



Sudan University Of Science And Technology
College Of Graduate Studies
Deanship Of Development And Quality



**The Impact Of The Adopting European Excellence Model (EFQM)
In The Efficiency Of The Organizational Performance**

(Case Study Of SAFAT Aviation Group)

أثر تبني نموذج التميز الأوروبي على كفاءة الأداء المؤسسي (دراسة حالة مجموعة صافات للطيران)

A Dissertation Submitted In Fulfillment Of The Requirements For
The Degree Of Master Of Total Quality Management & Excellence

by:

AHMED KHALIDABDEEN MOHAMMED

Supervisor:

Professor. ABDELRAHIM SAAD OMER

October 2020

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

الإستهلال

قال تعالى:

(وَأَوْفُوا الْكَيْلَ إِذَا كِلْتُمْ وَزِنُوا بِالْقِسْطِ الْمُسْتَقِيمِ ۗ ذَٰلِكَ خَيْرٌ وَأَحْسَنُ تَأْوِيلًا)

الاسراء الاية (35)

عن عائشة رضي الله تعالى عنها قالت : قال رسول الله صلى الله عليه وسلم

(إن الله يحب إذا عمل أحدكم عملاً أن يتقنه)

أخرجه ابو يعلى والطبراني

Dedication

This thesis is dedicated to:

*Allah almighty my creator, my strong pillar, my source of
inspiration, wisdom, knowledge and understanding.*

*A special feeling of gratitude to my beloved parents for their
endless love, support and encouragement.*

*My back who stand behind me my beloved wife for her love,
support and encouragement.*

*My eyes & heart my lovely son who's walked his first
Steps.*

My beloved brothers and sister for their love and support.

My teachers the messengers of knowledge and ethics.

*My friends and all people who know me through my live
Trip.*

ABSTRACT

In the last decades with the evolution of production technology to transform from mass production & quality control concepts to the total quality management and excellence.

The excellence models in general based on the same ideas and fundamental concept that focusing on customer satisfaction which is main driver for firm's prosperity & evolution, in our study we concentrate on The Impact of the adopting business excellence models in the efficiency of the Organizational performance and concentrate on the statistical analysis and questionnaire and the study prove that There is a positive relationship between adopting business excellence and firm performance, There is significant impact of adopting business excellence model on the efficiency of QMS, The SAFAT Aviation Group companies is committed to implement this program as planned. In refer to all above hypothesis the study concluded with the Encourage the culture of excellence in firms and organizations, Adopting excellence model as tools for continuous improvement, Establishing and activating national quality awards

ألمستخلص

مع التطور الصناعي الكبير في العقد الاخير تطلب الانتقال من الطرق التقليدية ونظام الفحص بالعينة وضبط الجودة الى مفاهيم تأكيد الجودة والجودة الشاملة ونماذج التميز. نماذج التميز تتفق في مفهومها العام ومبادئها الاساسية التي تركز على رضا الزبون وهو القائد الاساسي لإزدهار وتطور الشركات والمؤسسات. نتناول في هذه الدراسة أثر تبني نماذج التميز على كفاءة الاداء المؤسسي (دراسة حالة مجموعة صافات للطيران) وقد اعتمدت على التحليل الاحصائي و الاستبيانات، حيث تم توزيع (100) إستبيان وتم إسترداد (80) عينة بنسبة (80%) تمثلت أداة البحث في الاستبانة واستخدم الباحث البرنامج الإحصائي SPSS وخلصت الدراسة الى وجود علاقة ايجابية بين تبني نموذج التميز الاوروبي وكفاءة الاداء المؤسسي ،وجود علاقة ايجابية بين تبني نموذج التميز الاوروبي وكفاءة نظام إدارة الجودة وإلتزام الادارة العليا بانشطة التميز. واوصت الدراسة بتشجيع ثقافة التميز المؤسسي في الشركات والمؤسسات، تبني أنظمة التميز كأداة من أدوات ألتطوير ألمستمر و رعاية وتبني جوائز ومسابقات للتميز بين الشركات والمؤسسات.

Table of content:

NO	Title	Page number
أ	الإستهلال	i
ب	DEDICATION	ii
ج	ABSTRACT	iii
د	المستخلص	iv
هـ	TABLE OF CONTENT	v
و	TABLE OF APPENDIX	vii
ز	TABLE OF FIGURE AND GRAPH	viii
1.1	Chapter one: introduction	1
1.2	Research problem	2
1.3	Significance of study	3
1.4	Research objective	3
1.5	Research hypotheses	3
1.6	The research methodology	3
1.7	Information source	4
1.8	Study limit	4
1.9	Organization of study	4
2.0	Chapter two: Literature review	5
2.1	Japan quality award (Deming prize)	5
2.2	EFQM (European Foundation For Quality Management)	6
2.3	Malcom Baldrige	9
2.4	Impact of excellence models on firms business performance	11
2.5	Organizational performance	16
3.0	Chapter Three: Methodology	17
3.1	Introduction	17
3.2	subject	17
3.3	Study method	17

3.4	Population & sampling	17
3.5	Questionnaire design	18
3.6	Study procedure	18
3.7	Statistical process	18
4.0	Chapter four: data analysis and results	19
4.1	Field study procedure	19
4.2	View and analyze data	22
5.0	Chapter five: discussion, conclusion and recommendation	34
5.1	discussion	34
5.2	conclusion	36
5.3	Recommendation	36
ح	Reference	37
ط	appendix	39

Table of appendix:

Appendix no	TITLE	PAGE NUMBER
1	The 14 CEOs	40
2	List Of Doctors Assess And Govern Questionnaire	41
3	QUESTIONNAIRE	42

Table of Figure and Graph:

Fig No	Title	Page No
1.	Radar approach	8
2.	Percentage view of job level sample	20
3.	Percentage view qualification description	21
4.	Percentage view of year of experience	21

Chapter one: introduction

1.1 INTRODUCTION:

In the last decades after the Second World War the evolution in the quality concepts and philosophy changed in dramatically way from old concepts of quality control to the quality assurance and then emerge the concepts of total quality management and business excellence.

Business Excellence is often described as outstanding practices in managing the organization and achieving outstanding results, all based on a set of fundamental concepts or values. These practices have evolved into models for how a world class organization should operate. These models have been developed and continue to evolve through extensive study of the practice and values of the world's highest performing organizations; many countries have developed their own models and use these as frameworks to assess and recognize the performance of organizations through awards programs.

Since the 1990s there has been a general decline in award applications. However there has been an increasing trend for organizations to apply these models and integrate the principles and practice with their day-to-day operations thereby achieving the benefits business excellence brings.

Business excellence models are frameworks that when applied within an organization can help to focus thought and action in a more systematic and structured way that should lead to increased performance. The models are holistic in that they focus upon all areas and dimensions of an organization, and in particular, factors that drive performance. These models are internationally recognized as both providing a framework to assist the adoption of business excellence principles, and an effective way of measuring how thoroughly this adoption has been incorporated.

Several business excellence models exist world-wide. While variations exist, these models are all remarkably similar. The most common include;

- MALCOM BALDRIGE national quality award (MBNQA) - Used in over 25 countries including US and NZ
- European Foundation for Quality Management (EFQM) - Used throughout Europe
- Singapore Quality Award Model - Singapore
- Japan Quality Award Model - Japan
- Canadian Business Excellence Model - Canada
- Australian Business Excellence Framework (ABEF) - Australia
- ABU DHABI award for excellence

In general, business excellence models have been developed by national bodies as a basis for award programs. For most of these bodies, the awards themselves are secondary in importance to the wide-spread take up of the concepts of business excellence, which ultimately lead to improved national economic performance. Often awards programs operate at a local, regional and national level to recognize and celebrate the achievement of all levels of organizational maturity. It is through these award programs that an organization can be assessed and justifiably claim to operate at World Class levels of performance. Awards are usually only given to those organizations that have been assessed as "excellent" through a rigorous awards process using independent teams of evaluators to assess award applicants, It was recently estimated that there are at least 76 countries operating a business excellence award program at a national level.

