Industrial Science ISSN: 2347-5420

REVIEW OF ISO 9000 EFFECTIVE IMPLEMENTATION IN VARIOUS ORGANIZATIONAL STRUCTURES

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Abstract:-This paper deals with the discussion of the effective implementation of ISO 9000 in various organizational structures. The entire discussion on the topic is divided into two sections, the first section deals with the factors requiring the implementation of ISO 9000 and its positives and negatives, whereas the second section deals with the manner in which ISO 9000 certification is acquired, and the factors affecting the performance of ISO 9000 as experienced by different entities of the world. The entire discussion of this paper is summarized in the form of tables, which makes the information regarding the topic more useful for the researchers for their future works on the similar topic; moreover, it helps entities in understanding ISO 9000 while implementing it.

Keywords: ISO 9000, Review, Implementation.

1.0 INTRODUCTION

Lately, many national and international firms are after the acquisition of quality management system (QMS) of ISO 9000 as a standard of industrial countries. Moreover, with the passage of time, more and more entities are trying to make their applications conform to the ISO 9000 working mechanism to ensure quality. This highlights their growing interest in the quality of their services to attain a competitive position in the market (Dick, 2000). This trend of ISO 9000 certification has become enormously accepted throughout the world in a manner that there are some companies which refuse to do business with the entities that are not ISO certified specifically the European Community Industries, which are very conscious about dealing with entities that are certified (Mo and Chan, 1997). This ensures the quality of services and products and has become a sort of competitive strategy for organizational success (Khan, 2008). In this competitive world, organizations cannot afford to ignore the quality factor of their services, for which a number of quality controlling strategies have been introduced. The most prominent of the list of these strategies are total quality management (TOM), ISO 9000 and just in time (JIT). However, ISO 9000 has got the major share of the market and has been adopted by almost all the industries of Europe, USA and other developed countries. Moreover, developing countries are also considering the pros and cones of this quality assurance strategy as it has been proved beneficial in enhancing the managing and monitoring attributes of entities.

1.1 ISO 9000 Background

The quality of any service or a product is handled in two ways, either through product quality standards that assure the quality of the good produced, or the process quality that deals with the assurance of quality of a process through which a service or a good is produced. With the increasing demand of quality in products and services, more and more entities of the world are going

Abdullah Albadran ,"REVIEW OF ISO 9000 EFFECTIVE IMPLEMENTATION IN VARIOUS ORGANIZATIONAL STRUCTURES" Industrial Science | Volume 1 | Issue 7 | Oct 2014 | Online & Print

after the ISO 9000 set standards (Heizer and Render, 2009). ISO 9000 is taken as a collection of standards that are very much similar to the QMS and are helpful in making organizations fulfil their customers' and stakeholders' requirements (Poksinska et al, 2002). The International Organization for Standardization (ISO), was established in Geneva, in 1947 (West et al, 2000), and it's the short form of a Greek word "isos" that means equal (Levitt, 2005). ISO 9000 is normally used to refer to an ISO 9000 registration program that is actually the collection of general standards followed in management systems. These standards are really helpful in dealing with a company's quality systems (Briscoe, et al, 2005). TheISO 9000, being a management system standard, provides entities with the working mechanism that helps them develop and follow their own quality systems. The very first family of standards was issued in 1987 and they were not applicable to products but to the management systems. QMS, to which these standards were applicable, included entities for profit, not for profit, academic, government, etc (Sousa Poza et al, 2009).

The set of ISO 9000 standards which was proposed in 1987 consisted of five standards namely ISO 9000, 9001, 9002, 9003 and 9004. Of these five standards, ISO 9000 and 9004 served as the plans for the development of quality systems in the organizations, whereas, the other three standards, namely ISO 9001, 9002 and 9003 served as the conformance standards for quality assertion systems that deal with the supplier customer relationship, and these standards were termed as the contractual standards. These standards dealt only with the verification of the extent to which quality standards meet the set standards of the entity instead of the overall management. Moreover, the selection of the standards is also done based on the different requirements of the entity. The major drawback of the ISO 1987 was that it was not good enough for bringing about improvements in the business and lacked customer centred approaches at some points (Mead, 2011). Then later on in 1994, a new series of ISO 9000 standards was introduced which was termed as ISO 9000:1994. This series also had ISO 9000, 9001, 9002, 9003 and 9004, but in this series they were concerned about the preventive actions rather than keeping a check on the quality of the final product. However, they still had the feature of checking the conformance of procedures with the set standards. In 2000, ISO 2000 revision was put forth which contained ISO 9000 and 9004 standards, and had the ISO 9001, 9002 and 9003 in a combined version that were termed as ISO 9001:2000. This series performed differently as compared to the earlier versions of ISO 9000 standards. It focused on the development of quality management system instead of keeping a check on the system to conform to the set standards. Moreover, it focused on customer satisfaction and the element of continuous improvement in the adopted quality assurance systems as shown in table (1).

	ISO 1987
ISO 9000.	Quality management and assurance standards for selection and use.
ISO 9001	Quality systems model for quality assurance in organizations whose processes include design, development, production, installation and servicing.
ISO 9002	Quality systems model for quality assurance in organizations whose processes include production and installation, but not design and development.
ISO 9003	Quality systems model for quality assurance in organizations whose processes use fina inspection and testing to meet product and service quality requirements.
ISO 9004	Quality management and quality system element guidelines.
ISO 8402	Vocabulary and Terminology
	ISO 1994
	ISO 9000, 9001, 9002, 9003, 9004, and 8402
	The focus is on quality assurance through preventive actions
	ISO 2000
ISO 9000	Quality management system fundamentals and vocabulary- defines terminology
ISO 9001	ISO 9001 Quality management systems requirements- used to assess compliance with requirements (combines ISO 9001/9002/9003 into one standard)
ISO 9004	Quality management systems guidelines for performance improvement- offer guidance fo continual management system improvement.
	ISO 2008
Introduced some classifications to	the existing requirements of the previous issue to improve its consistency with ISO 14001:2004

