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Business Excellence Evaluation in Banking Sector in Sudan

تقويم مستوى تميز الأعمال في القطاع المصرفي في السودان

**A thesis Submitted in Fulfillment of the Requirements for the Degree
of Doctor of Philosophy in Total Quality Management and Excellence**

By:

Mohamed Eltahir Eltayeb Eltahir

(M.Sc. Business Administration - 2004 - SLU - Sweden)

(M.Sc. Rural Development - 2004 - SLU - Sweden)

(Post-Graduate Diploma. Developmental Studies - 1999 - U of K- Sudan)

(B.Sc. Business Administration - 1996 - OAU- Sudan)

Supervisor:

Professor Ibrahim Fadul Almula Elbashir Elshokrii (SUST)

Co - Supervisor:

Dr. Eltayeb Ibrahim Ali Asal (SUST)

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Approval Page

(To be completed after the college council approval)

Name of Candidate: Mohamed Eltahir Eltayeb Eltahir

Thesis title: Business Excellence Evaluation in Banking Sector in Sudan

Degree Examined for: Doctor of Philosophy in Total Quality Management and Excellence

Approved by:

1. External Examiner

Name: Professor Amel Omer Babiker

Signature: [Signature] Date: 30/12/2019

2. ^{EX} Internal Examiner

Name: Dr. Abdel Salam Abdelmagid

Signature: [Signature] Date:

3. Supervisor

Name: Prof. Ibrahim Fadel Elmula Elbarheer

Signature: [Signature] Date: 30/12/2019

Dedication

This study is respectfully dedicated to:

The soul of my Father

My beloved Mother

My Wife Sayda

My Children

Ahmed, Talia, Tasneem and Ibrahim

Thank you for your support

This gave me the confident and power to complete this thesis

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Abstract

This study was conducted during the second half of the year 2019 within the Sudanese banking sector which includes different types of banks such as Governmental, commercial, foreign, and national. The objective of this study was to evaluate the Business Excellence for the Banking Sector units in Sudan through a field study based on the European Foundation for Quality Management (EFQM) criteria, by examining the causal relation between the EFQM enablers (Leadership, Strategy, People, Partnerships and Resources, Processes) and three of the results criteria (Customers, Employees and Financial). The approach, methodology and design of the study present a deep understanding of the associations between the EFQM enablers criteria and the results criteria. For examining this hypothetical causal relationship, a survey via a designed questionnaire with eight elements considering the eight criteria of the EFQM model. The questionnaire has been distributed to (526) of banks staff where the sample size determined as (377), hence the population of the study is (21 377) which is the banking sector of Sudan total employees. The questionnaire provides the data of the study for examination. The hypotheses of the study based on the main assumption of the EFQM model which is “all enablers criteria influence all results criteria positively“. The Findings and results did not fully support the main assumption of the study, where ten out of fifteen hypotheses support the main assumption while five hypotheses did not. The recommendations of the study focused on the results of hypotheses testing that are not supporting the conceptual framework of the study hypotheses, by paying more concern on the enablers that are not influencing the results criteria, in order to balance the empowering influence of all enablers criteria on all results criteria, among which the following recommendations: Strategies of Banks in Sudan should promote employees satisfaction results objectives. Strategies of Banks in Sudan should give more concentration on financial results. Banks in Sudan should link the human resources development objectives with the financial results objectives. Partnerships and resources in Sudanese Banks as enablers' criterion should be linked with customers' results.

المستخلص

أجريت هذه الدراسة خلال النصف الثاني من عام 2019 في القطاع المصرفي السوداني وشملت أنواع مختلفة من البنوك كالبنوك الحكومية، التجارية، الأجنبية والوطنية. الهدف من هذا البحث هو تقييم تميز الأعمال لوحدات القطاع المصرفي في السودان من خلال دراسة ميدانية تستند علي معايير نموذج التميز الأوربي الصادر عن المؤسسة الأوربية لإدارة الجودة EFQM، من خلال دراسة العلاقة السببية بين معايير الممكنات (القيادة، الاستراتيجية، العاملين، الشراكات والموارد، العمليات) وثلاثة من معايير النتائج (العملاء، العاملين والنتائج المالية). تقدم منهجية وتصميم الدراسة فهماً عميقاً للعلاقات السببية بين معايير الممكنات ومعايير النتائج لنموذج التميز الأوربي. لإختبار هذه العلاقة السببية الافتراضية لمعايير الممكنات والنتائج في النموذج، تم جمع بيانات ذات علاقة بالفرضيات من واقع تصميم إستبيان مصمم مع ثمانية عناصر راعت المعايير الثمانية لنموذج التميز الأوربي موضع الدراسة. أجري مسح ميداني عبره على (526) موظف، حيث تم تحديد حجم العينة بواقع (377)، ويتكون مجتمع الدراسة من (21377) وهو يمثل إجمالي عدد العاملين في الجهاز المصرفي. إعتمدت فرضيات الدراسة على الافتراض الرئيسي لنموذج التميز الأوربي وهو "أن جميع معايير الممكنات تؤثر إيجاباً على جميع معايير النتائج". نتائج الدراسة لم تدعم الافتراض الرئيسي للعلاقة السببية بين مكونات الممكنات والنتائج في نموذج التميز الأوربي بشكل كامل، حيث دعمت عشر فرضيات من أصل خمسة عشر فرضيه الافتراض الرئيسي بينما لم تدعم خمس فرضيات الافتراض الرئيسي للنموذج. ركزت توصيات الدراسة على نتائج اختبار الفرضيات التي لا تدعم عمل الإطار المفاهيمي لفرضيات الدراسة، من خلال إيلاء المزيد من الاهتمام لعلاقات التمكين التي لم تؤثر على معايير النتائج، من أجل تحقيق التوازن بين التأثير التمكيني لجميع عوامل التمكين على جميع معايير النتائج. جاءت توصيات الدراسة لتكون متسقة مع النتائج كان من أهمها تعزيز أهداف نتائج رضا الموظفين عبر استراتيجيات البنوك في السودان، تركيز إستراتيجيات البنوك في السودان على النتائج المالية، ربط أهداف تنمية الموارد البشرية بأهداف النتائج المالية، ربط الشراكات والموارد في البنوك السودانية كمعيار تمكين مع معيار نتائج العملاء.

