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Impact of ISO 9001QMS Practices on the Output of Firms: A Case Study in Kurdistan Region of Iraq

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Abstract

Aim of the current study was to understand how the ISO 9001 certification effected the firms' external benefits. For this purpose, data was collected from various enterprises in Kurdistan Region of Iraq. In total, 100 data was collected from 50 different companies. Questions were asked to at least two managers in the same company. Obtained data was tested initially from the validity and the reliability points. After clearing the validity and the reliability of the data, regression analysis was conducted to test the hypotheses. The results shown that companies in the region obtained certification mainly for the marketing purposes. Hence, the external benefits were achieved only from the customer focus point of view.

Keywords: customer focus, external benefits, ISO 9001:2015, quality management systems

JEL: L23,L25,M11

Introduction

Recently ISO standards and Quality Management System (QMS) have become very popular around the world and many products and services market their products with labelling them about the ISO 9001 quality control. This means that this international standardized system is grabbing customers' attention and organization make an effort to obtain it and operate accordingly. Regardless of the size of any firm, managers are considering obtaining the International Organization of Standardization (ISO) 9000 and QMS for being able to survive and reach internal and external benefits as well as facing the challenges can get easier by following the standard (Sfreddo, Vieira, Vidor & Santos, 2018).

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ISO prepares stakeholders to have mutual understanding and cooperate together productively (brief, 2022). One of the studies that have reviewed literature about the effects of ISO 9001 and found that most of the studies that were conducted about ISO 9001 provided evidence of the positive relationship and impact of the certificate on the performance, operational approach, and profitability (Saraiva, Ferreira & Casas, 2018).

ISO 9001 has been a significant upgrade for firms to evaluate risk management approaches and formed seven elements that determined the QMS which are leadership, customer focus, involvement of people, process management, evidence-based decision making, supplier relations, continuous improvement (Demir, 2021). Another study analyzed the risk-based thinking approach due to implementing ISO 9001 QMS requirements and the author suggests that every organization should understand and apply the steps of ISO 9001 (Silva Martins, Sanches da Silva, Costa Araújo Sampaio & Gabriel 2021).

Although many studies have been conducted to show evidence about the benefits and positive impact of ISO on business such as increasing effectiveness, being more competitive in the market, increasing sales growth and overall success. However, there are some controversial studies that claim ISO is ambiguous, and unclear (Neyestani & Berlin P. Juanzon, 2017). This means that organizations get this certificate and practice the standardized steps in order to meet their target customers, to satisfy and fulfill their needs and want and to make a profit from it. This system is highly crucial for organization to obtain since it has many oppositive impacts such as internationalizing the organization and changing quality perspectives of organizations. The benefits that ISO 9001 provide are all positive and help organizations to document and work in a systematic way this leads to more profit and more satisfied customers (Javorcik & Sawada, 2018).

There are main factors to focus on when obtaining an ISO 9001 - First factor is the QMS practices in general (Sousa-Poza, Altinkilinc, & Searcy, 2009). Second is the responsibility that the management holds. Third is the management of resources. Fourth is the realization of the products and services of the organization and fifth factor is the research and development (Sousa-Poza, Altinkilinc, & Searcy, 2009). However, those standards are updated and are updatable according to the global situation of businesses and ISO 9001 have broader and more detailed standards for the quality of management systems. Also applying the principles of ISO 9001 for a good quality management system is a necessity in order to reach success (Morikawa & Morrison, 2004).

ISO 9001 QMS is completely functional when the customer satisfaction continuously increases and the business gets developing positive outputs (Sousa-Poza, Altinkilinc, & Searcy, 2009). Documentation is the most important factor and necessity for an ISO 9001 QMS to be sufficiently functional as well as identifying the desired target and the steps to achieve it play along with the documentation (Sousa-Poza, Altinkilinc, & Searcy, 2009). The intention of establishing an ISO 9001 QMS is for reaching a continues growth and development (Natarajan, 2017). Quality is a necessary element in the establishment of the QMS which is required to be studied and understood by the managers (Natarajan, 2017). The relationship between suppliers and customers is procured from the quality management system (Natarajan, 2017).