Table 1: ISO 9000:1987-2008 Standards. (Sabah,2011)

The given set emphasized clearly on the involvement of top management in the implementation of the standards. However, the version of ISO 9000 standards given in 2008 was termed as ISO 90001:2008. This set didn't make any substantial changes in ISO 9001: 2000 and had only proposed some classifications of the existing needs of the issue to make it consistent with the ISO 14001: 2004. All the standards proposed since 1987 up till 2008 are shown in the table given. There are certain quality management principles which form the basis of ISO 9001 requirements and the list include leadership, worker participation, process approach, customer focus, system approach to management, factual approach to decision-making, continuous improvement and mutually beneficial supplier relationship (Levitt, 2005). The ISO standards are there to ensure a quality procedure for the production of quality product and services. It has been observed that all the entities that adopt OMS have experienced a number of benefits, and the list includes better marketing, enhanced customer satisfaction and retention, gaining of most effective and efficient operations, high profits, maximum productivity and minimum waste, minimum requirement for audits and motivated workforce. With the increasing competitive environment, the customer satisfaction is taken as the quality benchmark for the entities all over the world (Barnes, 2000, Lankford, 2000, Santos and Escanciano, 2002, Maged, 2005 and Herass-Saizarbitoria et al, 2010). Purpose of implementing quality-managing method ISO 9001 would be to streamline each of the processes on the organization to improve quality as well as the performance of the processes. ISO 9001 tends to make the system coherent, homogeneous, traceable, transparent and focused to your larger quality plan as well as quality aims and objectives of the organization. Most of these aims and objectives are usually examined for their adequacy along with suitability, measured and their implementation will is checked through quality audits. ISO 9001 standard is generic within characteristics as well as QMS based on it might be implemented within any sort of corporation whatever it is size or versatility of activities may be. (Anil. K et al, 2013)

2.0 REASONS TO SEEK ISO 9000 CERTIFICATION

There could be various reasons for which entities would like to get certified and these reasons or incentives could be categorized into two groups. The First one refers to the internal incentives which include the betterment of the organizational environment. The other category refers to the external incentives that are related to market and the two groups could be mixed together to get the certificate based on both the incentives. Different entities have their own incentives on the basis of which they get certified. Given below is table (2) that illustrates these two categories, as has presented by different authors and studies.

	Business	Quality improvement	Top management decision	Government requirements	Customer pressure	Increasing quality awareness	Increase market share.	Promotional tools for	A step towards	assist in the quality management
	E+I	E+I	I	Е	Е	I	Е	Е	I	I
Bayati and Taghavi, (2007)	×					×				
Zaramdini, (2007)	×		×	×	×					×
Gader et al.(2009)		×						×		
Sampaio, Saraiva and Rodrigues (2009)		×		×	×	×	×	×		×
Singles, Ruel and Van de Water (2001)								×		
Douglas, Coleman and Oddy (2003)					×		×			
Carlsson and Carlsson (1996)			×	×					×	
Mersha, (2007)		×								
Cianfrani, tsiakals and west (2009).										×

Table 2: Reasons to seek ISO 9000 Certification

3.0 BENEFITS GOT FROM ISO 9000 CERTIFICATION

AdolfasKaziliūnas (2010) shows that any well-developed ISO 9000 implementation approach is crucial pertaining to attaining finical advantages from ISO 9000. This study executed through Cagnazzo (2010) upon 366 Italian organizations outlined the primary important features influenced by the ISO 9000. Organizations recognize both internal and external effects, whether or not that they sense a lot more rewards coming from the greater operating productivity, operations management and also on the greater awareness of the customer. This is perfectly coherent while using ISO standard. Guchu and Mwanaongoro (2012) and Olaru et al., (2011) outlined the investigation completed at the level of Small and Medium organization in Kenya and Romania. This ended in a significant improvement in the operation connected with assessing and also supervising customer satisfaction through SMEs. There are few positives of getting certified and these positives could be classified as the internal and external benefits that a firm can get in return for getting certified. A Number of these benefits are illustrated in table (3) and they were very carefully selected after the review of many articles on the subject.

	Improved customer service	Improved market share	Greater competitive advantage	Increased customer satisfaction	Expansion to international market	Better working environment	Improved product and service quality	Improved profitability	Improved process and procedures	Employees become more quality aware
	Ι	Е	Е	Е	Е	I	Ι	I	I	I
Ashrafi (2008)				×		×	×	×	×	
Zeng, Tian and Tam (2007)				×	×		×		×	
Prajogo, D.T. (2009)				×	×			×	×	
Piskar and Dolinsek (2006)	×			×		×	×	×	×	
Dick (2000)	×	×	×			×		×		×
Magd, Kadasah and Curry (2003)							×	×		×
Magd and Curry (2003)		×	×	×						
Levine and Toffel (2010)	×							×	×	×
Gader, et al (2009)	×									

