- Policy and strategy are based on the present and future needs and expectations of stakeholders and balancing their short and long term dimensions.	2.53	3.91	1.38
8- Policy and strategy are based on analysis of new technologies' impact, as well as long and short terms social, environmental, safety and legal issues.	2.72	3.92	1.21
9- Policy and strategy are communicated to stakeholders; and their awareness is evaluated.	2.64	4.04	1.40

10- Policy and strategy are formulated based on risk assessment, with clear ways for addressing these risks.	2.66	3.87	1.21
11- Policy and strategy are delivered by identifying core capabilities and needs for partnership/alliances.	2.62	3.85	1.23
12- Policy and strategy are developed and updated by identifying present and future competitive advantage.	2.79	4.06	1.26
13- Policy and strategy are developed and updated by identifying critical success factors of the organization.	2.77	4.09	1.32
14- Policy and strategy are updated continuously by aligning and developing social and environmental standards with partners.	2.62	3.74	1.11
15- Policy and strategy are periodically evaluated for their relevance and effectiveness.	2.49	4.04	1.55
<b>Human Resources elements</b>			
	<b>Performance before certification</b>	<b>Performance after certification</b>	<b>Mean Difference</b>
1- Developing HR policies, strategies and plans.	2.60	4.09	1.49
2- Aligning HRM with strategic objectives.	2.72	4.09	1.38
3- Promoting awareness in health, safety, environment and social responsibility issues.	2.51	4.28	1.77
4- Promoting social and cultural activity.	2.72	3.92	1.21
5- Promoting people well being, satisfaction and development.	2.75	3.91	1.15
6- Involving people in developing human resource plans and policies.	2.45	3.72	1.26
7- Training people on quality issues.	2.42	4.32	1.91
8- Promoting and ensuring fairness in all terms of employment (recruitment, career terms with policy and strategy.	2.47	3.92	1.45
9- Using people surveys and other forms of feedback to improve HR policies, strategies and plans.	2.36	3.79	1.43
10- Aligning individual and team objectives with the organization targets; and reviewing and updating these objectives.	2.45	3.92	1.47
11- Encouraging and supporting individual and team involvement and participation in improvement activities.	2.60	4.06	1.45
12- Developing team skills, and encouraging people to work together in teams.	2.57	4.15	1.58

13- Identifying communication needs, and developing communication policies, strategies and plans based on them.	2.60	3.96	1.36
14- Developing and using top down, bottom up and horizontal communication channels.	2.51	3.98	1.47
15- Developing people through work experience and the use of empowerment skills.	2.55	4.15	1.60
16- Supporting innovative and creative behavior.	2.72	4.08	1.36
17- Using innovative organization methodologies to improve the way of working (e.g. restructuring the supply chain, flexible team working).	2.60	4.13	1.53
<b>Partnership and Resources elements</b>			
	<b>Performance before certification</b>	<b>Performance after certification</b>	<b>Mean Difference</b>
1- Systematic recording of process	2.51	4.21	1.70
2- Require quality certificates from partners.	2.25	4.00	1.75
3- Having a comprehensive system of evaluating partners.	2.26	4.02	1.75
4- Managing risks to financial resources.	2.70	4.02	1.32
5- Developing long-lasting relations with suppliers.	2.68	4.04	1.36
6- Systematic collection of data for comparison with excellent organizations for learning and improving.	2.51	4.13	1.62
7- Forming supply chain partnerships that add value to customers.	2.43	3.77	1.34
8- Identifying and leveraging core competencies of partners; and generating innovative thinking through them.	2.45	3.77	1.32
9- Developing and implementing financial strategies and processes for using financial resources in support of overall policy and strategy	2.62	3.92	1.30
10- Using financial mechanisms and parameters to ensure an effective and efficient resourcing structure.	2.51	3.87	1.36
11- Developing a strategy for managing technology, information and knowledge that supports the organization's policy and strategy.	2.53	4.00	1.47
12- Identifying and evaluating alternative and emerging technologies in the light of their impact on business and the society.	2.49	4.15	1.66

13- Developing innovative and environmentally friendly technologies (i.e. conserving energy, waste and emissions minimization, encouraging recycle and reuse).	2.47	3.87	1.40
14- Minimizing any adverse global impact of products, production processes and services.	2.43	3.89	1.45
15- Optimizing material inventories, consumption of utilities and transportation usage.	2.49	4.06	1.57
16- Using information technology to support internal communication and information and knowledge management.	2.42	3.96	1.55
17- Assuring and improving information availability, validity, integrity and security.	2.55	4.08	1.53
18- Providing appropriate access, for both internal and external users, to relevant information and knowledge.	2.57	3.96	1.40
19- Measuring and managing any adverse effects of the organization's assets on the community and employees (including ergonomics, health and safety).	2.34	3.96	1.62
20- Evaluating investment in and divestment of all assets with the use of appropriate financial planning and reporting mechanisms.	2.53	4.09	1.57
21- Managing the maintenance and utilization of assets to improve total life cycle performance.	2.62	4.15	1.53
22- Managing the technology portfolio including the identification and replacement of out dated technology.	2.47	4.08	1.60
23- Using technology, information and knowledge to support improvement and creative thinking.	2.45	3.98	1.53
<b>Process Management elements</b>			
	<b>Performance before certification</b>	<b>Performance after certification</b>	<b>Mean Difference</b>
1- Establishing process management system.	2.28	4.11	1.83
2- Systematic monitoring of internal indicators related with customer satisfaction.	2.36	4.28	1.92
3- Systematic measurement of customers' satisfaction.	2.42	4.32	1.91
4- Setting process indicators and performance targets.	2.40	4.38	1.98
5- Providing service before, during and after sales.	2.55	4.02	1.47
6- Designing and developing new products and services together with partners and customers.	2.51	3.96	1.45

7- Designing products aimed at customer satisfaction rather than lowering cost and satisfying production requirements.	2.38	3.94	1.57
8- Designing the organization's processes, including those key processes needed to deliver policy and strategy.	2.38	3.87	1.49
9- Reviewing the effectiveness of the process framework in delivering the organization policy and strategy.	2.34	4.02	1.68
10- Communicating process changes to all appropriate stakeholders, and ensuring process changes achieve predicted results.	2.53	4.06	1.53
11- Using market research, customer surveys and other forms of feedback to determine customer current needs and expectations for products and services.	2.36	3.81	1.45
12- Handling feedback received from day to day contacts including complaints.	2.51	4.30	1.79
13- Identifying and prioritizing opportunities for improvement, and other changes, both incremental and breakthrough.	2.53	4.21	1.68
14- Stimulating and bringing to bear the creative and innovative talents of employees, customers and partners in improvements.	2.55	4.08	1.53
15- Piloting and controlling the implementation of new or changed processes.	2.51	3.87	1.36
16- Understanding and anticipating the impact and potential of new technologies on products and services.	2.58	4.17	1.58
17- Using creativity, innovation and key competences of both internal and external partners to design and develop competitive products and services for both the current established market and potential markets.	2.53	3.98	1.45
18- Proactive involvement with customers in order to discuss and address their needs, expectations and concerns.	2.55	4.09	1.55
19- Advising customers on the responsible use of products and services.	2.64	4.17	1.53
20- Marketing, communicating the value proposition, and selling products and services to existing and potential customers.	2.57	3.77	1.21