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The documentation of course of action of organizations is planned and established through QMS in order to achieve to deliver the customer's needs and fulfill their expectations as well as satisfying them (Natarajan, 2017). The global ISO 9001 indicates the necessary factors for QMS practices to supply to customer demand, and applicable accomplishments and apply governmental policies and rules that were stated for organizations (Natarajan, 2017). The ISO 9001 QMS standard is applied by many organizations around the globe (Natarajan, 2017). The four steps model which includes planning, doing, checking, and acting (PDCA) cycle for organizations to solve problems is organized through the ISO 9001 QMS practices (Natarajan, 2017). Which means that the ISO 9001 QMS provides all the required approaches for an organization in order to operate and function successfully.

To emphasize, the ISO 9001 QMS are highly important for organizations to obtain and this standard puts positive impact on organizations due to the systematic and organized approaches of the business. The customer and supplier relationship get strong by the systematic approach of quality management. Since understanding quality is the main factor for organizations to be able to practice QMS - and quality is defined by the customer. This means that customers are more satisfied when the quality they expect is provided by the organization.

ISO standardization claims that obtaining it will make the organization more competitive through providing products and services that are internationally accepted and appraised (Natarajan, 2017). The ISO standard enables industries to enter to new markets in a convenient way, aids in increasing quality which leads to higher profits, enables organizations to efficiently use current resources and collect knowledge for expertise internationally (Natarajan, 2017).

The documentation procedure is a significant indication of the ISO 9001 QMS standard system (Natarajan, 2017). The managers need expertise support in order to establish the documentation process and start action (Natarajan, 2017). The documenting process is holding records of all operational activities, manufacturing, and other activities that are inside the management system (Natarajan, 2017).

Besides many success stories, in many cases the ISO 9001 certification doesn't significantly contribute to the success of the organization along with the reasons. A study has found that their ambiguity and not clear approaches that ISO 9001 is mostly theoretical and not too clarity (Saraiva, Ferreira & Casas, 2018).

The aim of this study is to review the literatures that have provided evidence about the impact of ISO 9001 QMS on the output of organizations and determine the negative and positive factors that are inborn from establishing it. The objectives are to analyze the organizational accomplishments that are based on the approach of ISO 9001 QMS. This study has a great contribution to the academic studies about the ISO 9001 QMS. As (Demir, 2021) suggests there is a need for empirical studies about ISO 9001 QMS impacts in different regions. This topic is debatable and needs more attention from researchers. Investigating and analyzing ISO 9001 effects is a necessary act for organizations thus they get information about the establishment of this process and its significance.

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Literature Review

History of ISO

ISO is a non-governmental international organization which is independent with beholding 167 national standards bodies memberships. ISO enhances and supports innovation, and provides convenient solutions to worldwide challenges. ISO has been found for the reason to make things better and do things in the right way. ISO has many standards for almost all the sectors. Organizations get to develop their approach of conducting, producing and providing goods and services in order to obtain happy customers (Brief, 2022). ISO is the world's biggest and most popular developer of international standards, being known to create thousands of standards in a 60-year period of time. The meaning of the ISO is not an acronym however it means equal in Greek language and they have taken it from that. The first goal for starting ISO was to create standards for mechanical engineering (Morikawa & Morrison, 2004).

ISO was created when the two organizations were united. One was the ISA (International Federation of the National Standardizing Associations), established in New York in 1926, and administered from Switzerland. The other was the UNSCC (United Nations Standards Coordinating Committee), established in 1944, and administered in London. In 1946 a conference was hosted for the national standards bodies and Established ISO in London. In the establishment conference twenty-five countries participated through 65 representatives (Kuert, 1997).

In 1951, the First ISO standard ISO/R 1:1951 *Standard reference temperature for industrial length measurements,* was published. Then after two decades ISO became international in 1970s. Over one million companies are certified by ISO over 170 countries worldwide and the ISO official website have shared the database of 2021 of the rate of ISO 9001 and ISO 14001 which ISO 9001 has increased by 4% and ISO 14001 has increased by 12% mainly in China. ("The ISO Survey", 2021) also throughout history after thousands of companies have registered to get the certification of ISO and by the ends of 1999, 343,643 certifications in 150 countries have been processed and by 26.4% percent increase over the previous years. Every year the registration numbers have annually increased regarding its previous years (Stevenson & Barnes, 2001).