Table 3: Benefits got from ISO 9000 Certification

4.0 POSITIVE AND NEGATIVE VIEWS ABOUT ISO 9000

The very reason for which companies adopt ISO 9000 is the customer requirements. Apart from that, the unfavourable audit results also forced the adoption of QMS. Moreover, the manner in which ISO 9000 is being rejected and accepted by the managers depends on the extent to which ISO 9000 is effective in meeting the contemporary requirements of the organizational structure and the pace of keeping up with the continuously changing improvement strategy (Ashrafi and Bashir, 2001; Sampaio, Saraiva and Rodrigues, 2009; Jang and Lin 2008; Zaramdini, 2007; Douglas, Coleman and Oddy, 2003; Magd, 2003; Terziovski, Power and Sohal, 2007). There are both positives and negatives of ISO 9000 which affect the performance of the organizations. These negatives and positives both refer to the value of implementation of QMS and their cost effectiveness, particularly in the organizations of developing countries. Literature review on the subject gives two different ideas on the effectiveness of the ISO 9000 (Gotzamani and Tsiotras, 2007). The first one suggests that the implementation of ISO 9000 supports the total quality managementsystem and is helpful in improving the quality of the system. Apart from that, it is cost effective and is successful in gaining customer satisfaction (Magd, 2008; Han and Chen, 2007). On the other hand, the literature suggests some negatives of the acquisition of this certificate as well. It states that there are entities which only

hold this certificate but don't bother to execute the quality systems that this certificate intends to execute. This leads to the higher number of unsatisfied customers of an entity. However, the positive view states that the ISO 9000 standards themselves are effective in assuring quality management in organizational structure, via making the quality delivery cost effective and just according to the needs of customers. Also, these results are only possible if the entities are careful in executing each and every elements of these standards properly (Cianfrani, Tsiakals and West, 2009; Gotzamani and Tsiotras, 2007; Llopis and Tari, 2003; Escanciano, Fernandez and Vaquez, 2001).

The negative view of the acquisition of this certificate could be restated as misusing of this acquisition of the certificate via not fulfilling the requirements of its working structure. Therefore, the actual conclusion of the fact could be stated as the long-term performances of the entities and the results of effectiveness of these standards, whether positive, negative or neutral solely depend on the manner in which entities execute these systems (Gader et al, 2009; Sampaio, Saraiva and Rodrigues, 2009; quazi and Padibjo, 1997). There are number of studies which clearly exhibit the positive results of ISO 9000 implementation in some entities. The results suggest that these standards helped the entities in improving their economic state; competitiveness and attaining required customer satisfaction (Alic and Rusjan, 2010; Dimara et al, 2004; Magd and Curry, 2003; Corbett et al, 2002; Claver et al, 2002; Heras et al, 2002; Sharma and Gadenne, 2002; Leung et al, 1999). However, there are studies which oppose the idea and state that the relationship of economic prosperity and the implementation of ISO 9000 standards are not true. Therefore, it could be concluded that the relationship is not true under all situations, in fact, specific conditions are required to be fulfilled to get the fruitful outcomes of the implementation of these standards (Chow-Chua et al, 2003; Martinez Lorente and Martinez-Costa, 2003; Quazi et al, 2002; Singels et al, 2001; Abraham et al, 2000).

5.0 NECESSARY STEPS FOR ACHIEVING ISO 9000 CERTIFICATION

In order to get an ISO 9000 certification, an entity needs to follow the sixteen steps presented (Dale, 2003). The list includes:

- 1. A clear introduction of the job,
- 2. Development of an effective policy,
- 3. Selection of a group for the execution of a project,
- 4.Explain obligations
- 5. Identification of organizational working mechanism,
- 6. Choose an appropriate system for the structure,
- 7. Managerial assessment,
- 8. Identify the reliability of the system in terms of its objectives,
- 9. Detail what management do currently
- 10. Combine managerial tasks,
- 11. Test the compatibility of the system,
- 12. Conduct internal audit of the system,
- 13. Review the system,
- 14. Get an assessment prior to the original audit,
- 15. Choose the certification organization
- 16. Conduct certification audit.

These steps are the basics to get the ISO 9000 certification and to ensure its effective implementation.

6.0 ISO 9000 IMPLEMENTATION FACTORS

This section of the paper deals with the factors that affect the outcomes of the implementation of ISO 9000 in an entity. These factors determine the success rate of these standards in any organization. These are normally the actions carried out in the beginning of the implementation of QMS-9000 (European Foundation for Quality Management, 1999). These

factors are termed as the enablers (Baidoun, 2003). These factors determine the success rate of the implementation of the management system via affecting the fulfilment of the corporate objectives, and are termed as variables that are the means to attainment of the final goal of the quality management system (Najeh et al, 2004). Moreover, this section will present the factors that entities identify as the crucial ones before andwhile implementing ISO 9000. To understand these factors completely, researchers will refer to the literature available on this subject and will go through the work-studies to understand the issues faced during this implementation. The gist of the literature studied is summarized and has been presented in the given tables (4). There are many common factors faced by the companies, which have an impact on the performance of ISO 9000 implementation. Table (4) clearly illustrates these factors along with the effects they create on the entity, and is, in a way, helpful for researchers in conducting further studies in this regard and for the other entities who want to or who are implementing these standards. However, the tables show different values for different factors in different entities, butthey are the ones that are faced commonly.

	Top management commitment	Employee resistance	Difficulty of internal audits	Absence of consulting boards	ISO requirements are unrealistic	Shortage of financial resources	Insufficient human resources	Insufficient employee training	Insufficient knowledge in quality	Ignorance of ISO importance	Weak interdepartmental	Unwillingness to change work systems	Inflating the size of documents	Unwillingness to change organizational culture	Absence of quality guidelines	Customer satisfaction
Gader et al. (2009)		×			×	×	×	×			×					
Psomas et al. (2010)		×														
Wahid and Corner (2009)	×						×								×	
Han and Chen (2007)																×
Ashrafi (2008)						×	×		×							
Sabah (2011)	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Sampaio, Saraiva and Rodrigues (2009)	×						×		×		×					
Maged (2008)																×
Hayat (2003)										×						
He sham and Magd (2007)	×															
Al-Zamany, et al. (2002)							×		×		×					
Fuentes et al. (2000)							×	×								
AlKahlifa and Aspinwall (2000)						×	×	×	×							
Amar and Zain, (2002)	×						×								×	
Lipovatz, et al. (1999)							×	×								
Sousa-Poza et al. (2009)			×													
Maersha (2007)						×			×						×	

ISO 9000, although it is only for the general findings.(Dory and Schier,2002) said, during the 1950s, manufacturers could sell almost anything they could make. Subsequently, however, as markets have become \(\) more competitive, consistency of product quality and service has become an increasingly important issue. Top managers in a growing number of industries have recognized that quality is a key competitive strategy, as one of the most powerful corporate leverage points for achieving both Customer satisfaction and lower costs. Dory and Schier (2002) research identifies the change in the selling of products manufacturers and the need for quality of products which maintaining low costs. The writer ranks quality of the product among the powerful strategies in marketing. The writer mentions of customer satisfaction as one of the goals of product quality and the other is doing so at a low cost. This writer conducts the research with the product customer the benefiting factor from product quality.