Table of contents

Contents	Page
Dedication	I
Acknowledgment	II
Abstract	III
المستخلص	IV
Table of contents	V
List of tables	XI
List of figures	XV
List of appendixes.	XVII
Chapter one: General framework of the study	1
Introduction	2
1.1.Statement of the study problem.	4
1.2. Study questions.	6
1.3. Objectives of the study.	6
1.4. The hypotheses of the study.	7
1.4.1 The major hypothesis of the study.	7
1.4.2. Sub hypotheses of the study.	7
1.5. Significance of the Study.	10
1.6 Study methodology.	11
1.7. Organization of the study.	12
Chapter two : literatures review and theoretical framework	14
Introduction	15
2.1. Definition of concepts.	16

2.2. TQM and excellence models as framework for risk management in financial institutions.	19
2.3. Business excellence models and excellence awards.	25
2.3.1. Deming prize.	28
2.3.2. Malcolm baldridge national quality award (MBNQA).	30
2.3.3. Excellence Foundation for Quality Management Model (EFQM).	31
2.3.3.1. The EFQM business model.	31
2.3.3.1.1. The EFQM framework.	34
2.3.3.1. 2. The TQM Concepts in relation to EFQM model	35
2.3.3.1.3. The Fundamental Concepts of EFQM.	37
2.3.3.1.4. The RADAR logic.	39
2.3.3.1.5. Applying the elements of RADAR logic.	40
2.3.3.1.6. EFQM as self-assessment approach.	42
2.3.3.1.7. The uses of the EFQM excellence model.	45
2.3.3.1.8. The EFQM excellence model as a strategic tool.	46
2.3.3.1.9. Academics opinions on EFQM as strategic tool.	47
2.3.3.1.10. The EFQM excellence model as a means of providing a holistic, broader perspective of the business.	52
2.3.3.1.11. The EFQM excellence model as a tool for performance management.	54
2.3.3.1.12. The EFQM excellence model as a benchmarking tool.	55
2.3.3.1.13. The EFQM excellence model as a framework for integrating other quality and management initiatives and tools.	57
2.3.3.1.14. The EFQM excellence model as a means of gaining a quality award.	58
2.3.3.1.15. The EFQM Excellence Model as a means of motivating staff to get involved in quality improvement activities.	59
2.4. Previous studies conducted in Sudan.	61
2.5. The study model.	71
2.5.1. The variables of the model.	73
2.5.1.1 The independent variables of the model.	74
2.5.1.1.1 Leadership.	74
2.5.1.1.2 Strategy.	78

2.5.1.1.3. People.	81
2.5.1.1.4. Partnerships and resources.	85
2.5.1.1.5. Processes.	88
2.5.1.2. The dependent variables of the model.	92
2.5.1.2.1. People results.	93
2.5.1.2.2. Customers results.	94
2.5.1.2.3. Financial results.	97
2.6. Theories used to explain the relationships between variables of the EFQM model.	98
1.7. Development of study hypotheses.	101
Chapter three : Macro-economic outlook of Sudan (Banking sector operating environment)	108
Introduction	109
3.1. Sudan macro-economic indicators.	109
3.1.1. Gross domestic product (SDG).	110
3.1.2. Gross domestic product (USD).	111
3.1.3. National income, aggregate expenditure and aggregate demand.	114
3.2. Agricultural sector of Sudan.	116
3.2.1. Patterns of crop production in Sudan.	119
3.3. Industrial sector of Sudan.	124
3.4. Sudan trade balance.	129
3.4.1. Sudan trade balance and currency exchange rates.	132
3.5. Inflation rates in Sudan economy.	135
3.5.1. Sudan consumer price index.	138
3.5.2. Causes of inflation in Sudan.	142
3.6. Trade balance deficit.	146
3.7. Currency exchange rate.	149
3.8. Money supply (MS).	152
3.9. The banking sector of Sudan.	158

3.9.1. Savings, the main indicator of banks deposits volume.	163
3.9.2. Banks finance to deposits ratio.	169
3.9.3. The physical cash shortage in banking sector of Sudan in 2018 -2019.	170
3.9.4. The effect of US economic sanctions on Sudan banking system.	170
3.9.5. The transitional Government of Sudan and the banking sector.	171
Chapter four: Study methodology	172
Introduction	173
4.1. General approach.	173
4.2. Population framework.	174
4.3. Sampling methods and procedures.	175
4.3.1. Selecting a sample.	175
4.3.2. Population of the study.	176
4.3.3. Qualitative sampling.	176
4.3.4. Quantitative sampling.	177
4.3.5. Data collection techniques.	178
4.4. The questionnaire.	179
4.4.1. Questionnaire design.	179
4.4.2. Translation of the questionnaires.	180
4.5. Secondary data.	180
4.6. Primary data.	181
4.7. Selecting the primary data collection method.	181
4.8. Quantitative data (The self-administered questionnaire).	182
4.9. Data analysis techniques.	183
4.9.1. Validity and reliability.	184
4.9.1.1. Validity.	185
4.9.1.2. Reliability.	185
4.9.1.2.1. The pilot study for reliability assessment.	186
4.10. Cronbach's alpha for all the constructs.	204

Chapter five: Analysis and empirical findings	205
5.1. Chapter overview.	206
5.2. Descriptive statistics.	206
5.3. Response rate.	216
5.4. Goodness of measures.	219
5.4.1 Exploratory factor analysis for the level of EFQM business excellence model.	221
5.5. The tests for convergent validity post-measurement validation.	228
5.6. Discriminant validity.	232
5.7. Exploratory factor analysis for organizational performance.	233
5.8. The tests for convergent validity post-measurement validation.	240
5.9. Measurement and validation.	245
5.10. Measurement and validation the level of business excellence.	248
5.11. Measurement and Validation of EFQM result criteria elements.	251
5.12. Modified of study framework and hypotheses.	255
5.13. Descriptive statistics of variables.	257
5.14. Correlation analysis.	264
5.15. Model Fit and hypotheses testing.	267
5.16. Relationship between evaluating the level of business excellence (Multi-dimensional) on employees perceptions.	271
5.17. Relationship between evaluating the level of business excellence (Multi-dimensional) on Customer results.	275
5.18. Relationship between evaluating the level of business excellence (Multi-dimensional) on financial indicators.	279
5.19. Summary of the chapter.	284
Chapter six: Summary, discussion, conclusions and recommendations.	285
6.1. Summary of hypotheses testing and results.	286
6.2. Study model empirical hypotheses results.	291
6.3. Discussion	292
6.4. Conclusions.	305