ISO 9001

ISO 9001 is one type of the standards of ISO which displays necessities for Quality Management System and it's the most popular management standard in the world used by more than million businesses and organizations. ISO 9001 aids businesses to run with more efficiency and profitability. Through upgrading the performance of the organizations and increasing their capabilities and providing more satisfied customers- this standard has proved its significance for all businesses. By obtaining the ISO 90001 certificate, organizations get to perform in a consistent way, their services get relied upon and long-term continuous upgrades happen (Omodia, M. n.d). ISO 9001 standard was first found in 1978 by ISO organization and have gone undergone 4 revisions - 1994, 2000, 2008 and 2015 (Neyestani & Juanzon, 2017).

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

ISO 9001 was originally coded as BS 5750 and it continuously helped organizations to improve their performance continuously and evaluated the quality of management to adapt to business strategies of the entity (Omodia, M. n.d). According to the data available, in 2013, 187 countries got more than one million certificates to the standard and many other entities and organizations have obtained the standard without needing certification (Omodia, M. n.d). Currently, according to the statistics of the main ISO website, more one million companies have issued ISO 9001 in 170 countries. This shows a decrease in the number of countries but a stable amount of certificates (brief, 2022). This means that more one million businesses have registered and certified by ISO 9001 worldwide and this is a huge number and shows the power of ISO 9001 in the business world for every sector.

ISO 9001 has many benefits for the success of organizations. (Javorcik & Sawada, 2018) have analyzed the key factors of conducting ISO 9001 is to have a formal quality policy that is completely linked to the businesses consumer needs and marketing plans. The ISO 9001 certificate plays a role in involving employees of every type and level to adapt to the quality policy and obtain measurable objectives. This certificate also helps decision making since it should be based on data. Another study has found that there is a strong and positive relationship between ISO 9001 execution and organizational performance. As well as impacting the operational and market performance even at a more positive scale. Businesses who are certified tend to beat the ones that are not certified in regards of the quality of the product, satisfied customers, and financial, operational and market performance (Sfreddo, Vieira, Vidor & Santos, 2018).

There are seven principles of ISO 9001 which are well built consideration on customers themselves and their expectations and needs, as well as on top management motivation and involvement, process orientation and continuous improvement. Applying those principles to the organization enhances consistency and products and services with high quality for customers resulting in profitability (Mnich & Matejun, 2021). Adding competitive advantage to the organization is also another benefit of ISO 9001 standard. As well as providing a map and guidance to entities makes companies to be trustworthy on meeting customer needs and meeting all the legal requirement for customers with continues improvements of the products and services (Mnich & Matejun, 2021).

ISO 9001 in Kurdistan Region of Iraq

A study has been conducted in the Kurdistan region of Iraq to identify the difference between the organizations that are certified by ISO 9001 and the ones that didn't behold any certification. They have found that knowledge storage, which is one of the requirements of ISO 9001 plays a significant role in the success of an organization in the Kurdistan region of Iraq. However due to the weak system of managing knowledge the organizations have more tendency to fail (Demir, Budur, Omer & Heshmati, 2021).

Another study that evaluated the ISO 9001 certification implementation was in Erbil city for private and public sectors in construction. The study focused on the main motivation of achieving this certificate and the benefits and disadvantages of implementing the procedures and requirements of the standard. They have found that companies that obtained the

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ISO 9001 have taken care of their reputation, gained more satisfied customers and improved their quality of construction (Hamadameen & Wali, 2019). As well as another study that have been conducted in Duhok province for education sector and evaluating the benefits of ISO 9001 certificate to the firm and have found that obtaining this certificate highly contributes to the education system and student experience inside the school in a very positive way. (Celik & Hakan Ölcer, 2018).