In our case we will study the effort of the *SAFAT Aviation Group* as sample in our country which adopt the (EFQM) excellence model and have its own award for competition between its company's and business units. And analyze how these program can assist in upgrading the performance of company enrolled in program.

1.2 Research problem:

The main problem of this study is to know the impact of adopting business excellence models in the (*SAFAT Aviation Group*) to improve its organizational performance. The study answering the following question:

1. What is the concept of business excellence models.
2. What is the organizational performance.

3. How business excellence models affect in the organizational performance.

1.3 Significance of the study:

The significance of the study can be seen from the importance of these programs which applied and adopted widely all around the world and its benefits in the two levels for company's which seeking profits and also in the national economic.

1.4 Research objectives:

The main objectives of this study are:

- 1- To determine whether adopting business excellence models will affect the QMS efficiency.
- 2- To understand the role of competition in excellence awards can leading organizations to the better performance.
- 3- To study the improvement in business process.
- 4- To study business excellence model as a tool in the process of performance measurement.

1.5 Research hypotheses:

H1: There is a positive relationship between adopting business excellence and firm performance.

H2: There is significant impact of adopting business excellence model on the efficiency of QMS.

H3: The *SAFAT Aviation Group* companies is committed to implement this program as planned.

1.6 The Research Methodology:

In this research I will use the descriptive analysis method because it is fit with the subject nature.

1.7 Information Sources:

1.7.1 Primary sources:

Questionnaire as a key tool to search, designed specifically for this purpose

1.7.2 Secondary sources:

- Books
- Researcher, academic studies and references.
- Report and record of *SAFAT Aviation Group* and relevant authorities.
- Specialized studies in the study field.
- Web sites relevant.

1.8 Study limits:

Time limits:

SEPTEMBER 2018 - MARCH 2018

Place limits: *SAFAT Aviation*

Group- Khartoum Sudan

1.9 Organization of the study:

These research is organized into five chapter's chapter one covered introduction, research problem, significance of the study, research objectives, research hypothesis, research methodology, information source and study limits. Chapter two covered literature review, chapter three covered methodology which is the core of study area which include study method, the population of the study, questionnaire design, data collection procedure and statistical analysis procedure. Chapter four covered data analysis, discussion and summary of finding and results. Chapter five conclusion of the study and recommendations.

Chapter two: Literature review

2.0 introduction

Ever since Total Quality Management (TQM) has emerged as a proven approach to improve quality in firms, companies, academicians and consulting organizations are in constant search of a model that will encompass all the features of TQM. This has also been greatly fuelled models collectively known as Business Excellence Model around the world. Today there exist 100 excellence models and national quality awards in 82 countries. The most employed and recognized models at an international level are the Deming Prize, which is the first globally known excellence model, Malcolm Baldrige National Quality Award (MBNQA) in the USA established in 1987 and the European Quality Award (known as "European Excellence Award" since 2004), based on the European Foundation for Quality Management (EFQM) model, established in 1991. In India, the Confederation of Indian Industry (CII), and the Export-Import Bank of India (EXIM Bank) jointly instituted the CII-EXIM Bank Award for Business Excellence in 1994. This award is based on EFQM model. (Kumar, 2005.deming prize/juse.or.jp)

2.1 japan quality award (DEMING PRIZE)

Dr. W. E. Deming was one of the world's leaders of Quality management. Had great impact on American and Japanese industries. Based ideas on continuous improvement 1900 - 1994, Dr. Deming was in Japan giving lectures on statistical process control and was recorded for distribution and profit. Funds were donated to (JUSE) Kenichi Koyanagi, the managing director of the Japanese Union of Scientists and Engineers (JUSE), used those funds to create the Deming prize to individuals or organizations in 1951.

The purpose of the Deming Prize was to recognize those who excelled in quality control and as a way of driving quality control. It was also established to thank Dr. Deming for his accomplishments and impact in the Japanese industry. (EFQM, 2019/EFQM.ORG)

Concentrates on:

- Policy
- Organization and operations
- Collection and use of information
- Analysis
- Planning for future.
- Education and training
- Quality assurance
- Quality effects
- Standardization
- Control

2.2 EFQM (European Foundation for Quality Management):

On 15th September 1988, 14 European Business Leaders met with Jacques Delors and signed a "Letter of Intent" to form a European Foundation dedicated to increasing the competitiveness of European businesses. see appendix{1}

The European Foundation for Quality Management, EFQM, was founded in October 1989 when the CEO/Presidents of 67 European companies subscribed to our Policy Document and declared their commitment to achieving EFQM mission and vision.

The Foundation set up a team of experts, from industry and academia, to develop the EFQM Excellence Model, a holistic framework than can be applied to any organization, regardless of size or sector. This was first used to support the assessment of organizations in the European Quality Award in 1992.

Over the last 25 years, we have seen many changes. The Model has adapted and evolved over time to reflect changes in the global market place. Hundreds of organizations, from both the public and private sector, have participated in the EFQM Excellence Awards, including Robert Bosch, BMW, VW, Xerox, Ricoh, Grundfos, Philips, EDF, as well as small less known organizations.

One thing that has not changed is our objective: to increase the competitiveness of European organizations and support the sustainable development of the European economies. We remain an independent, not-for-profit foundation; committed to supporting our Members in their journey towards excellence. While we focus on Europe, we have a global reach and welcome the opportunity to support all organizations. (Gregory f gruska, 1995)

The latest edition of model incorporates legislative and regulatory compliance into its focus which is made up of three parts:

1. FUNDAMENTAL CONCEPTS

Providing holistic overview of the model and consist of 8 concepts:

- a) Adding value for customers.
- b) Creating a sustainable future.
- c) Developing organizational capability.
- d) Harnessing creativity& innovation.
- e) Leading with vision, inspiration &integrity.
- f) Managing with agility.
- g) Succeeding though talent of people.
- h) Sustaining outstanding results.

2. THE 9 BOX MODEL:

There are 32 criterion grouped under 9 box used to understand details in organization.

The model distributed into to groups:

1. Enablers which consist of:

- I. Leadership.
- II. People.
- III. Strategy.
- IV. Partnerships & resource.
- V. Process, Products and services.

2. Results which consists of:

- I. People results.
- II. Customer results.
- III. Society results.
- IV. Business result.

