# Enablers, Customers Results casual relation in the EFQM excellence model
## An empirical study on Banking Sector of Sudan

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**Abstract**

Most of TQM literature is dealing with the customer satisfaction as one of the corner stone in the process of achieving excellence in business as one of the main indicators of performance improvement. The aim of this paper is studying customers' satisfaction in terms of EFQM enablers (Leadership, Strategy, People, partnerships and resources, Processes) and customers' results, by evaluating the causal relation between the enablers set and the Customers result in the EFQM model, with an empirical study on the Banking Sector of Sudan. The approach, methodology and design of the study Present deep understanding of the associations between the EFQM enablers customer result, by examining this hypothetical causal relationship, a survey via questionnaire conducted on 30 Banks in Sudan provide the data of the research examination. The enablers side (Leadership, Strategy, People, partnerships and resources, Processes, products and services) has significant contribution to the customer results except employees. The casual relation between the enablers and customer result in the EFQM model with in the Banking sector of Sudan found significantly positive except the employees as enabler element. This research results based only on the data collected from Sudanese firms (Banks). Other sectors in Sudan or in other countries are possible related future research opportunities. The logical extension to this research is to examine the casual relation between the rest of the enablers' elements and the results elements sides of the EFQM model in different environments. Understanding the casual relation between the enabler side of the EFQM model which contained five elements (Leadership, Strategy, People, partnerships and resources, Processes) and the customers results which located on the result side of the model will provide a guide for proper implementation for the EFQM model and possibly facilitating the application of TQM systems. During the last five decades customers' expectations and needs became top priority of any business, hence organizations seeking their survival in the market grant an advance position to their customers. This study add additional value for understanding organization customers relations in terms of providing deep insight for the causal relation of the organization as represented in the EFQM model at the enabler Side of the model and the customer results on the results side of the model. Taking banking sector of Sudan as an empirical examination environment for this causal relation.

**Key Words** Customers Satisfaction, Casual relation, Business Excellence, European foundation for quality management, Business Excellence.

## Introduction

A large number of authors support the use of the EFQM Excellence Model as a framework for integrating a host of other quality and management initiatives and tools. Some authors also see the model as providing a framework with which organizations can select appropriate initiatives and tools to aid them in their drive towards excellence. The EFQM Excellence Model provides a means to integrate various quality initiatives into normal business operations and could be seen as an overall integrative quality framework. The UK Government had recommended the use of the EFQM Excellence Model to all organizations within the National Health Service since it has the ability to incorporate a number of initiatives (Jackson -1999 ),Where the model does not need to be seen as an add-on, rather it can be viewed as an overarching framework which will bring all the ongoing activities together , hence self-assessment provides a way to integrate various quality initiatives into normal business operations ( Shergold & Reed-1996) , and encourages the integration of a range of quality initiatives ( McAdam & Welsh- 2000) which can form as an integrative framework. The model helps organization to see where the impact of a particular initiative should be felt. Where an organization can identify areas for improvement, it can then use the model to select the appropriate initiatives to achieve; hence the model can be used as an aid in the selection of future initiatives for improvement and not just as a means of mapping current initiatives. The EFQM Excellence Model provided a means for mapping impact areas within an organization with various quality and management initiatives and tools and proactively selecting initiatives to support the development of improvement areas. The EFQM Excellence Model is built upon many assumptions among which is the structured relation between its elements at the enablers and results sides, that's leadership drives policy and strategy, people management and partnerships and resources, and these three elements influence the results side (EFQM, 2013). Other theories and empirical studies explained the causal relations between the enablers' side and the results side of the EFQM model. Relationships between enablers and results in the EFQM Excellence Model do not only illustrate interrelation between the components in each of its sides only, but also reflect the direct influence of the enablers on the results. The fundamental concept here is that as long as performance of enabler's side is excellence, this will cause superior results (Moeller et al., 2000; Prabhu

et al., 2000). Looking at this concept from holistic point of view can draw the assumption that organizations are systematically intended to improving results which can't be achieved unless their structure emphasizes on improved enablers. (Black and Crumley, 1997). The causal relationship between enabling factors and outcomes forms the full strength of the EFQM pattern (Naylor, 1999).The need to extend an experiential proof of the causal relationship between enablers and results forms the basis for incorporating a new stream into the research on the EFQM Excellence Model.