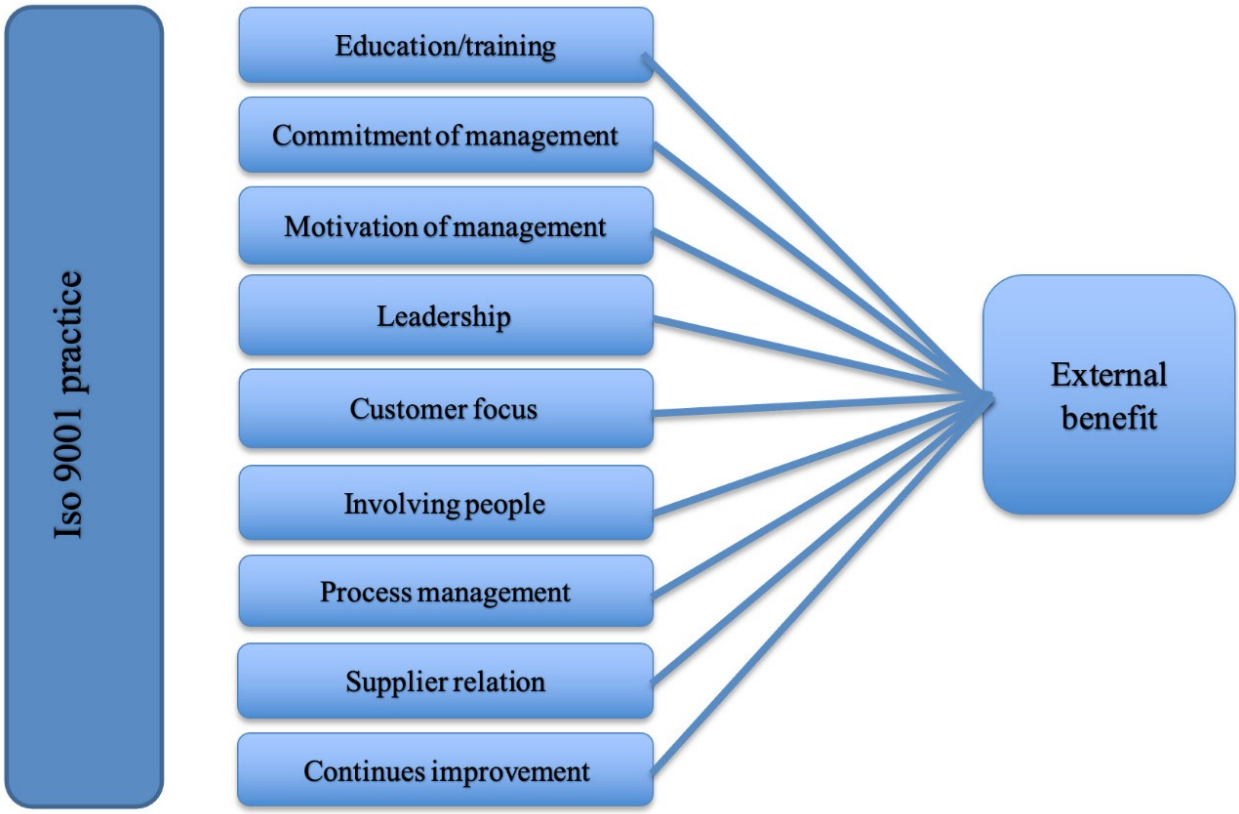

Figure 1. Model of the Study

Hypotheses were:

H1 education/training has positive effect on external benefit

H2 commitment of management has positive effect on external benefit

H3 motivation of management has positive effect on external benefit

H4 leadership has positive effect on external benefit

H5 customer focus has positive effect on external benefit

H6 involving people has positive effect on external benefit

H7 process management has positive effect on external benefit

H8 supplier relation has positive effect on external benefit

H9 continuous improvement has positive effect on external benefit

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Methodology

Problem

There are a number of increasing certified companies in developing countries year by year and Iraq is one of them, recently, obtaining and registering to ISO certificates have been popular in Iraq. However, the success of the companies doesn't show that they practice ISO properly. besides the efficiencies and practices of ISO are blurry and not elaborated by the companies. It is a big problem to be solved, because obtaining ISO is for the sake of success of companies and the output of practicing them is important in order to increase their performance. Not only registering and obtaining the certificate is essential, in fact the practices of it are the main factor of impact on the output of the companies.

Objective

In this research, the objectives are to understand the effects of ISO 9001:2015 practices on the company's outputs and outputs are evaluated by the internal and external benefits of the companies while ISO practices are evaluated by the questionnaire that we prepared. We have prepared a questionnaire asking about the leader's approach. And evaluated their ISO practices inside the organization.

Data Collection

In the data collection, we have collected data from the private companies, 50 ISO certified companies. From each company, we have collected data from one managerial position in each company in total, we have collected 100 data. We want to investigate what ISO certificate beings to the company and what outputs come from it.