3. RADAR:

Is used to assess the score during an assessment process based on a cycle of continuous learning and improvement. 4 Cycles is (plan, deploy, assess and refine and results) for assessing approaches used. see fig no (1)

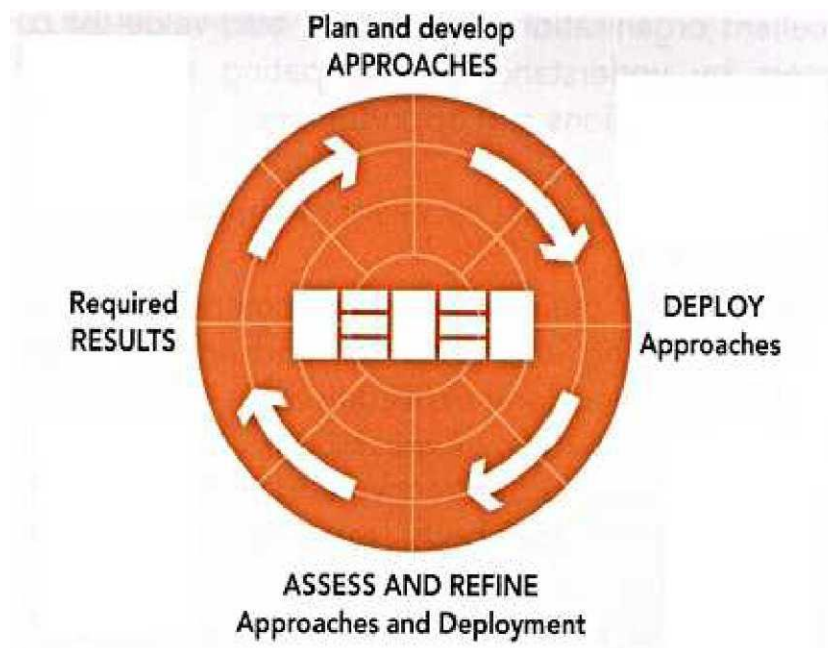


Fig no (1)

2.3 MALCOM BALDRIGE:

In the mid-1980s, U.S. leaders realized that American companies needed to focus on quality in order to compete in an ever-expanding, demanding global market.

Then-Secretary of Commerce Malcolm Baldrige was an advocate of quality management as a key to U.S. prosperity and sustainability. After he died in a rodeo accident in July 1987, Congress named the Award in recognition of his contributions.

The goal of the Malcolm Baldrige National Quality Improvement Act of 1987 was to enhance the competitiveness of U.S. businesses. Its scope has since been expanded to health care and education organizations (in 1999) and to nonprofit/government organizations (in 2007).

Congress created the Award Program to

- identify and recognize role-model businesses
- establish criteria for evaluating improvement efforts
- disseminate and share best practices

As the drivers of long-term success have evolved, so, too, have the award and the Baldrige Framework and Criteria. Today, the Baldrige Award recognizes U.S. organizations that are role models for organization-wide excellence. (MARK GRAHAM BROWN, 1998.baldrige award winning quality)

The MBNQA framework consists of seven key dimensions that explain what processes, procedures, and outcomes are associated with a quality organization.

The names of dimensions continue to evolve, but in 1996 included:

- (1) quality leadership (the extent to which the leadership of the organization articulates, exemplifies, and perpetuates quality values throughout the organization and its environment);
- (2) quality information and analysis (the extent to which the organization gathers and uses performance data from internal operations as well as suppliers, customers, and competitors);

- (3) Strategic quality planning (the extent to which the organization has a planning process in place to achieve and improve quality);
- (4) human resource development and management (the extent to which plans and processes are in place to involve, empower, recognize and reward, develop, and satisfy members of the organization);
- (5) management of process quality (the extent to which common quality tools, measures, and procedures are utilized in internal operations and support services as well as with suppliers and customers);
- (6) Quality and operational results (the extent to which effective outcomes are achieved by the organization);
- (7) Customer focus and satisfaction (the extent to which customers' expectations are known and satisfied, commitment to customers is demonstrated, and customer relationships are improving).

These dimensions are hypothesized to have a particular relationship to each other, as illustrated in Figure below, although these relationships have never been tested empirically. The Leadership dimension is classified as a driver of quality. Four dimensions information and analysis, strategic quality planning, management of process quality, and human resource development and management are classified as systems dimensions. Two dimensions are assumed to be desirable outcomes, namely, the customer focus and satisfaction dimension and the quality and operational results dimension. The framework specifies that the driver of quality has both direct and indirect impact on outcomes, and that the systems mediate the driver as well as have direct impact on the quality outcomes.

One of most good studies in my consideration is the paper that published by the researcher Prabir Kumar Bandy opadhyay Professor, Goa Institute of Managements, Sanquelim Campus, Goa, India, 40350 under title Impact of Business Excellence Model on Firm's Business Results

(Findings from Literature Survey and Research Agenda)In this paper the author reflect the facts from literature and real results from firm's performance which fall in the goals of this research.

2.4 impact of excellence models on Firm's business performance

Centre of Quality Excellence (CQE) of University of Leicester presented the findings of the jointly sponsored research by the European Foundation for Quality Management (EFQM) and the British Quality Foundation (BQF). The study found that compared to the comparison companies award winning companies experience higher increases in share value, sales, capital expenditure over assets and capital expenditure over sales, higher growth in assets and further reduction in costs over sales within a short period of time after having received a first award. Advocates for continuing the funding for the Baldrige program pointed to an independent economic study of the Baldrige program, which estimated nearly \$25 billion in benefits to the economy, a 25-to-1 return on the government's investment. The study mentioned the Baldrige award recipients that used the program method for six continuous years showed a median growth of 57%, revenue growth of 93% and job growth of 63%. During the same period, the industries from which the recipients came had 3.2% job growth.

Bergquist, et al. reported that, based on their study with the MBNQA/State Quality Award winning, award participating and non-applicants of US companies, it cannot be conclusively determined whether quality award winning companies perform better than others in respect of both operational and financial performance.

Kennedy Smith reported that according to Harry Hertz former director of MBNQA, it is difficult to design an across-the-board metric/index that shows that Baldrige award recipients outperform other organizations particularly because every organization has different ways of measuring their success. "Yet another challenge that former Baldrige Award recipients encounter is keeping their workforce committed to Baldrige.", Smith mentioned, "Although some companies that have received Baldrige Awards in the past still believe that it's a powerful tool toward performance excellence, they don't continue to utilize the criteria as their primary method for quality improvement. More so, many former Baldrige Award winners don't wish to apply again".

Though 1149 applications submitted since 1988 till 2009 comprising all the six categories of industries, the number of applications received in the manufacturing category has slowly reduced over the years. In 1988, 45 applications were received,

10 site visits were conducted, and two awards were given. When compared to the figures from 2007, only two applications were received, no site visits were conducted, and no awards were given. This either indicates a general lack of interest in the award program or a lack of qualified applicants. Cazzell and Ulmer have studied five MBNQA Award winners and reported that Sunny Fresh Foods (SFF), which won the award in 1999 and 2005, has achieved a 19%

increase in sales per employee between 2001 and 2005 and 24% increase in sales and revenue between 2005 and 2007. Their market share has also increased while their competitors experienced a decrease. Another example is that of Bama Company, Inc. after several attempts received the award in 2004 from among only 60 candidates in all five categories. During 1999 to 2004 the company has increased sales by 72% and revenues by almost 100%. Finally, Medrad, Inc., a medical device manufacturing company, after their fifth attempt at applying for the award, finally became the winner of the MBNQA award on 2003. Since winning the award in 2003, Medrad has experienced an increase in sales of almost 100% from \$254 million to \$478 million in the last four years and their company has added approximately 50% more staff from nearly 1,200 to 1,700 during the same time period.

Motorola's Commercial, Government and Industrial Solutions Sector (CGISS) won the award in 2002. From 1999-2002 employee productivity increased by over 30%, and overall customer satisfaction levels were nearly 90%. Financially, CGISS was not only stable during very lean years of the U.S. economy; it had a 7 percent return on assets versus a negative average for the telecommunications industry. Additionally during the same period, CGISS experienced an improved cash flow as a percent of revenue of 20% compared to an industry average of only 5%. The winner of the 2001 MBNQA was Clarke American Checks Inc., which provides check printing services, financial forms, and other banking related documents. Since 1996, Clarke American's market share "has increased by 50%; however, they only maintain approximately 5% of the overall market share against three major competitors. Despite fierce competition and major industry consolidations, Clarke American's revenues were over \$460 million in 2001 (NIST Clarke, 2002) which equates to each employee generating over \$139,000 of revenue each". Additionally, "annual growth in company revenues has increased from a rate of 4.2% in 1996 to 16%

in 2000, compared to the industry's average annual growth rate of less than one percent over the five-year period.”.