Therefore, organizations start to think of the quality to stay in business. (Madu, 1997), mentioned that; with the increased globalization of markets and liberalization of local economies, it

has become necessary for businesses all over the world to develop competitive strategies. The rapid globalization of markets and the gradual acceptance of competition make it more difficult for local government to protect local markets. Madu (1997) recognizes the growth in globalization and its shortcoming to businesses due to competition and lack of a way to protect local markets. The writer clears the theory by keeping the competition at the same level through attaining certain quality standards. The writer's view is that quality is a forced result to the organizations to avoid lacking a market for their products. (Oakland, 2003) also supported the previous research by saying; there are growing demand for the implementation of quality management standards, for example, Six Sigma, Lean Thinking, ISO 9000, Total Quality Management, etc. Therefore, the literature suggests that the most popular quality philosophies are based on ISO 9000 and TQM (Lee and Palmer, 1999; Heras et al., 2002). ISO 9000 has been used more and more throughout Europe, the USA and worldwide. Also, the literature indicates that TQM has become a major strategy for most manufacturing firms whether in developed countries or developing countries (Salaheldin, 2003). Also, the implementation of the quality management system ISO 9000 has many benefits to the organizations such as increase of profitability, reduction of cost, continuous improvement, reduction of waste materials, customer satisfaction, productivity and saving time and motivating employees in the organizations.

ISO 9000 standards assists in ensuring that organizations follow specific well documented procedures in the making and/or delivery of their products or services and ISO 9001:2000 focuses on customers' needs and expectations (Van der Wiele et al., 2005). ISO 9001 is one of the basic standards in the ISO 9000 family so in this research ISO 9000 will be also referred to ISO 9001. Empirical researchreveald that ISO 9000 implementation faces many boundaries in organisations throughout the world (Fotopoulos and Psomas, 2009; Gader et al., 2009; Wahid and Corner, 2009; Mersha, 2007; Withers and Ebrahimpour, 2001; Kwai-sang, Poon and Kit-Fai, 2000; Ashrafi, 2008; Lipovatz, Stenos and Vaka, 1999; Quazi and Padibjo, 1998; Zairi, 1996; McCullough and Laurie, 1995; Calingo et al., 1995; Kim, 1994; Olsen, 1994; Dzus and Sykes, 1993). Thereview of the literaturediscovered that most of these boundaries result from an absence of top management support and commitment, a lack of understanding of the ISO requirements, insufficient training and quality awareness, employees resistance to change, low level of quality awareness and culture and short of finance and time. Zeng et al. (2007) conduct a research of the problems of implementing ISO standards in China. The writer categorizes the findings of the research into two parts problems from the audit's side and the company side. This advantageous to any researcher who goes through this paper as one will recognize that there is a possibility of the problem being two sided. The disadvantage is that the research conclusion is on the basis of China's case only. There is no comparison to any other location.

An alternate study by Sampio, Saraiva and Rodrigues (2009) proposes that the real challenges confronted in executing ISO 9000 are the low level of involvement of senior management and workers, a poor flow of important information, employees resistance to change, lack of quality knowledge, and poor interdepartmental communication. (Hesham Magd,2006) said in there research that, the most important problem faced manufacturing organization with registration agencies in Saudi Arabia was the high costs associated with the auditing process. This could be true to only this location or only to small businesses and also it could be an under-estimation of the other problems hence disregarding them. The information in this research can possibly lead to misinformation. In a survey conducted by (Zeng, S. et al ,2007) four types of barrier have been identified:

- $1) Lack\ of\ commitment\ for\ some\ certifying\ bodies.$
- 2) Excessive competition between certifying bodies.
- 3)Offering of a total packaged service from consultancy to certification by certifying bodies.

(Zeng, S.et al, 2007) also showed that there are five main obstacles from the company's side:

- 1) Short sighted goal for "getting certified"
- 2)Over expectation on ISO standard

- 3) Mandatory requirement (not wholehearted commitment) in some industries
- 4)Following others (the trend) in certification
- 5)Lack of necessary guidance for certification

Gotzamani, K.D. (2005)identified other obstacles (especially for the 1994 to the 2000 version of ISO) for the implementation process of ISO certificate, the obstacles listed below:

- 1) The need to change culture,
- 2) The adaptation of "paper certificates",
- 3) Unrealistic requirements and ritualistic implementation
- 4)Poor adaptation of the previous standard
- 5)Conventional quality audit process

The advantage is that this represents a number of versions, but it leaves out the recent ISO versions available for certification. Amar and Zain (2002) conduct their research on manufacturing companies in Indonesia. The study's findings are factors that are problematic to quality programs implementation. They classified the factors acting as barriers that are most frequently faced by the local organizations in the following:

- 1)Human resource,
- 2) Attitude towards quality,
- 3)Management,
- 4)Culture,
- 5)Interdepartmental relations,
- 6) Machines and equipment,
- 7) Materials,
- 8)Quality related information,
- 9) Method, training and finance.