6.5. Limitation of the study and opportunities for future study.	308
6.6. Recommendations of the study.	310
References.	311
Appendixes.	343

List of tables

Table number	Table title	Page
3.1	Exports of Sudan during the period 2000 to 2012.	127
3.2	Sudan trade balance during the period 2007-2018.	129
3.3	Exchange rate of Sudanese pound against Euro (2016-2018).	133
3.4	Inflation rates by item group for the years 2008-2017.	138
3.5	Consumer Price index by Item Group for the years 2008-2017.	141
4.1	Case processing summary purposely for the variable leadership as EFQM enabler criterion.	188
4.2	Reliability statistics for the variable leadership as EFQM enabler criterion.	188
4.3	Item statistics for the variable leadership as EFQM enabler criterion.	188
4.4	Item-total statistics for the variable leadership as EFQM enabler criterion.	189
4.5	Scale statistics for the variable leadership as EFQM enabler criterion.	189
4.6	Case processing summary purposely for the variable Strategy as EFQM enabler criterion.	189
4.7	Reliability statistics for the variable strategy as EFQM enabler criterion.	190
4.8	Item statistics for the variable strategy as EFQM enabler criterion.	190
4.9	Item-total statistics for the variable strategy as EFQM enabler criterion.	191
4.10	Scale statistics for the variable strategy as EFQM enabler criterion.	191
4.11	Case processing summary purposely for the variable employees as EFQM enabler criterion.	192
4.12	Reliability statistics for the variable employees as EFQM enabler criterion.	192
4.13	Item statistics for the variable employees as EFQM enabler criterion.	193
4.14	Item-total statistics for the variable employees as EFQM enabler criterion.	193
4.15	Scale statistics for the variable employees as EFQM enabler criterion.	193

4.16	Case processing summary purposely for the variable partnerships as EFQM enabler criterion.	194
4.17	Reliability statistics for the variable partnerships as EFQM enabler criterion.	194
4.18	Item statistics for the variable partnerships as EFQM enabler criterion.	194
4.19	Item-total statistics for the variable partnerships as EFQM enabler criterion.	195
4.20	Scale statistics for the variable partnerships as EFQM enabler criterion.	195
4.21	Case processing summary purposely for the variable processes as EFQM enabler criterion.	196
4.22	Reliability statistics for the variable processes as EFQM enabler criterion.	196
4.23	Item statistics for the variable processes as EFQM enabler criterion.	196
4.24	Item-total statistics for the variable processes as EFQM enabler criterion.	197
4.25	Scale statistics for the variable processes as EFQM enabler criterion.	197
4.26	Case processing summary purposely for the variable employees perception (people results) as EFQM results criterion.	198
4.27	Reliability statistics for the variable employees perception (people results) as EFQM results criterion.	198
4.28	Item statistics for the variable employees perceptions (people results) as EFQM result criterion.	199
4.29	Item-total statistics for the variable employees perceptions (people results) as EFQM result criterion.	199
4.30	Scale statistics for the variable employees perception (people results) as EFQM results criterion.	200
4.31	Case processing summary purposely for the variable customers results as EFQM results criterion.	200
4.32	Reliability statistics.	200
4.33	Item statistics for the variable customers results as EFQM result criterion.	201
4.34	Item-total statistics for the variable customers results as EFQM result criterion.	201
4.35	Scale statistics for the variable customers results as EFQM results criterion.	202
4.36	Case processing summary purposely for the variable Financial results as EFQM results criterion.	202

4.37	Reliability statistics for the variable financial results as EFQM results criterion.	202
4.38	Item statistics for the variable financial Indicators as EFQM result criterion	203
4.39	Item-total statistics for the variable financial indicators as EFQM result criterion.	203
4.40	Scale statistics for the variable financial results as EFQM results criterion.	204
4.41	Reliability statistics for all variables.	204
5.1	Descriptive statistics.	208
5.2	Response rate of questionnaire.	217
5.3	Respondents demographic characteristics.	201
5.4	KMO and bartlett's measure of sample adequacy.	221
5.5	Communalities for determination of sample adequacy.	222
5.6	Total variance explained for determination of sample adequacy.	226
5.7	Goodness-of-fit test for adequacy.	228
5.8	The pattern matrix to establish convergent and discriminant validity.	229
5.9	Discriminant validity.	233
5.10	KMO and bartlett's measure of sample adequacy for organizational performance.	234
5.11	Communalities for determination of sample adequacy to organizational performance.	235
5.12	Total variance explained for determination of sample adequacy to organizational performance.	238
5.13	The pattern matrix to establish convergent and discriminant validity for EFQM Result criteria Elements.	240
5.14	The factor correlation matrix for discriminant validity test to EFQM Result criteria Elements.	243
5.15	Criteria.	247
5.16	Model fit indices of EFQM model for enablers criteria.	250
5.17	Psychometric properties of EFQM model for enablers criteria.	251
5.18	Model fit indices of EFQM model for results criteria.	253
5.19	Psychometric properties of EFQM model for results criteria.	254

5.20	Descriptive statistics to all variables.	257
5.21	Person's correlation coefficient for all Variables.	265
5.22	Model fit indices and path coefficients of evaluating the level of EFQM model for enabler criteria on employee perceptions (peoples results).	274
5.23	Model fit indices and path coefficients of evaluating the EFQM model for enabler criteria on customer results.	278
5.24	Model fit indices and path coefficients of evaluating the level of EFQM model for enabler criteria on financial indicators.	282
5.25	Goodness-of-fit test for adequacy to EFQM result criteria elements.	283