Though most of the award winning organizations continued to make strides, some found their success to be short lived. The Wallace Company, a 1990 Baldrige winner, filed for bankruptcy in 1992 only a few years after winning the award. Eastman Chemical Company won the MBNQA award in 1993 in the large manufacturing category. Business results and financial improvements were quickly

recognition associated with winning the award but it was short lived. The financial gains of the mid 90's were followed by 5 to 8 years of disappointing performance. "It has become evident that the company gradually abandoned the strategies that made them the first organization to receive the Malcolm Baldrige Award in the large manufacturing category." .

The success of Baldrige winners has been promoted as evidence that quality management leads to excellent business results. Dean and Tomovic have questioned this paradigm whether the same is true. They have argued that "successful implementation of the Baldrige model is confounded with excellent business results, because excellent business results are themselves part of the model. Since business results are one of the seven criteria used to evaluate an organization's performance against the model, the contribution of the approach-deployment elements to excellent results cannot be determined." They further added that "analyses that equate success of a model that includes results with successful implementation of a quality management process cannot correctly lead us to conclude quality management brought about those results. As with the other examples, the conclusions of these studies are suspect because results are included in the determination of a successful company." In other words, claiming that the Baldrige award winners perform well in results due to practicing of award criteria and practices will be wrong as these companies are judged based on their results too. Similarly, Baldrige applicants who score well on the results section may continue to do well on results, independent of their approach and deployment. There may be something besides the elements of the Baldrige model that explains their success, and some of the elements included may have no impact on success (ibid). A recent study found a positive relationship between Business Excellence (EFQM Model) and Performance, and between Strategic Agility and Performance. The study also revealed that there was also evidence that Strategic Agility was related to Business Excellence. The findings suggested organizations that successfully implement Business Excellence develop the ability to respond to change, a capability that

was becoming more critical as the pace of change increases. This capability leads to benefits for many of the organization's stakeholders.

Home in his thesis, "The Effect on Corporate Performance of Firms that won the Malcolm Baldrige National Quality Award" examined the business results of companies that won the Malcolm Baldrige National Quality Award (MBNQA) considering three key indicators, return on assets (ROA), earnings per share (EPS) and the current ratio. Company performance data were analyzed in two ways; first tests were made by comparing company performance before and after winning an MBNQA. The second way of testing was by comparing the MBNQA-winning company's performance with its key competitors within their market segment. His analysis, based on statistical techniques, suggests there was no significant difference in performance after winning the MBNQA than before, using the three performance indicators used in this study. There was also no evidence to suggest that the MBNQA-winning firms outperformed their key competitors within their market segment, for the three performance indicators used. The "Baldrige Index," a hypothetical stock fund made up of U.S. companies that received the Baldrige Award, has historically outperformed the S&P 500 by approximately 4 to 1. But this claim was challenged by many authors for the reasons stated before.

NIST has since discontinued the practice of computing Baldrige Index in 2004. Among the reasons for the discontinuation of the annual comparisons was that an increasing number of applicants who were not publicly traded companies .

Evans and Jack used large empirical data set to explore the linkages between the Baldrige award criteria with firm's business performance. The result of various statistical tests provide evidence of the validity of the "Baldrige model and its examination/self-assessment process that seeks to validate strong business results as an outcome of high-performance management practices." .

Bernal and Castel conducted a research involving 34 Spanish firms. They grouped these firms in four groups depending on the level of their implementation of EFQM model. From the analysis they found that firms with higher level of quality in most of the criteria of the model (EFQM) obtain better results, measured by key performance results and firms with the lowest scores in most of the variables obtain worst results. Their analysis also suggests that partial adjustments do not improve the results.

It may be concluded from the study that there exists a diversity of views on contribution of the Business Excellence (BE) Models, particularly the MBNQA and EFQM Models, on the impact on the bottom line of the Award Winning organizations. Emerging from this concern is a need to better understand the differences in the Management Practices and processes followed by the Award winning firms to that of the high performing non-participating firms and also to better understand the influence that these practices and processes have on business performance outcomes. (Professor Prabir Kumar, 2005.international journal of economy)

2.5 Organizational performance:

Organizational performance comprises the actual output or results of organization as measured against intended outputs or goals and objectives.

Organization performance encompasses three specific areas of firm's outcomes:

- A. Financial performance (profits, return on investment, return on assets.etc.
- B. Product (SERVICE) market performance (sales, market share, product quality).
- C. Shareholder performance (return on shareholder investment)

According to (EFQM) excellence model the organization performance measured as a comparison between enablers and results.

In our case study (maintenance plant) performance measurement can comprises also other key performance indicators e.g.:

1. Percentage Maintenance task accomplished as planned without delay.
2. Percentage of rework (non adding value activity).
3. Number of A/C can maintained in same time.

Chapter three: methodology

3.1 introduction:

this chapter will present the research framework and hypotheses test ,the section highlight the sampling procedures, the measurement of variables, the development of research instrument, the administration of data collection, and the statistical technique that used to test the hypotheses are discussed.

3.2 Subjects:

An exploratory research at SAFAT AVIATION GROUP with on qualitative method used are focus group of employee interviewed by questionnaire.

A convince sample size (N=100) of employee working in SAFAT AVIATION GROUP in March 2019 is used for study. The research protocol and questionnaire are approved from administrator prior to data collection.

3.3 Study method:

In this research we decided to follow the theoretical background of methodology and quantitative design using hypothesis testing approach, the data is then analyzed using statistical techniques, and its suitable for study purpose and objective and depending on literature review and its seems to be the best way to boot realizable data and to be able to investigate the impact of excellence models on company performance.

3.4 Population and sampling:

The population in collection of samples within which the survey will be conducted in the process of sampling includes all levels (managers, engineers, technician... etc.)

3.5 Questionnaire design:

One questionnaire was developed to identify the impact of adopting business excellence models in the efficiency of the organizational performance.

A 3-part questionnaire was developed to identify the relationship between the excellence models and firms performance.

Part one of the questionnaire was designed to measure the relation between adopting business excellence and firm performance.

Part two of the questionnaire was designed to measure the significant impact of adopting business excellence model on the efficiency of QMS. Part three of the questionnaire was designed to measure to which extend the *SAFAT Aviation Group* companies is committed to implement this program as planned.

3.6 study procedure :

the study procedure is to measure the final image result after retrieval study samples questionnaire (100) questionnaire from employees, then data is entered into computer and processed statistically using statistical package for social science (SPSS) and finally data extracting, analyzing and discussing the results.

3.7 Statistical processing:

Data are encoded and processed statistically using statistical package for social science (SPSS).

Which statistically processors and descriptive statistics including frequencies, median, person correlation coefficient and standard deviation were calculated for all variables as appropriate. Non-parametric chi-square parametric test was used to examine the hypotheses of this study.