Procedures

The procedures of this research initially started by the collected data was tested by Cronbach's alpha and validity was tested by exploratory factory analysis. Which means that this research is valid. We have made some hypothesis and tested each of these hypotheses by regression analysis which is statistics calculating dependent and independent variables. We will provide the analyzed data in results in the next section.

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Research Finding

Reliability

Table 1. Cronbach's alpha of Education/Training

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
TR1	6.60	13.980	0.351	0.269	0.136	0.69
TR2	6.63	14.619	0.267	0.250	0.230	
TR3	6.55	5.604	0.167	0.035	0.667	

Table above shows, the reliability analysis result of education/training. given in the analysis result, it was observed that the Cronbach's alpha value of the dimension was 0.69. As the minimum threshold should be above 0.65 it can be concluded that dimension is reliable enough to continue with the further analysis. However, it was observed that item-total correlation among the questions were minimum 0.16 and maximin 0.35. if any of the correlation shows the value above 0.95 It can suspect that there is a multiple correlation (overlap between items). Beside there is no such risk among this item.

Table 2. Cronbach's alpha of Commitment of Management

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
QL1	6.12	2.693	0.314	0.102	0.120	0.65
QL2	6.06	2.966	0.197	0.067	0.337	
QL3	5.94	2.663	0.169	0.042	0.410	

Table 2 above dimension of the commitment of management, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.65 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.16 and the maximum was 0.31.

Table 3. Cronbach's alpha of Motivation of Management

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
MotTend	6.71	2.491	0.150	0.032	0.331	0.65
MotMar	6.80	2.364	0.260	0.068	0.104	
MOTQL	6.77	2.583	0.162	0.040	0.303	

Table 3 above dimension of the motivation of management, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.65 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.15 and the maximum was 0.26.

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

Table 4. Cronbach's alpha of Leadership

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Lead1	6.59	2.844	0.191	0.096	0.491	0.67
Lead2	6.68	2.219	0.439	0.193	0.054	
Lead3	6.86	2.461	0.220	0.113	0.463	

Table 4 above dimension of the motivation of management, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.67 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.15 and the maximum was 0.26.

Table 5. Cronbach's alpha of Customer Focus

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
CF1	5.83	2.741	0.386	0.251	0.503	0.71
CF2	5.80	2.420	0.568	0.328	0.200	
CF3	5.89	3.598	0.257	0.119	0.664	

Table 5 above dimension of the motivation of management, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.71 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.25 and the maximum was 0.56.

Table 6. Cronbach's alpha of Involving People

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
DEC1	9.53	5.946	0.327	0.222	0.640	0.72
DEC2	9.48	5.620	0.483	0.354	0.531	
DEC3	9.62	5.076	0.638	0.469	0.421	
Dec4	9.59	6.061	0.284	0.314	0.672	

Table 6 above dimension of the involving people, we have investigated with 4 questions the reliability of 4 question is were seen in Cronbach's alpha is 0.72 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.28 and the maximum was 0.63.

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

Table 7. Cronbach's alpha of Process Management

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
ProcMan1	6.64	3.432	0.459	0.361	0.596	0.81
ProcMan2	6.56	2.608	0.677	0.466	0.262	
ProcMan3	6.71	4.227	0.330	0.201	0.741	

Table 7 above dimension of the involving people, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.81 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.33 and the maximum was 0.67.

Table 8. Cronbach's alpha of Supplier Relation

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
SR1	6.51	3.545	0.429	0.217	0.704	0.76
SR2	6.48	3.121	0.626	0.398	0.450	
SR3	6.37	3.549	0.484	0.297	0.633	

Table 8 above dimension of the supplier relation, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.76 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.42 and the maximum was 0.62.

Table 9. Cronbach's alpha of Continues Improvement

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
ConImp1	6.16	2.635	0.251	0.260	0.490	0.66
ConImp2	6.33	1.962	0.576	0.336	,436[a]	
ConImp3	6.60	3.222	0.148	0.163	0.627	

Table 9 above dimension of the continues improvement, we have investigated with 3 questions the reliability of 3 question were seen in Cronbach's alpha is 0.66 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.14 and the maximum was 0.57.