List of figures

Figure number	Figure title	Page
2.1	Evolution of quality management concepts.	28
2.2	EFQM excellence model.	34
2.3	The fundamental concepts EFQM excellence model.	39
2.4	The RADAR logic.	41
2.5	Study model.	73
3.1	Sudan GDP growth rate / GDP (Annual %) for the period 2000 to 2016.	111
3.2	Sudan GDP growth rate / USD (Annual %), for the period 2000 to 2016.	113
3.3	Sudan NI, aggregate demand and consumption indicators for the period 1996 – 2016.	115
3.4	Sudan agriculture, forestry and fishing value added (% of GDP for the period 2000 – 2016).	118
3.5	Employment in agriculture (% of total employment) (ILO estimate).	123
3.6	Sudan industry, value added as % of GDP.	125
3.7	Sudan agriculture, industry as % of GDP.	128
3.8	Sudan trade balance during the period 2007-2018.	131
3.9	Sudanese pound exchange rate against USD.	134
3.10	Sudan inflation rates during the periods 2000 2018.	137
3.11	Consumer price index of Sudan. 1970 – 2017.	140
3.12	Sudan aggregate demand and GDP.	144
3.13	% Increase of aggregate demand over GDP in Sudan during the period 2000 – 2016.	145
3.14	Sudan trade balance during the period 2007-2018.	148
3.15	SDG /Euro currency exchange rate for the period Dec 2007 – Dec 2018.	151
3.16	% Growth rate of money supply (Sudan).	153
3.17	Money supply in Sudan (Million SDG).	155

3.18	% Growth of GDP and % growth of money supply (Sudan).	157
3.19	Sudan banking sector structure.	162
3.20	Public savings of Sudan during the period (2000 – 2016).	165
3.21	Sudan aggregate consumption, national income and savings for the period 2000 - 2016.	168
3.22	% Total banks finance to deposits.	169
5.1	CFA model for EFQM model for enablers criteria.	249
5.2	CFA model for EFQM model for results criteria.	252
5.3	The Modified conceptual framework.	256
5.4	Structural model estimation for EFQM model for enabler criteria on employee perceptions (peoples results).	272
5.5	Structural model estimation for EFQM model for enabler criteria on customer results.	276
5.6	Structural model estimation for EFQM model for enabler criteria on financial indicators.	280
6.1	Empirical results of the study model hypotheses testing.	291

List of appendixes.

Appendix number	Appendix title	Page
1	The questionnaire.	343
2	Translation of the questionnaire to Arabic language.	349
3	EFQM excellence model criteria used in this study.	355
4	Macro-economic indicators of Sudan 1979/80-1994/95.	365
5	Sudan consumer price index and inflation rates for the period 1970 – 2017.	367
6	Exchange rate of Sudanese pound against US dollar for the period Jan.2016 to Mar.2019.	368
7	Total banks finance over total deposits for the period 2016 to 2018.	369
8	Inflation rate for the year ended December 2018.	370
9	Sudan trade balance during the period 2007-2018.	371
10	SPSS output.	372
11	AMOS output	398

Chapter one

General framework of the study

Introduction

The topic of evaluating business and operational excellence of banking sector of Sudan is becoming an essential topic in the last decade, where the central bank of Sudan and the association of Sudanese Banks have agreed to announce an award of excellent banking performance among the Sudanese Banks in the year 2011. The Banks performance evaluation based on the European Foundation for Quality Management model EFQM, hence the Impact of total quality management and excellence models on organizational performance has become considerable topic in recent decades, where the growing needs for customers to high quality levels of goods and services led most institutions to adopt modern business models to easily facilitate detailed understanding of who their customers are and identify their needs to develop approaches that meet their expectations. More over some countries in order to compete in international or regional markets adopt quality management standards of goods and services as general rules, and some governments adopt excellence models (Ems) for the national institutions to raise the level of implementation of such models among the country's producers, where their main objective is to provide a common language of excellence between the competitors irrespective of their sectors. Accordingly promoting quality and excellence in

organizations, has become more and more widespread throughout the world in the past three decades. Excellence models (Ems) are widely used for self-assessment as well as for external evaluation and recognition. The two most widespread reference models for frame working EMs are now a days the performance excellence criteria of malcolm baldrige national quality Award (MBNQA) and the EFQM excellence model . Designing different national, regional and sectorial quality awards on the basis of these and other reference models requires consideration of various issues related to complexity, usage and cultural environment of excellence models to be designed. These EMs are widely used in the western and developed countries. Therefore the evaluation of the impact of use of excellence models on organizational performance in order to assess its effectiveness and applicability on sectorial basis is of great importance especially in the developing countries which are characterized by low international market competition due to offering low quality goods and services. This thesis is studying a real experience of adopting the Ems by Sudanese institutions especially in the banking sector where banks unlike other institutions have international relations with correspondents and some other international organizations, and hence the relation between these parties is builds upon Governance, transparency, stakeholders' satisfaction, trust, etc, where these concepts are parts of most Ems models. Institutions adopting such models in a right way are

expected to show an improvement in its general performance and its financial indicators and high levels of stakeholders satisfaction which lead to improvement in its market share and better international relations, this thesis is designed to study the visibility of such assumptions by analyzing the casual relation between the enablers (Leadership, Strategy, People, Partnerships and Resources, Processes) and three of the results side of the EFQM model (People results, customers results , Financial results,).

1.1. Statement of the study problem.

The study and literature on analyzing EFQM model in a holistic way from quality practice and results perspectives is limited (Bou- et al., 2005). The list is shorter if we seek analysis based on causal relationships within the EFQM elements where most studies analyzed isolated associations of casual relationship of the EFQM criteria (Bou-Llusar et al., 2005). Therefore, as Calvo Mora and others , (2015) propose, future study should be focused on exploring the EFQM model enablers and investigate the relationships that are produced between enablers and results side of the model. The same rationale underlies several studies that empirically test a number of causal relationships between some of these elements in the EFQM Excellence model (Dijkstra, 1997; Eskildsen and Dahlgaard, 2000; Esquildsen et al., 2001), as in other quality awards such as the Malcolm Baldrige National Quality Award (Evans,

1997; Wilson and Collier, 2000; Pannirselvam and Ferguson, 2001; Evans and Jack, 2003; Lee et al., 2003). However, it is widely recognized that the empirical study in the causal relationships within the EFQM Excellence model is still limited.