Chapter Four: Data Analysis and Results

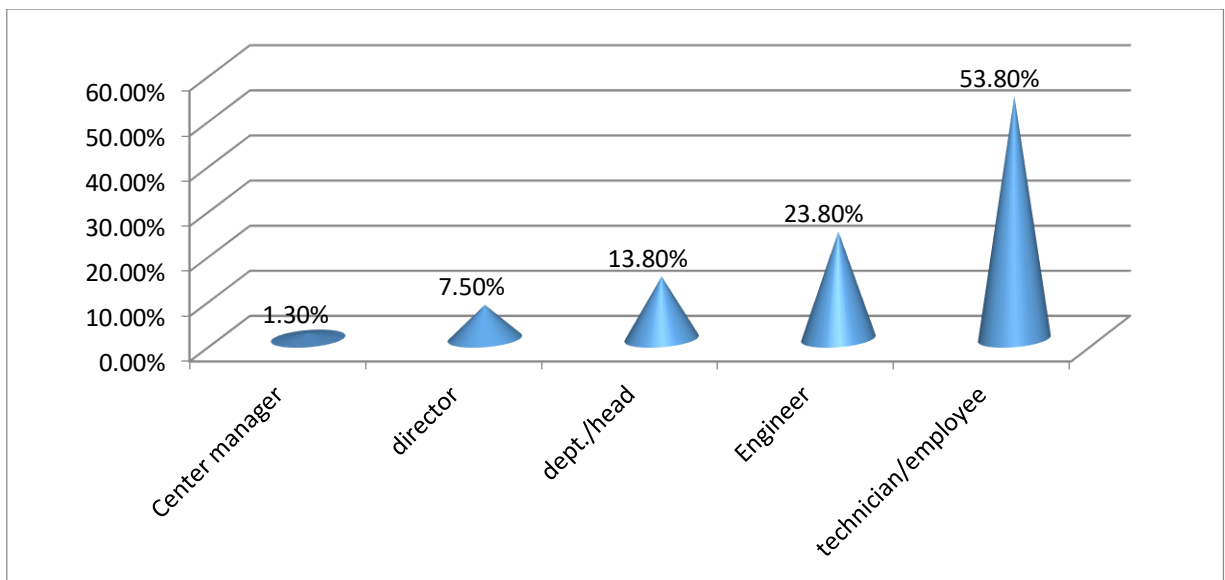
4.1 Field study procedures

This course deals with the field study procedures under the following sections
First: population and sample of the study

Table (1) illustrates the frequency and percentage for the Job

Job	Frequencies	Percentage
Center manager	1	1.3%
director	6	7.5%
dept./head	11	13.8%
Engineer	19	23.8%
technician/employee	43	53.8%
Total	80	100.0%

Source: IPM SPSS 24 package



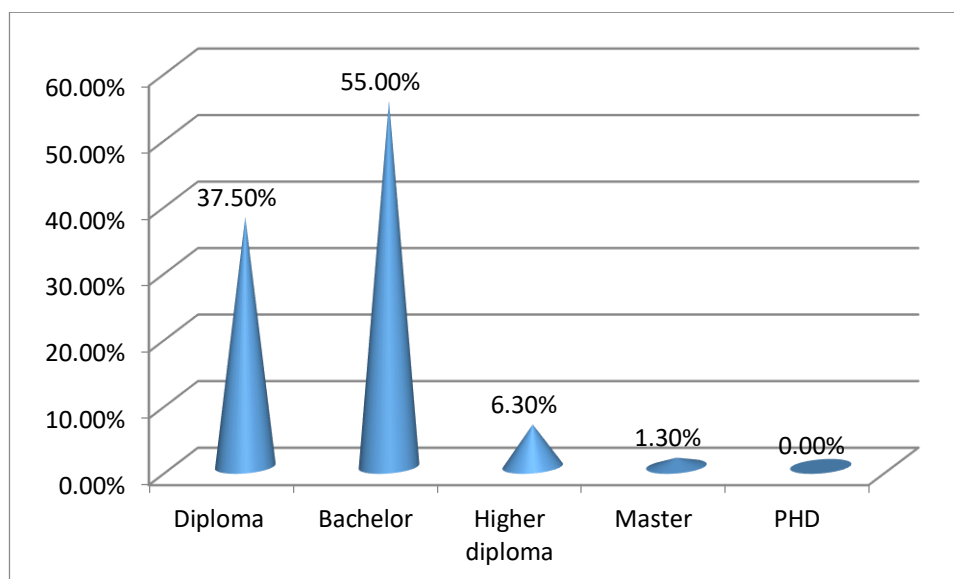
Source: excel 2016

Fig (2) illustrates the views of the distribution of the Job sample by Manager by (%1.3) and Department manger by (%7.5) and Head of the Department by (%13.8) and Engineer by (%23.8) and Employee / Technician by (%53.8).

Table (2) illustrates the frequency and percentage for the Qualification

Qualification	Frequencies	Percentage
Diploma	30	37.5%
Bachelor	44	55.0%
Higher diploma	5	6.3%
Master	1	1.3%
PHD	0	0.0%
Total	80	100.0%

Source: IPM SPSS 24 package



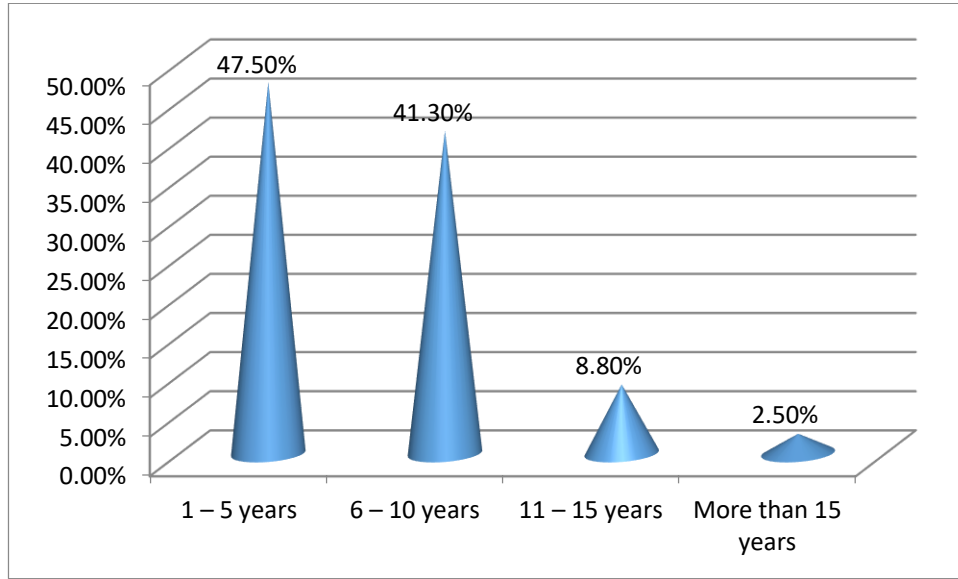
Source: excel 2016

Table (3) illustrates the views of the distribution of the six sample by Diploma by (%37.5) Bachelor by (%55.0) and Higher diploma by (%6.3) and Master by (%1.3) and PHD by (%0.0)

Table (3) Illustrates the frequency and percentage for Years of experience

Value	Frequencies	Percentage
1 – 5 years	38	47.5%
6 – 10 years	33	41.3%
11 – 15 years	7	8.8%
More than 15 years	2	2.5%
Total	80	100.0%

Source: IPM SPSS 24 package



Source: excel 2016

Table (3) illustrates the views of the distribution of the sample by 1 – 5 years by (%47.5) and 6 – 10 years by (%41.3) and 11 – 15 years by (%8.8) and More than 15 years by (%2.5).