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

Table 10. Cronbach's alpha of External Benefit

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
EB1	9.34	5.926	0.272	0.203	0.492	0.71
EB2	9.35	4.809	0.514	0.359	0.269	
EB3	9.37	5.514	0.416	0.245	0.375	
EB4	9.70	6.371	0.119	0.043	0.633	

Table 10 above dimension of the continues improvement, we have investigated with 4 questions the reliability of 4 question were seen in Cronbach's alpha is 0.71 which is acceptable for further analysis. However, correlation indicators suggest that the minimum item-total correlation was 0.11 and the maximum was 0.51.

Validity

Table above shows the result of exploratory factor analysis. Initially, it was observed on the table that means of education/ training were above between 3.21 to 3.32. It was observed that education/training question number three holds low value comparing to other items in the same dimension. Secondly, commitment of management means of items are relatively between 2.96 to 3.09. Third, motivation of management means of items relatively between 3.35 to 3.43. Fourth, leadership means of items relatively between 3.18 to 3.45. Fifth, customer focus means of items relatively between 2.89 to 2.96. Sixth, involving people means of items relatively there is only the different in points all are between 3.16 to 3.27. Seventh, process management means of items relatively between 3.27 to 3.42 the dissimilar in points. Eighth, supplier relation means of items relatively are between 3.18 to 3.33. Ninth, continues improvement means of item relatively between 2.92 to 3.41 there is no big different between them.

Standard deviation of each item shows the overall distance between mean and rate of each participant. When standard deviation is high, hence, the distance will become higher. As result, it would be concluded that participants don't think similarly to each other. Taking the table above into account, it was observed that all standard deviations are around one and therefore, they are not high. As result, it can be concluded that the participants rated the items close to each other minimum standard deviation is 0.965 and maximum standard deviation is 1.398.

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Table 11. Exploratory Factor Analysis

	Mean	Std. Deviation	Supplier Relations	Involving People	Customer Focus	Continuous Improvement	Process Management	Training	Commitment to Quality	Leadership	Management's Motivation	Communalities
TR1	3.25	1.345						0.824				0.712
TR2	3.21	1.398						0.807				0.742
TR3	3.32	3.409						0.480				0.617
QL1	2.96	0.988							0.437			0.651
QL2	2.96	1.020							0.568			0.661
QL3	3.09	1.221							0.721			0.583
MotTend	3.43	1.098									0.448	0.582
MotMar	3.35	1.019									0.762	0.687
MOTQL	3.39	1.045									0.534	0.577
Lead1	3.45	0.965								0.783		0.651
Lead2	3.35	0.965								0.514		0.685
Lead3	3.18	1.101								0.615		0.589
CF1	2.89	1.125			0.813							0.708
CF2	2.96	1.061			0.773							0.674
CF3	2.91	0.935			0.600							0.600
DEC1	3.25	1.130		0.710								0.596
DEC2	3.27	1.036		0.823								0.723
DEC3	3.16	0.993		0.575								0.714
DEC4	3.21	1.129		0.852								0.817
ProcMan1	3.34	1.097					0.696					0.726
ProcMan2	3.42	1.199					0.869					0.806
ProcMan3	3.27	1.026					0.433					0.765
SR1	3.18	1.148	0.547									0.618
SR2	3.18	1.062	0.795									0.716
SR3	3.33	1.086	0.780									0.694
ConImp1	3.41	1.096				0.723						0.744
ConImp2	3.22	1.023				0.695						0.707
ConImp3	2.92	0.986				0.621						0.631
KMO			0.78									Total Variance
Explained Variance			10%	9%	7%	7%	7%	7%	6%	6%	6%	64%

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Kaiser-Meyer-Olkin (KMO) test result show the sampling adequacy. By another meaning the determinant elaborates whether there are meaningful clusters among the items taken into consideration in the study. If the value of the determination is above 0.5, it would be concluded that there are significant clusters which can be called as dimension. This is initial and the weak indicator. Based on the results, it was seen that KMO value of the current data used in the study was 0.78. Thus, it was concluded that the value is sufficient.

Communalities are the coefficient values which shows the variance that an item holds within the dimension. It is expected that the value holds 0,5 minimum or more than this value. when the table above is observed, it was seen that for all questions held value above 0,5. There were no problems with the remaining items.