## The hypothesis

The hypothesis of this study developed to examine the casual relation between the five criteria of the enables side of the EFQM model which are Leadership, Strategy, People, partnerships and resources and processes against the Customers results in terms of the positive relation between the independent variables which are the enablers and the dependent variable which is the customers' results.

## The Objective

The Objective of this study include development of business assumption that can help in achieving positive results in banking industry in Sudan, accordingly it is important to propose a hypotheses which will result in a better understanding of the research problem. Furthermore, developing hypothesis will clarify uncertainties that may occur while investigating the subject of implementation of EFQM. One of the reasons behind choosing hypotheses that related to EFQM model elements is the announcement of Sudan government to all Sudanese institutions to use the EFQM model to improve the quality of the country production as stated in the national presidential program for quality and excellence in 2006. Accordingly Sudanese Banking sector regulators announced in 2011 an Excellent Award for all Banks in Sudan Based on the level implementation of the EFQM model. This study add to the body of knowledge of EFQM theories and practice, deep understanding of the causal relationship between the enablers side and the customers results side, especially in Sudan macroeconomic environment. This objective could be expressed via the research question, which is: Is there a significant relationship between the enablers (Leadership, Strategy, People, Partnerships and resources, Processes) and customers' results in the EFQM model. The answer to this question would facilitate the understanding of the role the five enablers paly in achieving the customers results in an organization that customers play the main pillar in its existence, hence Customers in Banking sector play two roles, where Banks as financial mediator stay in between two levels of customers, whom are the depositors who provide the deposits. The other level of customer consist of those whom the bank present to them financial services in terms of Loans or purchase orders. The finance basically depends on the volume of deposits of the depositors. The attitude management of Banks reflects at the level of the five enablers is assumed to have a significant impact on customers results.

## Literature review

The EFQM Excellence Model is a non-prescriptive framework based on nine criteria as shown in figure (1), five of these are 'Enablers' and four are 'Results'. The 'Enabler' criteria cover what an organization does. The 'Results' criteria cover what an organization achieves. 'Results' are caused by 'Enablers' and feedback from 'Results' helps to improve 'Enablers' (EFQM, 2013).

Figure (1): EFQM model:



Source: Moeller et al. (2000)
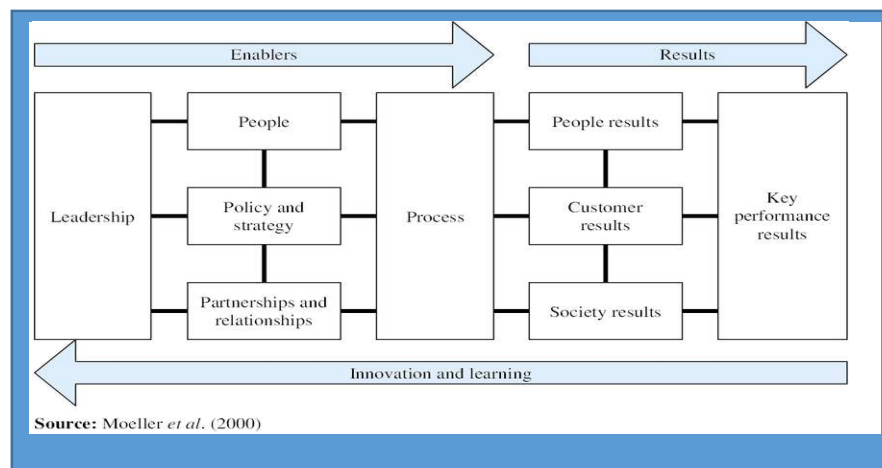
The EFQM model implicitly recognizes that the quality of the final offerings is the end result of a complex of integrated processes and employees' efforts and that it provides a useful audit framework against which organizations can evaluate their performance in all aspects concerned stakeholders and assess the validity of the deployment system within the organization (Ghobadian & Woo -

1996). This view is supported by (Gadd - 1995) who states: "Clearly, the model allows measurement of more than just performance. The Model's nine boxes, shown in figure (1), represent the criteria against which to assess an organization's progress towards excellence. Each of the nine criteria has a definition that explains the high level meaning of that criterion (EFQM, 2013). Total Quality Management concepts in relation to EFQM considered in terms providing measures of key organizational areas and demonstrate the contributory effect of those key areas to overall organizational performance (Kanji & Tambi - 2002). EFQM Excellence Model also can be seen as a systematic approach to introducing TQM concepts into an organization whilst monitoring changes in organizational performance. TQM simply is a management technique that's more properly seen as a set of institutional values, TQM described as a business tools that focuses on improving the organization's effectiveness, efficiency and responsiveness to customers' needs by actively involving people in process improvement activities (Porter & Tanner -1996) and   self-assessment provides a means of monitoring the progress of TQM programmers. The following TQM concepts would be seen as a conceptual tools by its definition and look at the EFQM Excellence Model as management and measurement model.