Second: reliability and validity

Cranach's alpha method: -

Where reliability was calculated using Cranach's alpha equation shown below:

$$\text{Reliability coefficient} = \frac{n}{N-1} * \frac{1 - \text{Total variations questions}}{\text{variation college grades}}$$

$$\text{Validity} = \sqrt{\frac{n}{N-1} * \frac{1 - \text{Total variations questions}}{\text{variation college grades}}}$$

Cranach alpha coefficient = (0.94), a reliability coefficient is high and it indicates the stability of the scale and the validity of the study

Validity coefficient is the square of the islands so reliability coefficient is (0.97), and this shows that there is a high sincerity of the scale and that the benefit of the study.

Cranach's alpha method

No.	Statement	Reliability	Validity
1	Is there apposite relation between adopting (EFQM) and the efficiency of org performance	0.89	0.94
2	IS THERE A RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM	0.82	0.91
3	Top management commitment in relation to excellence activities	0.88	0.94
Total		0.94	0.97

4.2 View and analyze data

Table (4) illustrates the frequency and percentage for Is there apposite relation between adopting (EFQM) and the efficiency of org performance

No	Items	Strongly agree	Agree	neutral	Disagree	Strongly disagree
1	Operations designed and processed in scientific manner	6	26	33	12	3
		7.5	32.5	41.3	15.0	3.8
2	Operations is continuously improved to achieve customer satisfaction	5	32	27	12	4
		6.3	40.0	33.8	15.0	5.0
3	Products and service designed and improved according to customer needs and expectation	8	27	30	14	1
		10.0	33.8	37.5	17.5	1.3
4	Customers satisfaction is measured regularly	8	25	28	18	1
		10.0	31.3	35.0	22.5	1.3
5	Community satisfaction is measured regularly	4	17	38	16	5
		5.0	21.3	47.5	20.0	6.3
6	Determination of current needs and expectation	5	25	33	16	1
		6.3	31.3	41.3	20.0	1.3
7	KPIS is Measured regularly	4	27	28	19	2

		5.0	33.8	35.0	23.8	2.5
8	Determination of information gathered from performance measuring, learning and innovation	9	18	32	19	2
		11.3	22.5	40.0	23.8	2.5
9	External Joint venture is managed in good manner	3	21	43	11	2
		3.8	26.3	53.8	13.8	2.5
10	Funding is fully managed	3	23	27	21	6
		3.8	28.8	33.8	26.3	7.5
11	Resources, building and assets is managed in good manner	4	16	32	26	2
		5.0	20.0	40.0	32.5	2.5
12	Technology is managed in a good manner	5	17	36	20	2
		6.3	21.3	45.0	25.0	2.5
13	Knowledge and information is managed in a good manner	2	25	36	15	2
		2.5	31.3	45.0	18.8	2.5

Source: IPM SPSS 24 package

From the above table result shows:

Operations designed and processed in scientific manner by the strongly agree (%7.5) and agree by (%32.5) and neutral by (%41.3) and disagree by (%15.0) and strongly disagree by (%3.8).

Operations is continuously improved to achieve customer satisfaction by the strongly agree (%6.3) and agree by (%40.0) and neutral by (%33.8) and disagree by (%15.0) and strongly disagree by (%5.0).

Products and service designed and improved according to customer needs and expectation by the strongly agree (%10.0) and agree by (%33.8) and neutral by (%37.5) and disagree by (%17.5) and strongly disagree by (%1.3).

Customers satisfaction is measured regularly by the strongly agree (%10.0) and agree by (%31.3) and neutral by (%35.0) and disagree by (%22.5) and strongly disagree by (%1.3).

Community satisfaction is measured regularly by the strongly agree (%5.0) and agree by (%21.3) and neutral by (%47.5) and disagree by (%20.0) and strongly disagree by (%6.3).

Determination of current needs and expectation by the strongly agree (%6.3) and agree by (%31.3) and neutral by (%41.3) and disagree by (%20.0) and strongly disagree by (%1.3).

KPIS is Measured regularly by the strongly agree (%5.0) and agree by (%33.8) and neutral by (%35.0) and disagree by (%23.8) and strongly disagree by (%2.5).

Determination of information gathered from performance measuring, learning and innovation by the strongly agree (%11.3) and agree by (%22.5) and neutral by (%40.0) and disagree by (%23.8) and strongly disagree by (%2.5).

External Joint venture is managed in good manner by the strongly agree (%3.8) and agree by (%26.3) and neutral by (%53.8) and disagree by (%13.8) and strongly disagree by (%2.5).

Funding is fully managed by the strongly agree (%3.8) and agree by (%28.8) and neutral by (%33.8) and disagree by (%26.3) and strongly disagree by (%7.5).

Resources, building and assets is managed in good manner by the strongly agree (%5.0) and agree by (%20.0) and neutral by (%40.0) and disagree by (%32.5) and strongly disagree by (%2.5).

Technology is managed in a good manner by the strongly agree (%6.3) and agree by (%21.3) and neutral by (%45.0) and disagree by (%25.0) and strongly disagree by (%2.5).

Knowledge and information is managed in a good manner by the strongly agree (%2.5) and agree by (%31.3) and neutral by (%45.0) and disagree by (%18.8) and strongly disagree by (%2.5).

Table (5) illustrates chi-square test results for the is there appositve relation between adopting (EFQM) and the efficiency of org performance

No	Phrases	Chi-square value	df	Sig.	Median	Interpretation
1	Operations designed and processed in scientific manner	42.12	4	0.000	3.00	Neutral
2	Operations is continuously improved to achieve customer satisfaction.	41.12	4	0.000	3.00	Neutral
3	Products and service designed and improved according to customer needs and expectation.	38.12	4	0.000	3.00	Neutral
4	Customers satisfaction is measured regularly	32.37	4	0.000	3.00	Neutral

5	Community satisfaction is measured regularly.	46.87	4	0.000	3.00	Neutral
6	Determination of current needs and expectation.	44.75	4	0.000	3.00	Neutral
7	KPIS is Measured regularly	38.37	4	0.000	3.00	Neutral
8	Determination of information gathered from performance measuring, learning and innovation.	32.12	4	0.000	3.00	Neutral
9	External Joint venture is managed in good manner	71.50	4	0.000	3.00	Neutral
10	Funding is fully managed.	29.00	4	0.000	3.00	Neutral
11	Resources, building and assets is managed in good manner.	43.50	4	0.000	3.00	Neutral
12	Technology is managed in a good manner.	45.87	4	0.000	3.00	Neutral
13	Knowledge and information is managed in a good manner	54.62	4	0.000	3.00	Neutral

Source: IPM SPSS 24 package

The results of table (5) Interpreted as follows:

1. The value of chi – square calculated to signify the differences between the Operations designed and processed in scientific manner was (42.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
2. The value of chi – square calculated to signify the differences between the Operations is continuously improved to achieve customer satisfaction was (41.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

3. The value of chi – square calculated to signify the differences between the Products and service designed and improved according to customer needs and expectation was (38.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
4. The value of chi – square calculated to signify the differences between the Customers satisfaction is measured regularly was (32.37) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
5. The value of chi – square calculated to signify the differences between the Community satisfaction is measured regularly was (46.87) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
6. The value of chi – square calculated to signify the differences between the Determination of current needs and expectation was (44.75) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
7. The value of chi – square calculated to signify the differences between the KPIS is Measured regularly was (38.37) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
8. The value of chi – square calculated to signify the differences between the Determination of information gathered from performance measuring, learning and innovation was (32.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