Total variance explained indicates the amount of variance explained by the concerning dimension. Secondly, Eigen value indicates whether the concerning cluster of items should be called as a dimension or not. If Eigen value is above 1, the cluster is a dimension. Based on this, it can be concluded that there are 9 dimensions that items are clustered around. However, percent of variance explained by these dimensions is expected to exceed 50%. Based on the results, it was observed that the questionnaire which was conducted in this study explained 64% of the overall variance. On the table, the percentage explained by each dimension can be seen.

On the table, there are results of the rotated component matrix which shows the correlations of each item among the dimensions. It must be known that every item is correlated with every dimension somehow. On the other hand, it should be known that the item belongs to the dimension that it was correlated mostly. Secondly, the correlation of the item with other dimension must have minimum 0,2 difference. If the difference is less than 0,1, it will be concluded that there is a cross loading and will be deleted. When the correlations of each item under education/training is evaluated, it was observed that minimum factor loading item under the dimension was 0.480 and the maximum one was 0,824. There was no cross-loading problem due to the correlation or factor loading of the items under the dimension was holding difference more than 0.1. As conclusion, it can be indicated that the dimensions are valid to continue with the further analysis.

Hypothesis Test

Table 12. Regression Analysis Results

Impact of education/training on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			1%
1	(Constant)	3.738	0.275		13.579	0	
	training	-0.102	0.083	-0.175	-1.231	0.224	

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

a Dependent Variable: external_ benefit							
Impact of commitment of management on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			1%
1	(Constant)	3.6	0.3		11.988	0	
	commitment	-0.061	0.096	-0.092	-0.641	0.525	
a Dependent Variable: external_ benefit							
Impact of motivation of management on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			1.50%
1	(Constant)	2.932	0.372		7.873	0	
	motivation	0.139	0.104	0.189	1.331	0.19	
a Dependent Variable: external_ benefit							
Impact of leadership on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			2.40%
1	(Constant)	2.911	0.348		8.364	0	
	leadership	0.148	0.1	0.21	1.489	0.143	
a Dependent Variable: external_ benefit							
Impact of customer focus on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			6.90%
1	(Constant)	2.801	0.297		9.431	0	
	customer	0.213	0.099	0.296	2.149	0.037	
a Dependent Variable: external_ benefit							
Impact of involving people on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

		B	Std. Error	Beta			-1%
1	(Constant)	3.151	0.376		8.369	0	
	involving	0.08	0.112	0.103	0.72	0.475	
a Dependent Variable: external_ benefit							
Impact of process management on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			-1%
1	(Constant)	3.151	0.376		8.369	0	
	processmanagement	0.08	0.112	0.103	0.72	0.475	
a Dependent Variable: external_ benefit							
Impact of supplier relation on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			-2.10%
1	(Constant)	3.443	0.374		9.204	0	
	supplier	-0.008	0.105	-0.011	-0.076	0.94	
a Dependent Variable: external_ benefit							
Impact of continues improvement on the external benefit							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adjusted R Square
		B	Std. Error	Beta			0.70%
1	(Constant)	2.942	0.416		7.077	0	
	continous_improvement	0.139	0.12	0.165	1.161	0.251	
a Dependent Variable: external_ benefit							

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that education/training affected external benefit as (-0.17). Secondly, it was observed that education/training explained 1 percent of the variance on external benefit. Lastly, based on the t value (-1.231), it was concluded that effect of education/training on the external is significant. Hence, H1 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that commitment of management affected external benefit as (-0.092). Secondly, it was observed that commitment of management explained 1 percent of the variance on external benefit. Lastly, based on the t value (-0.641), it was concluded that effect of commitment of management on the external is significant. Hence, H2 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that motivation of management affected external benefit as (0.18). Secondly, it was observed that commitment of management explained 1.5 percent of the variance on external benefit. Lastly, based on the t value (1.331), it was concluded that effect of motivation of management on the external is significant. Hence, H3 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that leadership affected external benefit as (0.21). Secondly, it was observed that commitment of management explained 2.40 percent of the variance on external benefit. Lastly, based on the t value (1.489), it was concluded that effect of leadership on the external is significant. Hence, H4 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that customer focus affected external benefit as (0.29). Secondly, it was observed that commitment of management explained 6.90 percent of the variance on external benefit. Lastly, based on the t value (2.149), it was concluded that effect of leadership on the external is significant. Hence, H5 is accepted.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that involving people affected external benefit as (0.10). Secondly, it was observed that commitment of management explained -1 percent of the variance on external benefit. Lastly, based on the t value (0.72), it was concluded that effect of involving people on the external is significant. Hence, H6 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that process management affected external benefit as (0.10). Secondly, it was observed that commitment of management explained -1 percent of the variance on external benefit. Lastly, based on the t value (0.72), it was concluded that effect of process management on the external is significant. Hence, H7have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that supplier relation affected external benefit as (-0.011). Secondly, it was observed that commitment of management explained -2.10 percent of the variance on external benefit. Lastly, based on the t value (1.489), it was concluded that effect of supplier relation on the external is significant. Hence, H8 have no significant relationship.