Total Quality Management Concepts based on EFQM Model is a non-prescriptive framework that recognize many approaches to achieving sustainable excellence. Within this non-mandatory approach, there are some basic concepts that support the EFQM model. These are based on established principles of Total Quality Management (TQM) and hence the original title of the model is "European Model of Total Quality Management" (Porter & Tanner, 1996). The list is not meant to be exhaustive and they will change as excellent organizations develop and improve over time. According to EFQM organization there are basic Total Quality management concepts the Model rely on which are: "Results Orientation" where Excellence is achieving results that delight all the organization's stakeholders. "Customer Focus" where Excellence is creating sustainable customer value. "Leadership and Persistence of Goal" Excellence is visionary and inspirational leadership, coupled with goal persistence. "Management through Operations and Realities" The Excellence Company manages the organization through a set of interrelated and interrelated systems, processes and facts. "People Development and Participation" Excellence is effecting change by using learning to create innovation and improvement opportunities. The distinctiveness of Partnership Development is the development and preservation of value-added partnerships. "Corporate Social Responsibility". Excellence is exceeding the minimum regulatory framework in which the organization operates and strive to understand and respond to the expectations of their stakeholders and the society.

Organizations working  in the current economic context which  characterized by a very competitive and changing  market have been forced to  improve their internal processes (Kaynak, 2003) and the quality of their services,  the thing which leads to  significant improvement in customer satisfaction, employees satisfaction and business performance (Becker, 1993; Ghobadian and Gallear, 1996). However, the figure of the customer is a key factor for organizations in order to improve their competitiveness, hence customer satisfaction significantly influences organizational productivity and it allows defining the processes and organizational requirements (Bernhardt et al., 1994; Eklof and Westlund, 1998). According to this perspective, customer satisfaction and loyalty should be taken with great consideration into account when setting the strategies of any organization (Naumann et al., 2001). Customer's satisfaction and loyalty came as result of offering goods and services characterized by  high quality, since organizations follow this trend obtained opportunity to differentiate themselves in competitive markets (Karatepe et al., 2005). In contrast, high quality of products not only leads to customer satisfaction and loyalty but also greater willingness to suggest and or recommend to someone else, reduction in customer complaints, and improved customer retention rates to a great extent (Zeithaml et al., 1996, Headley and Miller, 1993,Bitner,1990 Danaher, 1997). Commitment and loyalty of customers came as a result of cumulative satisfaction (Johnson et al. -2001). Goods and services that meet the customers' expectations update their perception and increase the attractiveness of the organizations that offering them in the market (Andreassen and Lervik, 1999). A change in customers' perceived relative attractiveness of the supplier may be triggered by the supplier's performance or by competitors (e.g. change in customer service). Hence customers perceive comparable available offers to represent different value of alternative options, this makes measuring customers satisfaction and perception is a corner stone for organization's seeking for updating customer's satisfaction. The EFQM model Use a set of perception measures and related performance indicators to determine the successful deployment of their strategy and supporting policies that based on the needs and expectations of their customers and that is performed through different mechanism and tools among which are , Set clear targets for the key customer results based on the needs and expectations of them, in line with their chosen strategy ; segment results to understand the experience; demonstrate positive or sustained good customer results over certain periods of time; clearly understand the underlying reasons and drivers of observed trends and the impact these results on other performance indicators, perceptions and related outcomes; understand how organization  key customer results compare to similar organizations and use this data where relevant specially for targets setting. Based on EFQM criteria customers perception measures include reputation and image, product and service value , product and service delivery,  customer service, relationship and support, Customer loyalty and engagement.