9. The value of chi – square calculated to signify the differences between the External Joint venture is managed in good manner was (71.50) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
10. The value of chi – square calculated to signify the differences between the Funding is fully managed was (29.00) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
11. The value of chi – square calculated to signify the differences between the Resources, building and assets is managed in good manner was (43.50) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
12. The value of chi – square calculated to signify the differences between the Technology is managed in a good manner was (45.87) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
13. The value of chi – square calculated to signify the differences between the Knowledge and information is managed in a good manner was (54.62) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

Table (6) illustrates the frequency and percentage for IS THERE A RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM

No	Items	Strongly agree	Agree	neutral	Disagree	Strongly disagree
1	Management system is applicable and continuously improved	4	34	33	8	1
		5.0	42.5	41.3	10.0	1.3
2	Policies and strategies reviewed	3	38	25	14	0

	and updated to insure the efficiency of (QMS).	3.8	47.5	31.3	17.5	0.0
3	Improving mission, vision, message and adopting excellence culture	3	23	35	18	1
		3.8	28.8	43.8	22.5	1.3
4	Policies and strategies is published and applied	2	35	25	14	4
		2.5	43.8	31.3	17.5	5.0
5	Human resources is planned, managed and improved	4	24	31	17	4
		5.0	30.0	38.8	21.3	5.0
6	Improving of employee's knowledge, skills and abilities	3	27	37	9	4
		3.8	33.8	46.3	11.3	5.0

Source: IPM SPSS 24 package

From the above table result shows:

Management system is applicable and continuously improved by the strongly agree (%5.0) and agree by (%42.5) and neutral by (%41.3) and disagree by (%10.0) and strongly disagree by (%1.3).

Policies and strategies reviewed and updated to insure the efficiency of (QMS) by the strongly agree (%3.8) and agree by (%47.5) and neutral by (%31.3) and disagree by (%17.5) and strongly disagree by (%0.0).

Improving mission, vision, message and adopting excellence culture by the strongly agree (%3.8) and agree by (%28.8) and neutral by (%43.8) and disagree by (%22.5) and strongly disagree by (%1.3).

Policies and strategies is published and applied by the strongly agree (%2.5) and agree by (%43.8) and neutral by (%31.3) and disagree by (%17.5) and strongly disagree by (%5.0).

Human resources is planned, managed and improved by the strongly agree (%5.0) and agree by (%30.0) and neutral by (%38.8) and disagree by (%21.3) and strongly disagree by (%5.0).

Improving of employee's knowledge, skills and abilities by the strongly agree (%3.8) and agree by (%33.8) and neutral by (%46.3) and disagree by (%11.3) and strongly disagree by (%5.0).

Table (7) illustrates chi-square test results for the IS THERE a RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM

No	Phrases	Chi-square value	df	Sig.	Median	Interpretation
1	Management system is applicable and continuously improved.	65.37	4	0.000	3.00	Neutral
2	Policies and strategies reviewed and updated to insure the efficiency of (QMS).	33.70	3	0.000	4.00	Neutral
3	Improving mission, vision, message and adopting excellence culture.	50.50	4	0.000	3.00	Neutral
4	Policies and strategies is published and applied.	49.12	4	0.000	3.00	Neutral
5	Human resources is planned, managed and improved	36.12	4	0.000	3.00	Neutral
6	Improving of employee's knowledge, skills and abilities.	57.75	4	0.000	3.00	Neutral

Source: IPM SPSS 24 package

The results of table (7) Interpreted as follows:

1. The value of chi – square calculated to signify the differences between the Management system is applicable and continuously improved was (65.37) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
2. The value of chi – square calculated to signify the differences between the Policies and strategies reviewed and updated to insure the efficiency of (QMS). was (33.70) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
3. The value of chi – square calculated to signify the differences between the Improving mission, vision, message and adopting excellence culture

was (50.50) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

4. The value of chi – square calculated to signify the differences between the Policies and strategies is published and applied was (49.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
5. The value of chi – square calculated to signify the differences between the Human resources is planned, managed and improved was (36.12) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
6. The value of chi – square calculated to signify the differences between the Improving of employee’s knowledge, skills and abilities was (57.75) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

Table (8) illustrates the frequency and percentage for Top management commitment in relation to excellence activities

No	Items	Strongly agree	Agree	neutral	Disagree	Strongly disagree
1	Top management is communicated with customers, partners and community	4	26	36	9	5
		5.0	32.5	45.0	11.3	6.3
2	Top management encourage employees and support them	8	24	27	14	7
		10.0	30.0	33.8	17.5	8.8
3	Employees rewarded and appreciated their efforts	6	17	36	14	7
		7.5	21.3	45.0	17.5	8.8
4	Insure Employees is participated and communicated for organization activities	4	17	36	17	6
		5.0	21.3	45.0	21.3	7.5

Source: IPM SPSS 24 package

From the above table result shows:

Top management is communicated with customers, partners and community by the strongly agree (%5.0) and agree by (%32.5) and neutral by (%45.0) and disagree by (%11.3) and strongly disagree by (%6.3).

Top management encourage employees and support them by the strongly agree (%10.0) and agree by (%30.0) and neutral by (%33.8) and disagree by (%17.5) and strongly disagree by (%8.8).

Employees rewarded and appreciated their efforts by the strongly agree (%7.5) and agree by (%21.3) and neutral by (%45.0) and disagree by (%17.5) and strongly disagree by (%8.8).

Insure Employees is participated and communicated for organization activities by the strongly agree (%5.0) and agree by (%21.3) and neutral by (%45.0) and disagree by (%21.3) and strongly disagree by (%7.5).

Table (9) illustrates chi-square test results for the Top management commitment in relation to excellence activities

No	Phrases	Chi-square value	df	Sig.	Median	Interpretation
1	Top management is communicated with customers, partners and community.	50.87	4	0.000	3.00	Neutral
2	Top management encourage employees and support them.	20.87	4	0.000	3.00	Neutral
3	Employees rewarded and appreciated their efforts.	36.62	4	0.000	3.00	Neutral
4	Insure Employees is participated and communicated for organization activities.	40.37	4	0.000	3.00	Neutral

Source: IPM SPSS 24 package

The results of table (9) Interpreted as follows:

1. The value of chi – square calculated to signify the differences between the Top management is communicated with customers, partners and community was (50.87) with P-value (0.000) which is lower than the

level of significant value (5%) These refer to the existence of differences statistically.

2. The value of chi – square calculated to signify the differences between the Top management encourage employees and support them was (20.87) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
3. The value of chi – square calculated to signify the differences between the Employees rewarded and appreciated their efforts was (36.62) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.
4. The value of chi – square calculated to signify the differences between the Insure Employees is participated and communicated for organization activities was (40.37) with P-value (0.000) which is lower than the level of significant value (5%) These refer to the existence of differences statistically.

Is there appositve relation between adopting (EFQM) and the efficiency of org performance?

Correlation	Chi-square	Df	Sig.	Statistical significant
0.77	27.41	4	0.000	Significant

Source: IPM SPSS 24 package

Table (10) shows that the value of the Correlation test (0.77) by significant value (0.00) it’s less than the probability value (0.05) this means that Is there appositve relation between adopting (EFQM) and the efficiency of org performance.

IS THERE A RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM

Correlation	Chi-square	Df	Sig.	Statistical significant
0.78	19.24	4	0.000	Significant

Source: IPM SPSS 24 package

Table (11) shows that the value of the Correlation test (0.78) by significant value (0.00) it's less than the probability value (0.05) this means that IS THERE A RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM

Top management commitment in relation to excellence activities

Size	Chi-square	Df	Sig.	Median	Scale	Statistical significant
80	33.14	4	0.000	3.0	Neutral	Significant

Source: IPM SPSS 24 package

Table (12) shows that the value of the Chi-square test (33.14) by significant value (0.00) it's less than the probability value (0.05) this means that is Top management commitment in relation to excellence activities.