The table above shows the results of hypotheses tested by regression analysis methodology. As initial hypothesis, it was observed that continues improvement affected external benefit as (0.16). Secondly, it was observed that continues improvement explained 0.70 percent of the variance on external benefit. Lastly, based on the t value (1.161), it was concluded that effect of continues improvement on the external is significant. Hence, H9 have no significant relationship.

Journal of Business; ISSN: 2233-369X; e-ISSN: 2346-8297; Volume 10, Issue 2, 2021

Conclusion

ISO is a non-governmental international organization which is independent with beholding 167 national standards bodies memberships. ISO creates and develops innovation, and provides convenient solutions to every country in the worldwide challenges and problems. ISO 9001 is one type of the standards of ISO which displays necessities for Quality Management System and it's the most popular management standard in the world used by more than million businesses and organizations. Many researchers have mentioned the impact of ISO 9001 and QMS on the success of businesses worldwide.

This research statement is that there are many companies in Iraq that got the ISO certification but they didn't implement the practices. This problem is significant to solve in order companies get successful by the practices and increase their performance. Not only registering and obtaining the certificate is essential, in fact the practices of it are the main factor of impact on the output of the companies. In this research, understanding the impacts of ISO 9001:2015 practices on the business results and outputs are evaluated by the internal and external benefits of the companies while ISO practices are evaluated by the questionnaire that have been prepared and evaluated their ISO practices inside the organization.

This study is about the impact of ISO 9001 QMS practices on the output of a firm. We have defined ISO and the history of it. The purpose of this study was to read the literatures that have provided evaluated the positive impacts of ISO 9001 QMS on the success of businesses and identify the good and bad outputs which are inborn from establishing it. We have formed eight hypotheses and tested them by the survey we designed.

The first hypothesis is that education/training has positive effect on external benefit, the second hypothesis is that commitment of management has positive effect on external benefit. The third is that motivation of management has a positive effect on external benefit, the fourth is that leadership has positive effect on external benefit, the fifth is customer focus has positive effect on external benefit, the sixth involving people has positive effect on external benefit, the seventh is process management has positive effect on external benefit. Eight is supplier relation has positive effect on external benefit, ninth and the last hypothesis continuous improvement has positive effect on external benefit. Only hypotheses 5 were accepted and the other hypotheses have shown no significant relationship. The reason might be that the companies are being certified for the marketing strategies in order to show their customers they have ISO certified rather that improving their supply chain qualities.

The survey contained questions about the workers position and their institution and about the education and education / training, commitments of management, motivation of management, leadership, customer focus, involving people, process management, supplier relations, continuous improvement, organizational culture, organizational learning, internal benefits, and external benefits inside the institutions that have been visited and tested the hypothesis. Private companies have been visited. 50 ISO certified companies and 50 non-certified companies were chosen in Kurdistan region of Iraq as participants in order to compare them to each other. one managerial position in each company have been interview in total, 100 data were collected. this study was tested by Cronbach's alpha and validity by factory analysis. As a result, it is found that customer focus has a positive effect on external benefits which means that a business should highly focus on their customers and design their business model according to customer focus.

It is very important for every business that obtained ISO certificates to practice and act according to the guidance and strategies of ISO 9001:2015 QMS in order to have more profit, increase performance, and gain loyal customers. Obtaining the certificate alone doesn't have any impact on the business output, it is the practices that help them to be successful in their region. The suggestions of this research from this point of view are that the companies might increase their external and internal benefits focusing on the other parameters of ISO such as leadership and involving people and process management and all other factors required by ISO certifications.

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