The writer takes the advantage of the different existing Quality management systems and widens the scope of the research. The writer does not dwell on ISO standards alone. The disadvantage is that the findings are for Indonesia alone and there is no comparison location. Although the literature on ISO 9000 in particular is clearly significant, there is a much smaller literature-base focused on difficulties and problems with ISO 9000 and even more so when examining Arabic countries. (Al-mijrab, 2010). Moreover, (Sila and Ebrahimpourn, 2002) conducted a TQM survey-based on research published between 1989 and 2000, reported the lack of information about the nature and stage of implementation in some regions of the World including South America, Africa, how Middle East. Thus, they suggest that more survey research evidence is needed to see countries around the World compare with each other in terms of their understanding and implementation of TQM practices. Sila and Ebrahimpourn (2002) recognize the lack of literature that creates a comparison of the research at hand in countries from all over the world. The writer puts across the input by researches from developing countries can have to the research. This is a vision ahead the advantage the writer relies on. The problem is that the information is based on a research on TQM (Total Quality Management).(Ramanathan, 2004) said that, the manufacturing industry segment is one of the dynamic and critical profitable parts in numerous nations of the world, and anything that undermines manufacturing is liable to have a disproportionate result on the entire economy. Therefore, many studies have investigated the industrial sector in numerousnations, both developing and developed, but there are not many such studies the Arab countries. The writer identifies the need for researches on threats to the manufacturing industry and recognizes the existence of such researches, but few are available for Arabic countries. The disadvantage is that the writer only recognized the lack of such research in Arabic countries alone while there is a possibility they are generally few all around the world. However, the pursuit of ISO 9000 standard is growing in the Middle East. Many organization are applying and receiving the certification in countries like the Kingdom of Saudi Arabia, , Lebanon, Oman, Kuwait, Qatar, and the United Arab Emirates. (Mezher& Ramadan, 1998) shows some of the reasons of this increase in the following:

- 1) Awareness of the existence of the ISO Standards.
- 2)Competition among similar industries.
- 3)An increase in pressure from major corporations on their suppliers (such as Aramco and SCECO which are considered as leading companies).
- 4)The ever-increasing requirements of importers of Saudi goods (especially in Europe) to be certified to the ISO Quality Standards.
- 5)Saudi Arabia's signing of the WTO (World Trade Organization) agreement that will ultimately remove all kinds of protection on Saudi products.
- 6)The ever-growing awareness of the importance of the quality of the end product and the necessity of a quality system to assure that a quality product is produced.

Mezher and Ramadan (1998) give reasons why the pursuit for ISO 9000 certification is increasing in the Middle East. The disadvantage of these reasons is from the findings based on the Middle East hence no comparison to the rest of the world. The advantage is that the writer's research relates to the research at hand and other literature provided. The literature provided for this section is widely about the barriers encountered while implementing ISO 9000. From the provided literature, the researcher puts across that the literature provided on the difficulties of ISO 9000 implementations is significantly less than expected and there is a lot of surveys required in this area. Another identifiable gap is the areas of study of the provided literature. The researcher mentions few researches existence dwelling on the findings of the Arabic countries of the world. This is evidently not the only region in the world that does not have significant researches for topic in hand. Generally, few researches exist on the ISO 9000 adoption in Africa, South America and the Middle East in general. The availability of this research has a large part to play when it comes to ISO 9000, which is an international certification standard.

8.0 APPROACH AFTER SUMMARIES THE LITERATURE REVIEW

There are the various gaps identified in the research dependent on the literature review. There is a lack of material to create a significant comparison based on the various researches. There is limited information on the barrier to implementing ISO 9000 in the developing countries. It is safe to recommend that significantly additional research on the topic of adoption and implementation of ISO 9000. In addition, more current information for the researches would help the literature conveniently. This is also applicable for the fact that there is a scarcity to the research for worldwide information on the topic. Need for researches on the topic arise, in the case study of various regions. This will provide a way to compare the research of all regions and come up with common data applicable throughout the world. In this case, the companies can know internationally analysed data in regards to adoption of the quality management standard. There is the issue of audits. This is a quality management system where audits are a requirement during the first certification and for an industry or company to remain ISO 9000 certified. A research for directing companies and industries on audit requirements and avoiding of the disappointments of audits firms would be of good help for both audit firm and the manufacturing organizations. Generally, to bridge the gap identified in the literature is dependent on the presentation of new researches on the topic. In addition, a close timeline can work effectively with this data in the researches provided.

9.0 CONCLUSION

The paper has discussed the definition of ISO 9000, its features, negatives and positives, the manner in which companies implement it, the reasons for which it must be sought, and the pros and cons of ISO 9000. Apart from that, factors that affect the success rate of the implementation of ISO 9000 in entities are discussed and factors, which entities must check for before implementing these

standards, are elaborated here with all of their pros and cons. The overall discussion mentioned the country, year and the entities, which have experienced the success of the implementation of ISO 9000. The entire literature review on the subject in this paper has been summarized in the form of tables. This information is helpful for the researchers in conducting future researches on the topic, and for the entities as well, who are willing to execute ISO 9000 or are in the process of executing it in their systems. However, the suggested factors will be assessed in reference to the outcomes gained from different regions of the world to identify the most crucial factors that affect the execution of ISO 9000 standards.