Chapter five: discussion, conclusion and recommendation

5.1 Discussion:

5.1.1 Results of first hypothesis: is there positive relation between adopting (EFQM) and the efficiency of org performance:

This hypothesis is assessed by questionnaire consist of (13) questions which validate by **Cranach's alpha method** for reliability and validity results in (89%) and (94%) which good percentage that's can builds our study based on this results.

We found from statistically study appositive relation between adopting EFQM and organization performance in all pullets of questionnaire that support our study were chi-square test was less than (5%), most results in neutral and positive direction (look at table no 5), also Table (10) shows that the value of the Correlation test (0.77) by significant value (0.00) it's less than the probability value (0.05) this means that there appositive relation between adopting (EFQM) and the efficiency of org performance.

5.1.2 Results of second hypothesis: is there relation between adopting (EFQM) and the efficiency of quality management system.

This hypothesis assessed by questionnaire consist of (6) questions which validate by **Cranach's alpha method** for reliability and validity results in (82%) and (91%) which good percentage that's can builds our study based on this results. We found from statistically study appositive relation between adopting EFQM and organization performance in all pullets of questionnaire that support our study were chi-square test was less than (5%), most results in neutral and positive direction (look at table no 7).also Table (11) shows that the value of the Correlation test (0.78) by significant value (0.00) it's less than the probability value (0.05) this means that THERE is a relation between adopting (EFQM) and efficiency of quality management system.

5.1.3 Results of third hypothesis: is top management committed in relation to excellence activities

This hypothesis assessed by questionnaire consist of (4) questions which validate by **Cranach's alpha method** for reliability and validity results in (88%) and (94%) which good percentage that's can builds our study based on this results. We found from statistically study appositve relation between adopting EFQM and organization performance in all pullets of questionnaire that support our study were chi-square test was less than (5%), most results in neutral and positive direction (look at table no 9).also Table (12) shows that the value of the Chi-square test (33.14) by significant value (0.00) it's less than the probability value (0.05) this means that Top management commitment in relation to excellence activities.

5.2 Conclusion.

From study and statistical analysis of questionnaire data results we prove that the effect of adopting business excellence models has positive relation on organization performance through analysis of the three hypotheses which state that; there positive relation between adopting (EFQM) and the efficiency of organization performance, there relation between adopting (EFQM) and the efficiency of quality management system and top management committed in relation to excellence activities, hence from all above we prove that all hypotheses of this study is true.

5.3 Recommendation.

After the thorough study and analysis of business excellence models, and (EFQM) especially as case study we can recommend that:

- Encourage the culture of excellence in firms and organizations.
- Adopting excellence model as tools for continuous improvement.
- Establishing and activating national quality awards.

Reference:

1. Holy Quran.
2. Kumar, 2005.deming prize/juse.or.jp.
3. (EFQM, 2019/EFQM.ORG)
4. The Malcom BALDRIGE national quality award: a yard stick for quality growth (GREGORY F GRUSKA & MAUREEN S. HEAPHY).1998
5. BALDRIGE award winning quality (MARK GRAHAM BROWN).1998
6. International Journal of Economy, Management and Social Sciences,, Prabir Kumar Bandyopadhyay *
Professor, Goa Institute of Mangement, Sanquelim Campus, Goa, India, 2005
7. Suresh Nair Professor, Ackerman Scholar and Dun & Bradstreet CITI Research Fellow, Operations and Information Management Department, University of Connecticut,
8. School of Business, 2100 Hillside Road, Storrs, CT 06269-1041.
9. EFQM excellence model: public and voluntary sector version EFQM (foundation).
- 10.EFQM acomplete quide: 2019 edition/ geravus blokdyk 2019
- 11.EFQM GLOBAL excellence award 2017: benchmark scoring report.

12.The EFQM excellence model for assessing organization performance: a management guide (Chris hakes).2006

13.Business excellence models & strategic planning: the road map to business excellence (LUIS ROCHA LONA).2012

APPENDIX (1)

The 14 CEOs were (pictured from left to right):

- Umberto Agnelli - Fiat Auto SpA
- Carlo De Benedetti - Ing. C. Ollivetti & C., SpA
- Carl Horst Hahn - Volkswagen AG
- A. Scharp - AB Electrolux
- Jan F.A. de Soet - Koninklijke Luchvaart Maatschappij N.V. (KLM)
- Cornelis Johannes van der Klugt - N.V. Philips' Gloeilampenfabrieken
- Serge Dassault - Avions Marcel Dassault-Breguet Aviation
- Heini Lippuner - Ciba-Geigy AG
- Raymond H. Levy - Regie Nationale des Usines Renault
- Francis Lorentz - Bull SA
- Konrad Eckert - Robert Bosch GmbH (attending on behalf of Marcus Bierich)
- Iain David Thomas Vallance - British Telecommunications plc
- Fritz Fahrni - Gebr. Sulzer AG
- R. Morf - Nestle SA (attending on behalf of Helmut Oswald Maucher)

APPENDIX (2)

List of doctors assess and govern questionnaire:

NO	NAME	JOB TITLE	UNIVERSITY
1.	ASHRAF HASSAN IDRIS	Assistant Professor	SUDAN University Of Science And Technology
2.	MOHANED HASSAN ISMAIL	Assistant Professor	SUDAN University Of Science And Technology

Appendix (3)

Questionnaire

The researcher designed these questionnaire is to understand “**The Impact of the adopting business excellence models in the efficiency of the organizational performance**” Case Study of (SAFAT Aviation Group).

Please help to reach accurate results by read the question title carefully and make tick (√) near the answer you suggested.

All information you will mentioned is confidentially and used for scientific research only.

Thank you for your cooperation

Researcher

❖ Job title:

- Center manager () director () dept./head () engineer () technician/employee()

❖ Scientific qualification:

- DIPLOMA () BACHELOR () MASTER () PhD ()

❖ experience:

- 1-5 years () 6-10 years () 11-15 years () more than16()

NO	TITLE	Strongly agree	agree	neutral	Disagree	Strongly disagree
Is there appositve relation between adopting (EFQM) and the efficiency of org performance						
1.	Operations designed and processed in scientific manner.					
2.	Operations is continuously improved to achieve customer satisfaction.					
3.	Products and service designed and improved according to customer needs and expectation.					
4.	Customers satisfaction is measured regularly					
5.	Community satisfaction is measured regularly.					
6.	Determination of current needs and expectation.					
7.	KPIS is Measured regularly					
8.	Determination of information gathered from performance measuring, learning and innovation.					
9.	External Joint venture is managed in good manner					
10.	Funding is fully managed.					
11.	Resources, building and assets is managed in good manner.					
12.	Technology is managed in a good manner.					
13.	Knowledge and information is managed in a good manned					
IS THERE A RELATION BETWEEN ADOPTING (EFQM) AND EFFICIENCY OF QUALITY MANAGEMENT SYSTEM						
14.	Management system is applicable and continuously improved.					
15.	Policies and strategies reviewed and updated to insure the efficiency of (QMS).					

16.	Improving mission, vision, and message and adopting excellence culture.					
17.	Policies and strategies is published and applied.					
18.	Human resources is planned, managed and improved					
19.	Improving of employee's knowledge, skills and abilities.					
Top management commitment in relation to excellence activities						
20.	Top management is communicated with customers, partners and community.					
21.	Top management encourage employees and support them.					
22.	Employees rewarded and appreciated there efforts.					
23.	Insure Employees is participated and communicated for organization activities.					