## Research question

The casual relation of the EFQM model as explained in the previous sections refer to the assumption that enablers drive the results. As explained earlier the EFQM the highest advantage of the model could be attained when the organization develop the enablers in a manner that excellent results could be achieved. Some research consider the importance of balancing the power of the enabler

criteria ( Dijksta, 1997 ). Authors and researcher who called for the equilibrium among the enabler criteria justify their view on the basis of the interaction between the enablers criteria since it affect each other, where a weakness in one criterion can decrease the power of the other criteria (weatlund,2001). The balance development of the enablers' criteria reflects the internal consistency of the left side of the EFQM model, that's excellent results achieved only, when the contribution of each element of the enabler criteria is the same. The research question of this study is examining the casual relation of the left side of the model which include five enablers in the customers' results on the left side of the model. The degree of correlation between the enablers results also show the synergistic level of the enablers of the model in this study.

## Research Method

The determination of sample size largely depends on the size of population. Generally larger sample size lead to more precision. In the case study of this research the population size is   (21,340) represents the Banking sector of Sudan total employees (Banks Information Bulletin, 2018). The sample size which is selected is expected to specify the precession desired that is liable to represent the population of the study.

The sample size selected is also compatible with most known   quantitative sample size formulas which has no big difference in confidence level, among which Steven Thompson formula is   (Steven Thompson 2012) which is as follows:

$$n = \frac{N \times p(1-p)}{[[N-1 \times (d^2 \div z^2)] + p(1-p)]}$$

Where ( n ) is the population size , Accordingly  the population  of the study represented by  the  total number of employees  of the Banking sector of Sudan by the end of the year 2018 which represent the independent factor ( n ) in the left  side of the formula  , according the sample size which can represent the banking sector employees is   calculated on the right side of the formula , and this construct  95% confidence interval with a Margin of Error of about ±.05% .

The total number of employees in the banking sector of Sudan is   (21,377) which represent the population size (n) in the above equation. There for the right side of the equation is calculated as  ( 377 ) employees of the banking sector of Sudan,  which refers to the sample size of the employees in this study , where  the  construction of  95% confidence interval with a Margin of Error of about ±.05%  could be achieved accordingly.

The collection of data in this study is designed to Ensures that data are collected in a scientific and standardized manner by using proper technique which enhance the accuracy, validity, and reliability that lead to gain credible findings. The techniques used for data collection in this study enabled the data to be collected from its original sources as far as possible, weather at the survey level or other sources. Information gathered in this research came from a range of sources the primary data source is the Questionnaire where   Responses can be analyzed with quantitative methods by assigning numerical, values Results are generally easier to analyze Pretest/Posttest can be compared and analyzed. The secondary source of information is documents, Records, studies, books, scientific journals and reports. Where existing data related to this study could be summarized from these different sources.

The questionnaire is the medium of communication between researcher and the population. The objective of any questionnaire is to present standardize interview for all targeted samples or subjects (Ian Brace, 2004) , since it is integral part of the survey process, the same questions being asked to different respondents provide  a base for research parameters, since answers will be from different responses. Where the information in the sub criteria of the EFQM model were used as the bases for the questionnaire statements, since it is appropriate for developing measurement scale for the nine criteria of the model (Eskildsen and Dahlgaard 2000,  Eskildsen and Kanji, 1998).

The objective of the questionnaire design for this research is to provide a base for testing the hypothesis of the study according to the following:

- First part reflects the Demographic information of the respondents.
- The second part explains the status of applying Business Excellence model adopted by Sudanese Banks on organizational performance in terms of the enablers and customers results criteria of the EFQM model.

## Statistical procedures

In this research, we propose an alternative method for estimating the relationships between the enablers and the results in the EFQM Excellence Model, based on the SmartPLS ( PLS ) statistical analysis. The SmartSPLS (PLS)  is  a  statistical multivariate   technique   that summarizes the relations between different sets of variables.  The objective of PLS is to find the causality relation between the set of enablers (Leadership, Strategy, People, Partnerships and resources and processes) and customers' results. Statistically PLS shows the different pattern of the casual relation between each of the five enablers' elements and the

customers' results. The population of this study is the Staff of the banking sector of Sudan   . The researcher employed convenient sample where self-administrated survey was used to distribute 526 questionnaires to 30 Banks which represent 81% of Banks operating in Sudan, the overall response rate was   76 % this was considered as high rate due to questionnaires given on the bases of self–administrated survey (Sekaran, et al 2016). Not received questionnaires were 62.Invalid questionnaire were 113. Valid number of questionnaires were 351. Usable response rate is 88%.

**Assessment of the measurement model**

The first step in PLS analysis was to analyze the measurement model (or outer model) to determine how well the indicators (items in the constructs) load on the theoretically defined constructs. It was ensured that the survey instrument is reliable and valid to measure the construct that were designed to measure, as seen in table (1).