This study take in to consideration the EFQM model causal relation between enablers side and the results side of the model, taking in to account the five enablers (Leadership, Strategy, People, Partnerships and resources and Processes) and three results which are People results, Customers results and business results. The society results isn't taken by this study due to the limited period of the study and also due to lack of data and information about the measurement tools and the impact of social responsibility programs if any within the Banking sector in Sudan .The EFQM model presupposes an association between the enablers and the results, since excellence in the enablers will be visible in the results (Moeller et al., 2000). Consequently, the causal relationships between both domains emerge as important aspects to be analyzed, and this constitute the study problem of this study.

1.2. Study Questions.

This study is answering the following questions;

- 1) What is the relationship between the five enablers criteria of the EFQM (leadership, strategy, people, partnerships and resources, processes) and customers results criteria?
- 2) What is the relationship between the five enablers criteria of the EFQM (leadership, strategy, people, partnerships and resources, processes) and people results criteria?
- 3) What is the relationship between the five enablers criteria of the EFQM (leadership, strategy, people, partnerships and resources, processes) and business results criteria?

1.3. Objectives of the study.

The purpose of this study examining the casual relation between the EFQM enablers (leadership, strategy, people, partnerships and resources and processes) and results criteria (customers results, people results and business results) by Evaluating business and operational excellence of banking sector of Sudan where the EFQM is adopted by Sudanese Banks regulators as an excellent model to improve the performance of this sector in Sudan. This study contribute to the literature body of the causal structure of the EFQM model an empirical evidence about enablers results

criteria relationship. The answers to the above study questions would facilitate the understanding of the direction of the relation of the EFQM model elements, and thus would give some recommendations about the areas where Banking sector units of Sudan should concentrate its efforts in, which can allow better implementation of the EFQM Model by complementing the existing evidence on the structured relation of the EFQM Excellence model elements.

1.4. The hypotheses of the study.

1.4.1 The major hypothesis of the study.

Applying EFQM excellence model have positive significant impact on organizational performance.

1.4.2. Sub hypotheses of the study.

- H1 : leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on employees satisfaction.
- H2: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on customers satisfaction.

- H3: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on business financial results.
- H4: Achieving mission and vision by developing a stakeholder focused strategy have positive significant impact on Employees Satisfaction
- H5: Achieving mission and vision by developing a stakeholder focused strategy have positive significant impact on customers Satisfaction
- H6: Achieving mission and vision by developing a stakeholder focused strategy have positive significant impact on business financial results.
- H7: Appreciation of employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals have positive significant impact on employees satisfaction.
- H8: Appreciation of employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals have positive significant impact on customers satisfaction .
- H9: Appreciation of employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals have positive significant impact on business financial results

- H10: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes, have positive significant impact on employees satisfaction.
- H11: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes, have positive significant impact on customers satisfaction .
- H12: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes, have positive significant impact on business financial results.
- H13: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on employees satisfaction.
- H14: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on customers satisfaction .
- H15: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on business financial results.

1.5. Significance of the study.

Banking sector facing sever difficulties since the Secession of the South Sudan on the 9th of July 2011, where the economy of Sudan has been badly affected. The Government lost 30% of its revenues due to 80% loss of oil exports .The value of the Sudanese Pound against foreign currencies has deteriorated drastically, while the trade balance deficit has widened, and at the same time inflation rates rise steadily. Accordingly. The Sudan Economy has been highly negatively affected during the period 2011-2019 in terms of exchange rates; trade balance; inflation; government revenue; GDP; National Income; Public Savings and recently the physical cash shortage cries. The US Economic Sanctions on Sudan that continue for more than twenty years affect negatively the business and Economic environment of the country in many aspects, specially the international trade relations of Sudan (imports , exports, banks correspondents relations , international banking services, technology , etc.) This situation has formulated a shock to the Sudan economy, specially the Government of Sudan was not assume the Secession of the South Sudan .The banking sector as one of the pillars in any economy is highly affected. hence the theory of banking basically consider banks as finance mediator, that's accumulation of funds for banking sector depends mainly on the volume of public deposits and the volume of pubic deposits depends on the volume of public savings which create the

volume of funds ready to finance business and developmental activities in the Economy. Public deposits which is the main factor for banks to be a life and exist is directly highly negatively affected during the period 2011-2019. During this period the central bank of Sudan as a regulatory body of the banking sector issue and continue issuing hundreds of decisions to control and manage this situation, among which is the application of the EFQM model as modern management approach for all banks operating in Sudan, and delegate the association of Sudanese banks to manage this program. This study is intending to examine the experience of applying EFQM model in banking sector of Sudan in such fluctuating economic situation, via examining the causal relation between the enablers and results criteria of the model.

1.6. Study methodology.

The purpose of the study methodology is to help examine the study assumptions, which can reflect the findings of using the EFQM model in banking sector of Sudan in general. Examining the above assumptions will take place by examining the results of application of the five criteria of the EFQM excellence model at the enablers side which are leadership, strategy, people, partnerships and resources, processes, products and services against the results side of the model taking three results which are Customers results, people results, business results. The primary data will be

collected through questionnaire method from the audiences. The questionnaire applied in this study concern with banking sector of Sudan employees. The sample selected is 351 individuals out of 21,340 of the banking sector employees. The questionnaire is designed based on series of questions to examine the hypothesis of the study. The secondary data collected from the Bank's reports, previous studies, books and scientific journals.

1.7. Organization of the study.

This study consist of six chapters each chapter contained different parts of the study. chapter one elaborates the general framework of the study which include illustration of the study problem, study questions, objectives and significance of the study. It also states summary of the study methodology. Chapter two of this study presents the literature review and the theoretical framework. This chapter conceptualizes the roles of Total quality management and Excellence models in organizations improvement in different countries including Sudan, with emphasis on the EFQM model. The study model which is examining the relation between enablers and some results of the EFQM model is also presented in this chapter. Development of study hypotheses and theories used to explain the relationship between independent and dependent variables of EFQM model are also clarified in. Chapter three explained the macro-

economic on which the banking sector of Sudan is operating, this chapter reflects an outlook for Sudan economy obstacles and fluctuations during the last twenty years with consideration of the economic and political effects on banking sector of Sudan. Chapter four explains the study methodology of the study where the general approach stated. The population, sampling methods and sample size are also explained in this chapter. Data collection and data analysis techniques are also explained. Chapter five illustrates empirical findings and study results. Chapter six include summary of the study, discussion conclusions and recommendations.