10.0 REFERENCES

- 1) Abraham, M., Crawford, J., Carter, D. and Mazotta, F. (2000) 'Management decisions for effective ISO 9000 accreditation', Management Decision, 38 (3/4), pp. 182-193.
- 2)AdolfasKaziliūnas (2010). The Implementation of Quality Management Systems in Service Organizations, public policy and administration, 2010, Nr. 34, p. 71–82
- 3)Al-Khalifa, K. N. and Aspinwall, E. M. (2000) 'The development of total quality management in Qatar', Tqm Magazine, 12(3), pp. 194-204.
- 4)Alic, M. and Rusjan, R. (2010) "Contribution of the ISO 9001 internal audit to business performance", International Journal of Quality and Reliability Management, 27 (8), pp.916-937.
- 5)Al-Mijrab, Anwar Salih Ali (2010) An Investigation into the Difficulties Affecting the Adoption of ISO 9000, a Quality Management System, in Libyan Service and Manufacturing Industries. In: 14-ICIT: 14th International Conference on ISO & TQM, 5-7 April 2010, Scranton University, USA
- 6)Al-Zamany, Y., S. Hoddell and B. Savage (2002). "Understanding the difficulties of implementing quality management in Yemen." The TQM Magazine 14(4)240-247.
- 7)Amar, K., &Zain, Z. M. (2002). Barriers to implementing TQM in Indonesian manufacturing organization. The TQM Magazine, (14)6, 367-372. doi:10.1108/09544780210447474. http://dx.doi.org/10.1108/09544780210447474
- 8)Anil Khurana, Prof. Jamal A Farooquie, Dr. Manjit Singh, Jimmy Kansal. (2013). Effect of ISO 9001 quality management systems Certification on the performance in Indian defense R&D Organization. International Journal of Management (IJM), ISSN 0976 6502(Print), ISSN 0976 6510(Online), Volume 4, Issue 6, November December (2013)
- 9) Ashrafi, R. (2008) 'A review of ISO 9001:2000 quality management practices in Oman', International Journal of Productivity and Quality Management, 3 (1), pp.74-105.
- 10)Baidoun, S. (2003) 'An empirical study of critical factors of TQM in Palestinian organizations', Logistics Information Management, 16 (2), pp. 156-171.
- 11)Barnes, F. (2000). Good Business Sense is the Key to Confronting ISO 9000. Review of Business, (21)1,11-16.
- 12) Bayati, A. and A. Taghavi. (2007) "The impacts of acquiring ISO 9000 certification on the performance of SMEs in Tehran", The TQM Magazine, 19 (2), pp. 140-149.
- 13)Briscoe, J., S. Fawcett and R. Todd (2005). "The implementation and impact of ISO 9000 among small manufacturing enterprises." Journal of small Business Management 43(3) 309-330.
- 14) Cagnazzo Luca, Paolo Taticchi, Francesco Fuiano (2010), "Benefits, barriers and pitfalls coming from the ISO 9000 implementation: the impact on business performances.", ISSN: 1109-9526, Issue 4, Volume 7, October 2010, pp. 311-321.
- 15) Calingo, L. M. R., Leong, Y. M. A., Chia, M. P. and Mohamed, H. B. (1995) 'Achieving total quality management through ISO 9000: A research note', Accounting and Business Review, 2 (1), pp. 173-86.
- 16) Carlsson, M. and Carlsson, D. (1996) 'Experiences of implementing ISO 9000 in Swedish industry', International Journal of Quality and Reliability Management, 13 (7), pp. 36-47.
- 17) Chow-Chua, C., Goh, M. and Wan, B. T. (2003) 'Does ISO 9000 certification improve business performance ["International Journal of Quality and Reliability Management, 20 (8), pp. 936-953.
- 18) Cianfrani, C. A., Tsiakals, J.J. and West, J.E. (2009) ISO 9001: 2008 Explained, 3rd edn.

Milwaukee: American Society for Quality.

- 19) Claver, E., Tari, J. J. and Molina, J. F. (2002) 'Areas of improvement in certified firms advancing towards TQM', International Journal of Quality and Reliability Management, 19 (8/9), pp. 1014-1036.
- 20)Corbett, C.J., Montes, M.J., Kirsh, D.A. and A ' lvarez-Gil, M.J. (2002) "Does ISO 9000 certification pay [, ISO Management Systems, July-August, pp. 31-40.
- 21) Dale, B. (2003) Managing Quality. (4th edn.) Oxford: Blackwell.
- 22)Dimara, E., Sakuras, D., Tsekouras, K. and Goutsos, S. (2004) "Strategic orientation and financial performance of firms implementing ISO 9000", International Journal of Quality and Reliability Management, 21 (1), pp. 72-89.
- 23) Dory, J. and Schier, L. (2002), "Perspectives on the American quality movement", Business Process Management Journal, Vol.8 No.2, Pp.117-139.
- 24) Douglas, A., Coleman, A. and Oddy, R. (2003) "The case for ISO 9000", The TQM Magazine, 15 (5), pp.316-324.
- 25)Dick, P. M. G. (2000) 'ISO 9000 certification benefits: reality or myth.' The TQM Magazine, 12 (6), pp. 365-371.
- 26)Dzus, G. and Sykes, E. G. (1993) 'How to survive ISO 9000 surveillance', Quality Progress, 26 (10), p. 109.
- 27) Escanciano, C., Fernandez, E. and Vasquez, C. (2001) 'Influence of ISO 9000 certification on the progress of Spanish industry towards TQM', International Journal of Quality & Reliability Management, 18 (5), pp. 481-494.
- 28) Fotopoulos, C. and Posmas, E. (2009) 'The use of quality management tools and techniques in ISO 9001:2000 certified companies: the Greek case', International Journal of Productivity, 58 (6), pp.564-580.
- 29) Fuentes, C., F. Benavent, M. Moreno and M. Val (2000). "Analysis of the implementation of ISO 9000 quality assurance systems. "Work Study 49(6)229-241.
- 30) Gader, A.M.A., Ismail, M.Y., Hamouda, A.M.S. and Al-Khalifa, K. (2009) `ISO 9000 performance among the Malaysian companies: the effects of motives',

International Journal of Industrial and Systems Engineering, 4(1), pp. 32-45.