Table (1): Outer Loading

| | Customer Results | Employees | Leadership | Partnership | Processes | Strategy |
|---|---|---|---|---|---|---|
| Customer_results1 | 0.734 | | | | | |
| Customer_results10 | 0.735 | | | | | |
| Customer_results3 | 0.798 | | | | | |
| Customer_results4 | 0.814 | | | | | |
| Customer_results5 | 0.825 | | | | | |
| Customer_results6 | 0.793 | | | | | |
| Customer_results8 | 0.786 | | | | | |
| Customer_results9 | 0.774 | | | | | |
| Employees1 | | 0.795 | | | | |
| Employees2 | | 0.819 | | | | |
| Employees3 | | 0.869 | | | | |
| Employees4 | | 0.869 | | | | |
| Employees5 | | 0.847 | | | | |
| Leadership1 | | | 0.790 | | | |
| Leadership2 | | | 0.799 | | | |
| Leadership3 | | | 0.828 | | | |
| Leadership4 | | | 0.802 | | | |
| Leadership5 | | | 0.775 | | | |
| Leadership6 | | | 0.805 | | | |
| Partnership1 | | | | 0.740 | | |
| Partnership2 | | | | 0.803 | | |
| Partnership6 | | | | 0.786 | | |
| Partnership7 | | | | 0.842 | | |
| Processes2 | | | | | 0.794 | |
| Processes3 | | | | | 0.847 | |
| Processes4 | | | | | 0.871 | |
| Processes5 | | | | | 0.807 | |
| Strategy1 | | | | | | 0.778 |
| Strategy2 | | | | | | 0.780 |
| Strategy3 | | | | | | 0.758 |
| Strategy4 | | | | | | 0.774 |
| Strategy5 | | | | | | 0.746 |
| Strategy6 | | | | | | 0.805 |
| Strategy7 | | | | | | 0.780 |

Note : At least 0.7 for items Loading.

The internal consistency, indicator reliability, convergent validity and discriminant validity were performed to assess the measurement model. In this study, the internal consistency or composite reliability of each construct ranges from 0.872 to 0.927 as (composite reliability) and this is above the recommended threshold value of 0.70. as appearing in in table (2).

Table (2): Internal consistency

| | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| Customer Results | 0.910 | 0.910 | 0.927 | 0.613 |
| Employees | 0.896 | 0.902 | 0.923 | 0.706 |
| Leadership | 0.887 | 0.888 | 0.914 | 0.640 |
| Partnership | 0.804 | 0.810 | 0.872 | 0.630 |
| Processes | 0.850 | 0.855 | 0.899 | 0.690 |
| Strategy | 0.889 | 0.893 | 0.913 | 0.600 |

Notes: CR, composite reliability; AVE, average variance extracted.

Thus, the results point out that the items used to represent construct have satisfactory internal consistency reliability. For indicator reliability, one item is eliminated for entrepreneurial intention due to less than 0.70 loadings. In order to test the convergent validity, the average variance extracted (AVE) is used. The result of the analysis shows that all constructs have AVE ranging from 0.600 to 0.706 which demonstrates an adequate convergent validity.

Table (3) Discriminant validity

| | Customer Results | Employees | Leadership | Partnership | Processes |
|---|---|---|---|---|---|
| Employees | 0.516 | | | | |
| Leadership | 0.597 | 0.745 | | | |
| Partnership | 0.586 | 0.736 | 0.687 | | |
| Processes | 0.592 | 0.713 | 0.691 | 0.677 | |
| Strategy | 0.615 | 0.764 | 0.776 | 0.737 | 0.615 |