Chapter two

Literatures review and theoretical framework

Introduction

In order to highlight the previous studies, systematic review of the literature conducted for the implementation of EFQM, following transparent methodology where the review mainly considered the literature talk about the implementation of the EFQM excellence model, from different sources such as academic and scientific management and quality journal, books, previous studies and studies and online database. Literature mostly selected from the period 1992–2015. This period was chosen because the EFQM excellence model was introduced at the beginning of 1992 as the framework for assessing applications for The European quality award. focusing on studies being conducted on evaluating organizations performance using business excellence models, and relevant TQM tools. This part of the study also focus on the casual relation between the enablers criteria set side and the results set of the EFQM. The study model is illustrated in this part of the study as well as the independent and dependent variables which clarify the logic of hypotheses development.

2.1. Definition of concepts.

- **Total Quality Management (TQM):** Is an approach of managing stakeholder's expectations and business processes to ensure their complete satisfaction at every stage, internally and externally. TQM combined with effective management tools that leads to positive results to ensure doing the right things first time and every time.

- **Business excellence:** Is often described as outstanding practices in managing the organization and achieving results, all based on a set of fundamental concepts or values within a certain framework.

- **Business excellence models EMs:** Are frameworks that could be applied within an organization which can help to improve performance. The models are holistic and cover all dimensions of the organization. These models are internationally recognized as framework to assist the adoption of business excellence principles. Organizations across the world are using these business excellence models as a basis for continuous performance improvement.

- **EFQM model: The European Foundation for Quality Management Model,** Is a model provides a framework allowing organizations to determine their current "level of excellence" and where they need to improve their efforts. The model also helps to ensure that business decisions incorporate the needs of all stakeholders and are

aligned with the organization's objectives. The Foundation set up a team of experts, from industry and academia, to develop the EFQM Excellence model, a holistic framework that 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.

- **The fundamental concepts of EFQM:** are eight concepts defining the underlying principles that form the foundation for achieving sustainable excellence in any organization.

- **RADAR logic:** is a management tool that can be applied in different ways to help drive continuous improvement. It refers to provide a structured approach to questioning the performance of an organization. At the highest level, RADAR logic states that an organization needs to:

- Determine the Results it is aiming to achieve as part of its strategy.
- Plan and develop an integrated set of sound approaches to deliver the required results both now and in the future.
- Deploy the approaches in a systematic way to ensure implementation.
- Assess and refine the deployed approaches based on monitoring and analysis of the results achieved and ongoing learning activities.

- **EFQM criteria:** are elements of EFQM framework that helps organizations to convert the Fundamental Concepts and RADAR thinking into practice.
- **ISO:** International organization for standardization is a worldwide federation of national standards bodies. It is an independent, non-governmental international organization with a membership of 162 national standards bodies. The ISO give world-class specifications (standards) for products, services and systems, to ensure quality, safety and efficiency. These standards are instrumental in facilitating international trade.
- **Customer satisfaction:** Is a measure of how products or services offered in the market meet or exceed customer expectation.
- **Employee satisfaction:** Is the feeling of contentment which an employee derives from his/her job.
- **Performance management:** Is the process of creating a work environment or setting in which people are enabled to perform to the best of their abilities.
- **Performance measurement:** Is the process of collecting, analyzing and/or reporting information regarding the performance of an individual, group, organization, system or component.
- **Performance improvement:** Is a form of organizational development focused on increasing outputs and improving efficiency for a particular process or procedure.

- **Stakeholder:** Is a person, group or organization that has interest or concern in an organization and can affect or be affected by the organization's activities.
- **People:** Are employees of the organization.
- **Benchmarking:** Is comparing ones business processes and performance metrics to another business.
- **Quality Award:** Is a prize to recognize excellence in organizations for their performance; generally given by government or nonprofit organizations after assessing their quality systems.

2.2. TQM and excellence models as framework for risk management in financial institutions.

All institutions at all levels are established to offer goods and services to satisfy stakeholders needs, financial institutions specially banks have a wide range of several stakeholders hence they raise capital through shareholders, accepting deposits from customers and use these funds to offer loans at all levels in the economy including Governments development projects at national levels, Individuals, companies .., etc. and also provide other financial services whether alone or in integration with other financial institutions at national and international levels. The functions of banks make it the Maine player in any economy the thing led to imposing tide regulations

by different regulatory bodies to organize and manage banks' operations at the national and international levels to : manage risk, compliance , financial management, human resource management , customers relations management , IT management, operations management , Governance , .. etc. Banks tend to have different management models to implement policies and decisions of the state and fulfill the requirements of customers, partners, employees, shareholder's needs, regulatory bodies and the society.

In order to meet the expectations of all stakeholders of a bank, there should be systematic approach to recognize these expectations where operational and financial risks could be maintained at the minimum; Total quality management systems and Excellence models can help in obtaining stakeholders future expectations, and by recognizing customers and stakeholders expectations. Risk management plan could be also defined, as well as positive financial indicators could be expected. From firms' perspective, a tension exists between raising expectations to increase initial acceptance and lowering expectations to increase satisfaction, and hence future sales. Service firms that deeply understand their consumers needs, should not be surprise about service level acceptance by their consumers, as well as risk management policies , financial management policies , quality management policies, which could be easily linked to strategies to manage customer expectations over time (Jihoon

Cho A , 2016). Customer satisfaction and retention are critical for banks. Service quality is a major determinant of customer satisfaction, and is increasingly being seen as a key strategic differentiator within the financial services sector worldwide. Conducting frequent assessments of customer expectations is crucial in order to proactively understand and address changing needs in an effort to improve service quality, and ultimately customer satisfaction and hence profitability (Diedré Möller , 2017) . Positive financial results came as a result of customer's satisfaction which came as a result of employee's loyalty and satisfaction that tied to strategy, mission and vision. TQM and business excellence models are recently highly considered when mention the quality of products and services with high respect to customers expectations , where in recent decades customers expectations also considered industry environmental impacts , Community development , industry reputation , human rights at work place, gender issues, staff reputation ..etc. Quality management systems are specialized in different areas within the same industry , where we can find tools for strategy (Balanced score card) , documentation and management system (ISO 9001) , occupational health and safety (ISO 45001) , environmental management system (ISO 14001) , training management system (ISO 10015), process improvement (Six Sigma) ... etc . The recent challenge for management is

how to integrate various well known TQM techniques and tools into one comprehensive framework in a form of integrated management model.