- 31)Gotzamani, K.D. (2005). "The implications of the new ISO 9000:2000 standards for certified organizations A review of anticipated benefits and implementation pitfalls", International Journal of Productivity and Performance Management Vol. 54 No. 8, pp. 645-657.
- 32) Gotzamani, K. D. and Tsiotras, G. D. (2007) "The contribution to excellence of ISO 9001: the case of certified organisations in Cyprus", The TQM Magazine, 19 (5), pp.388-402.
- 33)Guchu G. and Mwanaongoro Z. (2012), 'ISO Quality Management System Implementation for Small to Medium Manufacturing Firms Kenya'. ISSN 2079-6226: Proceedings of the 2012 Mechanical Engineering Conference on Sustainable Research and Innovation, Volume 4, 3rd-4th May 2012.
- 34)Han, S. B and Chen, S.K. (2007) "Effects of ISO 9000 on customer satisfaction", International Journal of Productivity and Quality Management, 2 (2), pp.208-220.
- 35)HeshamMagd, (2006)"An investigation of ISO 9000 adoption in Saudi Arabia", Managerial Auditing Journal, Volume 21. Number 2, pp. 132-147.
- 36)Heizer, J., & Render, B. (2009). Operations Management Flexible Version. (9th ed.), Prentice-Hall: Boston.
- 37)Heras, I. Casadesus, M. and Dick, G.P.M. (2002),"ISO 9000 certification and the bottom line: a comparative study of the profitability 'of Basque region companies", Managerial Auditing Jourrial, Vol. 17 No. 1/2, Pp.72-8.
- 38)Herass-Saizarbitoria, I., Arana, G., & San Miguel, E. (2010). An Analysis of the Main Drivers for ISO 9001 and other Isomorphic Metastandards. Review of International Comparative Management, (11)4, 562-574.
- 39)Oakland, J. S. (2003) Total quality management: text with cases. Oxford. Butterworth-Heinemann.

- 40) OlaruMarieta, Ghiorghiţa Stoleriu, Claudia Langă, and Ionela Flood, (2011), "The Impact of The Implementation of ISO 9000 Quality Management System on The Customer Satisfaction Evaluation Process by The Romanian SMEs", Vol. XIII, Special No. 5. Pp. 669 678.
- 41) Jang, W.Y. and Lin, C.I. (2008) "An integrated framework for ISO 9000 motivation, depth of ISO implementation and firm performance: The case of Taiwan", Journal of Manufacturing Technology Management, 19 (2), pp.194-216.
- 42)Khan, Z. (2008). "Cleaner production: an economical option for ISO certification in developing countries." Journal of Cleaner Production 16(1) 22-27.
- 43)Kim, Y. (1994) 'ISO making companies competitive', Quality in Manufacturing, (November-December), p.26.
- 44)Kwai-Sang, C., Poon, G. K. and Kit-Fai, P. (2000) 'The critical maintenance issues of the ISO 9000 system: Hong Kong manufacturing industries' perspective', Work Study, 49 (2/3), pp. 89-96.
- 45)Lankford, W. M. (2000). ISO 9000: Understanding The Basics. Review of Business, (20)3.
- 46)Lee, S.K. and Palmer, E. (1999), "An empirical examination of ISO 9000- registered companies in New Zealand", Total Quality Management, Vol. 10 No.6, Pp. 887-907.
- 47) Levine, D. and Toffel, M.W. (2010) Quality management and job quality: how the ISO
- 9001 standard for quality management systems affects employees and employers. Harvard Business School Working Paper. Available at:http://ssm.com/abstract=1237730. (Accessed February 2nd 2010).
- 48) Levett, J. M. (2005). Implementing an ISO 9001 quality management system in a multispecialty Clinic. Physician Executives, (31)6, 46-51.
- 49)Leung, H.K.N., Chan, K.C.C. and Lee, T.Y. (1999) "Costs and benefits of ISO 9000 series: a practical study", International Journal of Quality & Reliability Management, 16 (7), pp. 675-90.
- 50)Lipovatz, D., Stenos, F. and Vaka, A. (1999) 'Implementation of ISO 9000 quality systems in Greek enterprises', International Journal of Quality and Reliability Management, 16 (6/7), pp. 534-551.
- 51)Llopis, J. and Tarı', J. (2003) "The importance of internal aspects in quality improvement", International Journal of Quality and Reliability Management, 20 (3), pp. 304-24.
- 52)Madu C., (1997), "Quality Management in developing economics", International Journal of Quality Science, Vol.2, No.4, Pp.272-291.
- 53)Magd, H. and Curry, A. (2003) 'An empirical analysis of management attitudes towards ISO 9001:2000 in Egypt', The TQM Magazine, 15 (6), pp. 381-390.
- 54)Magd, H. A. (2008) 'ISO 9001:2000 in the Egyptian manufacturing sector: perceptions and perspectives', International Journal of Quality and Reliability Management, 25 (2), pp. 173-200.
- 55)Magd, H. and Curry, A. (2003) 'ISO 9000 and TQM: are they complementary or contradictory to each other The TQM Magazine, 15 (4), pp. 244-256.
- 56)Magd, H., Kadasah, N. and Curry, A. (2003) 'ISO 9000 implementation: a study of manufacturing companies in Saudi Arabia', Managerial Auditing Journal, 18 (4), pp. 313-322.
- 57)Magd, H. (2005). An investigation of ISO 9000 adoption in Saudi Arabia. Managerial Auditing Journal, (21)2, 132-147.
- 58)Martinez-Lorente, A. R. and Martinez-Costa, M. (2003) ISO 9000: the past, the present and the future. A case study in the Spanish industry. Proceedings of the 8th International Conference on ISO 9000 and TOM, Montreal, Part II.
- 59)McCullough, L. and Laurie, A. (1995) ISO 9001: after registration, then what □Proceedings of ANTEC Annual Technical Conference, 3, pp. 4023-4091.
- $60) Mead, B. \, (2011). \, ISO \, 9001 A \, Brief \, History \, and \, Overview. \, Business \, Improvement \, Services.$
- 61)Mersha, T. (2007) 'Narrowing ISO certification gap in Africa', International Journal of Productivity and Quality Management, 2(1), pp. 65-80.
- 62) Mezher, T. and Ramadan, H. (1999), "The costs and benefits of getting the ISO 9000 certification in the manufacturing sector in Saudi Arabia", Quality Assurance, Vol. 6 No. 2, pp. 107-22.
- 63)Mo, J. and A. Chan (1997). "Strategy for the successful implementation of ISO 9000 in small and

medium manufacturers." The TQM Magazine 9(2) 135-145.