Table (3) show the Discriminant validity is a complement of convergent validity. It indicates the degree to which one construct differs from the others. It can be assessed by using heterotrait-monotrait (HTMT) ratio of correlations. So, discriminant validity is satisfied and the result confirmed that (HTMT) criterion is met.
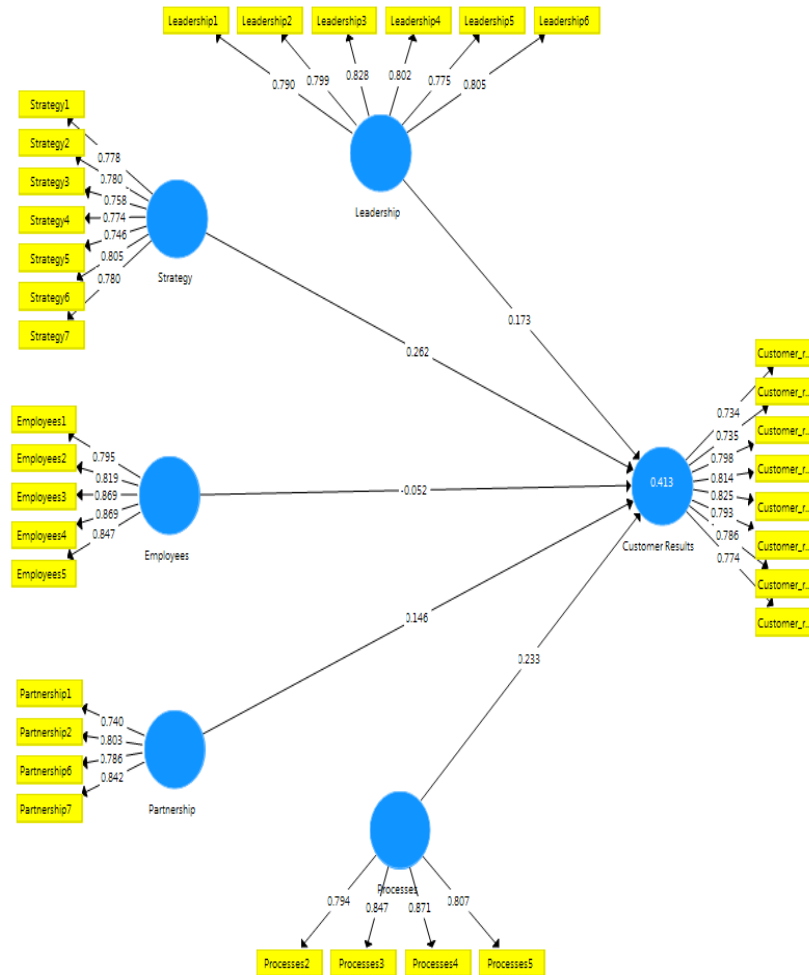
Figure (2): Model framwork.



Table (4): hypotheses test result

|  | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| Employees -> Customer Results | -0.052 | -0.055 | 0.075 | 0.703 | **0.482** |
| Leadership -> Customer Results | 0.173 | 0.173 | 0.073 | 2.365 | 0.018 |
| Partnership -> Customer Results | 0.146 | 0.146 | 0.063 | 2.310 | 0.021 |
| Processes -> Customer Results | 0.233 | 0.234 | 0.060 | 3.885 | 0.000 |
| Strategy -> Customer Results | 0.262 | 0.266 | 0.077 | 3.412 | 0.001 |

**Discussion and conclusions**

This study analyses the causal relationship in the EFQM Excellence Model by applying SmartSPLS (PLS) statistical analysis. We find that all enablers (Leadership, Strategy, People, Partnerships and resources and Processes) have positive influence on customers results except ( employees , customers results ) relation, this is so because the P Value is greater than (0.05) as seen in table (4). This result indicates that all enablers which considered as independent variables in this study has positive contribution on customers' results with the exception of employees as an enabler. These results also promote other research findings such as Dow et al. (1999) as their works explained the practice linked to TQM lead to different results. Dijkstra (1997), Naylor (1999) or Esquildsen et al. (2001) reached to the same conclusion, they stated that any of the criteria in the model can be interrelated with the others and that the emphasis in isolated areas is not sufficient to reach excellence. Promoting more comprehension of the linkages

between the elements the Excellence models allows organizations to benefit fully from implementing these models as Eskildsen and Dahlgaard (2000) and Reiner (2002) mentioned when describing the causal structure of the model, that's Companies should not concentrate on part aspects of the model , they should pay attention to all the enablers elements , and look at the model with holistic view. EFQM application development in an Equilibrium way can balanced and empower the influence that enablers have on results, that's a broad, integrated approach to quality management will result in better results (McGee (1993), Sjoblom (1995) or Dale (1997). The limitation of this study could be summarized on the bases of the sector which the study considered which is the banking sector where possible related future research opportunities could be seen in other sectors or even other countries. The logical extension to this research is to examine the casual relation between the rest of the enablers' elements and the results elements sides of the EFQM model in different environments for deeper understanding of the casual relation between the enablers side of the EFQM model.

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