The management model which provides acceptable performance management and measurement system that allows further development to cope with the accelerating needs of stakeholders is the preferable model for Banks, since performance measurement system can provide guidance for strategic decision making and performance management. Management models that provide balanced results (business and non-business results) are mostly accepted by banks and regulatory bodies hence such business models meet the expectations of stakeholders with their different categories while controlling and investigating policies and strategies applied which can help on exploring areas of opportunities , sustainable development and enhance customer satisfaction (Ansari Jaberi, 2009). Such results could be obtained through different business models among which are malcolm baldrige model (Baldrige, 1987), the strategic constituencies model (Connolly et al. 1980) the performance prism (Neely, 2002) , the stakeholder approach (Atkinson et al. 1997), and the EFQM excellence model (1992). The EFQM model as an assessment and development approach is future oriented while other approaches and models are consistent with reality assessment and past assessment (Eftekhari, 2002; Shertan, 2008). EFQM model is an assessment tool that helps get a comprehensive view of

current and future Organizational performance (EFQM 2013). This model is used by quite different institutions and industries among which are Banks.

The financial organizations are quite keen to set out an effective management framework to improve the banking governance , risk management and performance improvement, hence banks are working in a multi dimensions and diverse environment which include depositors, banking services customers , other local banks , staff , owners , suppliers , partners, operators , ICT companies, international banks and financial institutions , Governments , central banks , regulatory bodies , society , ... etc .

Historically the world financial crises affect most economies around the world specially financial and banking institutions, where banks work in national and international environment at the same time. In response to the world financial crises 2008 – 2009 the international business community has faced higher risks, where big banks and multinational companies faced with bankruptcy, most of the financial institutions all over the world faced different levels of problems. The central banks regulations in most countries failed to mitigate the financial crises in most countries, as a result there was an international response via bank for international settlements (BIS) which was established in 1930 and owned by 60 central banks , representing countries from around the world that together account for about 95% of world GDP.

The mission of BIS is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks (BIS Profile / Promoting global monetary/ June 2017). One of the main arms of the BIS to regulate banks and financial institutions activities is the basel committee on banking supervision (BCBS) based in Basel city in Switzerland. The BCBS is the primary global standard setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability. (BIS , 2018). Thus Basel committee concentrate on risk management through publishing a number of Accords and principles relating to capital, corporate Governance , strategy , market risk , operational risk , ..Etc.

The relation between EFQM and Basel Principles and accords are to far extend homogenous in terms of Governance, strategy, market risk, reputation, employees, customers, financial indicators and non financial indicators, hence the EFQM is a multi dimensional model for total quality management that covers most of Basil accords areas. The Basel accords and principles are adopted by central banks as regulations for banks in almost all the countries around the world, that's why it's mandatory for banks to adopt them as internal policies and regulations. The EFQM

can play the role model which can help in implementing and communicating Basel Accords and policies especially those related to Governance, strategy, operational risk, control and Risk management. In the following sections an overview of EFQM will be explained in details.

2.3. Business excellence models and excellence awards.

In order to respond to the highly competitive external environment organizations continuously search for new effective approaches to enhancing their management capabilities through different management tools such as total quality management (TQM), Business excellence models (BEM), business process reengineering (BPR), enterprise resource planning (ERP), organizational change management (OCM) etc. Among these various approaches TQM and business excellence models, which have been among the most popular improvement tools in the past five decades.

The existing BEM have in most cases been developed or been supported by national and international bodies as a basis for award programs and for the widespread adaption of the principles and methods of TQM and business excellence. Today, more than 80 national and state/regional awards base their frameworks upon the Malcolm Baldrige National Quality Award (MBNQA) criteria and the European Foundation for Quality Management (EFQM)/ European Excellence Award criteria

(Mann, 2011), and around 30,000 European organizations were using the European excellence model (EFQM ,2013)

Some study indicates that organizations implementing TQM/ BEM will obtain significant benefits including both increased financial indicators and non financial indicators (Kevin Hendrics & Singhal, 1997; Jonas , Eriksson, 2002) some studies on the financial impacts of implementing TQM and BEM compared 120 national, regional and European award winning companies from the period 1990 to 2006 with careful selected comparison companies from the same industry and country as the award winning company. The analyzed companies were all publicly traded (Boulter Louise, Tony Bendell, Jens Dahlgaard, 2013). Like the study by Kevin Hendrics, which compared 600 award winning companies in North America with selected comparison companies from the same industry, no significant differences in financial results could be found in the implementation period (5 years before the award). During the post implementation period (5 years after the award was given) differences between the two groups of companies became bigger and bigger on several financial results. Compared to the comparison companies, award winning companies experienced 1 year after the award a further 8% mean increase in sales revenues, which increased to 17% 3 years after the award, and 77% 5 years after the award. The award winning companies showed further 5 years after the award a higher

mean increase of 18% in operating income, 40% in total assets, and a 4.4% further reduction in cost over sales.

When we look through the evolution of quality management Concepts shown in figure (2.1) we can notice that the evolution started more than a hundred years ago and strongly expected to be continuing in the future.

It is often perceived that certification of an organization to ISO 9001:2015 quality management standard represents a good starting point on the journey to excellence, giving an organization a stable base for further improvements in accordance with ISO 9004 guidelines for continuous improvement. Nevertheless, this is often not enough for ambitious organizations.