- 64) Najeh, R., C. Kara-Zatri and O. Gnieber (2004), "A comparative analysis of critical quality factors in Malaysia, Palestine, Saudi Arabia, Kuwait, and Libya: the impact of culture on TQM", Available from: http://gpco.gov.ly/home.phd [Accessed 16.05.2007].
- 65)Olsen, R. E. (1994) ISO 9000: A fail-safe approach to successful compliance: mastering change: evolution to success. San Diego; CA: Apics.
- 66)Piskar, F. and Dolinsek, S. (2006) 'Implementation of the ISO 9001: from QMS to business model', Industrial Management and Data Systems, 106 (9), p. 1333.
- 67) Poksinska, B., Kahlgaard, J.J., & Antoni, M. (2002). The State of ISO 9000 Certification: A study of Swedish Organizations. The TQM Magazine, (14)5, 297 306.

doi:10.1108/09544780210439734.

http://dx.doi.org/10.1108/09544780210439734

- 68) Prajogo, D.T. (2009) 'Experiences of Australian firms in implementing ISO 9001: a comparison of the 1994 and 2000 versions, International Journal of Productivity and Quality Management', 4 (4), pp. 383-399.
- 69) Quazi, H. A. and Padibjo, S. R. (1997) 'A journey towards total quality management through ISO 9000 certification a Singapore experience', Tqm Magazine, 9 (5), pp. 364-371.
- 70) Quazi, H. A. and Padibio, S. R. (1998) 'A journey toward total quality management through ISO 9000 certification a study on small and medium sized enterprises in Singapore', International Journal of Quality and Reliability Management, 19 (3), pp. 321-344.
- 71)Quazi, H. A., Hong, C. W. and Meng, C. T. (2002) 'Impact of ISO 9000 certification on quality management practices: A comparative study', Total Quality Management, 13 (1), pp. 53-68.
- 72)Ramanathan, R. (2004), "Business excellence of industrial groups in Oman", Measuring Business Excellence, Vol. 8 No. 4, pp. 34-44.
- 73)Sabah M. Al-Najjar. (2011) ISO 9001 Implementation Barriers and Misconceptions: An Empirical Study; International Journal of Business Administration, Vol. 2, No. 3; pp. 118-131.
- 74)Santos, L., Escanciano, C. (2002). Benefits of the ISO 9000: 1994 system: some considerations to reinforce competitive advantage. International Journal of Quality & Reliability Management, (19)3, 321-44. doi:10.1108/02656710210415703. http://dx.doi.org/10.1108/02656710210415703
- 75)Sampaio, P., Saraiva, P. and Rodrigues, A.G. (2009) 'An analysis of ISO 9000 data in the world and the European union', Total Quality Management and Business Excellence, 20 (1) 2, pp. 1303 1320
- 76)Salaheldin, S. I. (2003), "The implementation of TQM strategy in Egypt: a field force analysis", The TQM Magazine, Vol.15 No.4, Pp.266-74.
- 77)Sharma, B. and Gadenne, D. (2002) "An inter-industry comparison of quality management practices and performance", Managing Service Quality, 12 (6), pp. 394-404.
- 78)Sila and Ebrahimpourn (2002), An investigation of the total quality management survey based research published between 1989 and 2000.
- 79)Singles, J., Ruel, G. and Van de Water, H. (2001) 'ISO certification and performance', International Journal of Quality & Reliability Management, 18 (1), pp. 62-75.
- 80)Sousa-Poza, A., Altinkilinc M., & Searcy, C. (2009). Implementing a Functional ISO 9001 Quality Management System in Small and Medium-Sized Enterprises. International Journal of Engineering, (3)3,220-228.
- 81) Terziovski, M. and Power, D. (2007) "Increasing ISO 9000 certification benefits: a continuous improvement approach", International Journal of Quality and Reliability Management, 24 (2), pp. 141-163.
- 82) Van der Wiele, T., van Iwaarden, J., Williams, R. and Dale, B. (2005) 'Perceptions about the ISO 9000 (2000) quality system standard revision and its value: the Dutch experience', International Journal of Quality and Reliability Management, 22 (2), pp. 101-119.
- 83) Wahid, R. A. and Corner, J. (2009) 'Critical success factors and problems in ISO 9000 maintenance', International Journal of Quality and Reliability Management, 26 (9), pp. 881-893.
- 84) West, J., Cianfrani, C. A., & Tsiakals, J. J. (2000.). Standards Outlook Quality Management

Principles: Foundation of ISO 9000:2000 family. Quality Progress, 113-116.

85) Withers, B. E. and Ebrahimpour, M. (2001) 'Impacts of ISO 9000 registration on European firms: a case analysis', Integrated Manufacturing Systems, 12 (2), pp. 139-151.

86)Zairi, M. (1996) 'What's in the basket \square A survey on integrated management through BPR and TQM', Tqm Magazine, 8 (6), pp. 58-65.

87)Zaramdini, W. (2007) 'An empirical study of the motives and benefits of ISO 9000 certification: the UAE experience', International Journal of Quality and Reliability Management, 24 (5), pp. 472-491.

88)Zeng, S.X., Tian, P. and Tam, C.H. (2007) 'Overcoming barriers to sustainable implementation of the ISO 9001 system', Managerial Auditing Journal, 22 (3), pp. 244-254.



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