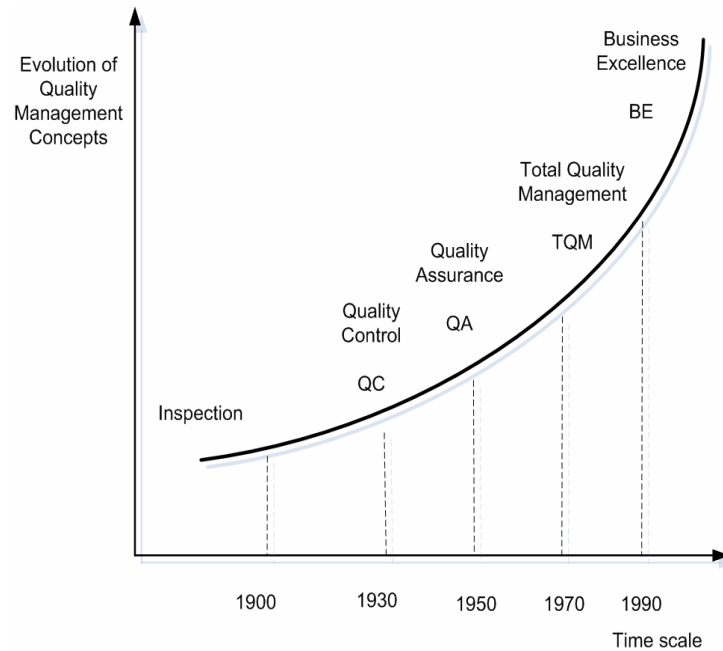


Figure 2.1: Evolution of quality management concepts.
 Source: Fadić, F. (2008).

2.3.1. Deming prize.

Dr. W. Edwards was one of the greatest leaders of quality control and management. His philosophy of using statistics to control manufacturing was developed when he was working at AT&T manufacturing plant. Deming lectured at a seminars where he taught statistical quality control and how to use it effectively. His goal was to find all expected patterns in production so that problems could be easily fixed. He was best known in Japan, where he taught management and engineers the methods for management of quality. The Japanese were interested in his methods, especially at that time when their economy was dreadful. Deming's methods was one of the tools

that helped in increased the economy in Japan. As soon as these drastic changes in Japan began to occur, the Japanese Science and Engineering Association (also known as JUSE) developed The Deming Prize, naming the award after Deming to thank him for everything that he has done to help the Japanese improve their economy. The Deming Prize was given to those who have achieved high quality standards and kept on improving the quality of their services and products. (Deming Prize 2018) .In order to receive the Deming Prize, the Award committee concentrates on several important points at different quality levels such as clear policies, methods, processes, and plans for the company, It is also very important to distinguish the leadership and tasks of different people working in different departments, such as executives and managers. Organization explains the structure of the quality control, how each department communicates with others departments, the structure of quality control, how each department is working to achieve better quality; Information should be used effectively by collecting all relevant information and being able to apply the collected information to data analysis (The application guide for the Deming Prize the Deming Grand Prize, 2018) . Standardization is important to receive the Deming Prize because the award committee looks at , to make sure that the company constantly revises its procedures, meanwhile getting rid of old procedures and applying those that are going to work. It checks how the company implements those

changes and adapts to new changes. Quality assurance consists of developing new products, making sure that they are the right products for the system and that they work, inspecting the products, delivering them to the right location at the right time, and making sure that each customer is satisfied with the products (Deming Award 2018).

2.3.2. Malcolm baldrige national quality award (MBNQA).

In the early and mid-1980s, many industry and government leaders considered the need for a renewed emphasis on quality for doing business in an ever expanding, and more demanding, competitive world market. The malcolm baldrige national quality award was presented as a standard of excellence that would help U.S. organizations achieve world-class quality. The malcolm baldrige Criteria for Performance Excellence have played a major role in achieving the goals established for the baldrige award. MBNQA accepted widely, not only in the United States but also around the world, as the standard for performance excellence is positively linked to results. For over 20 years, the baldrige Criteria have been used by thousands of U.S. organizations to stay abreast of ever-increasing competition and to improve performance and the challenges of rapid innovation and capitalizing on knowledge assets. Whether an organization is small or large, is for-profit or not-for-profit, or has one location or multiple sites across the globe, the Criteria provide a valuable

framework that can help plan and achieve in an uncertain environment. The Criteria help to assess performance on a wide range of key business indicators: customer, product and service, financial, human resource, and operational. The Criteria are built upon a set of interrelated core values and concepts found in high-performing organizations. These core values and concepts are embodied in seven linked categories which together provide the foundation for an organization to integrate key business requirements within a results-oriented framework to create a basis for action and feedback (ASQ 2018). The MBNQA build on integration of six criteria which are leadership, strategy, customers, workforce, operations and results.

2.3.3. Excellence foundation for quality management model (EFQM).

2.3.3.1. The EFQM business model.

This section of the study is designed to discuss the theoretical framework of excellence awards with details to the EFQM model and its interrelated conceptual frames which are the RADAR logic and the eight fundamental concepts. Where other quality management systems (e.g. ISO systems, balanced score card) fits in this approach of management. EFQM theorists provide tools to measure enablers and results, hence these concepts formulate the EFQM philosophy. The EFQM Excellence is based on asset of European values, first expressed in the European

convention on human rights (1953) and the European social charter (revised in 1996). This treaty is ratified by the 47 member states of the Council of Europe and the principles are incorporated into national legislations. The fundamental concepts of excellence build on the foundations of the basic human rights, assuming they are universally acceptable. Recognizing the role business can play a vital role in supporting the broader goals of the United Nations. This initiative encourages organizations to actively apply these values, set out as 10 principles for sustainable and socially responsible business, across their global operations. Whilst number of these principles are explicitly covered in EFQM excellence model, a number are implicit, including those relating to human rights, corruption and forced labor, as these are already a legal requirements within Europe. The EFQM excellence model assumes that an organization will respect and comply with the 10 principles of the UN global compact regardless of whether legally obligated to do so or not, and regardless of the sector, size, structure or maturity. The EFQM excellence model is a practical, non-prescriptive framework that enables organization to assess their performance on the path to excellence, helping organizations to understand their key strengths and potential gaps in relation to their stated vision and mission, provide a common vocabulary and way of thinking about the organization and facilitates the effective communication of ideas, both within and outside the organization. Using

these three integrated components has helped organizations of all sizes and from all sectors to compare themselves with the attributes of sustainable organizations. They can use to develop a culture of excellence, bring consistency to their management style, access good practices, drive innovation and improve their results. The EFQM Excellence model work in integration with RADAR logic and the Eight Fundamental Concepts which can ensure that all the management practices used by organization from the coherent system are continually improved and derived by clear strategy for the organization (EFQM excellence model2013).

The EFQM excellence model is a non-prescriptive framework based on nine criteria as shown in Figure (2.2) 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).

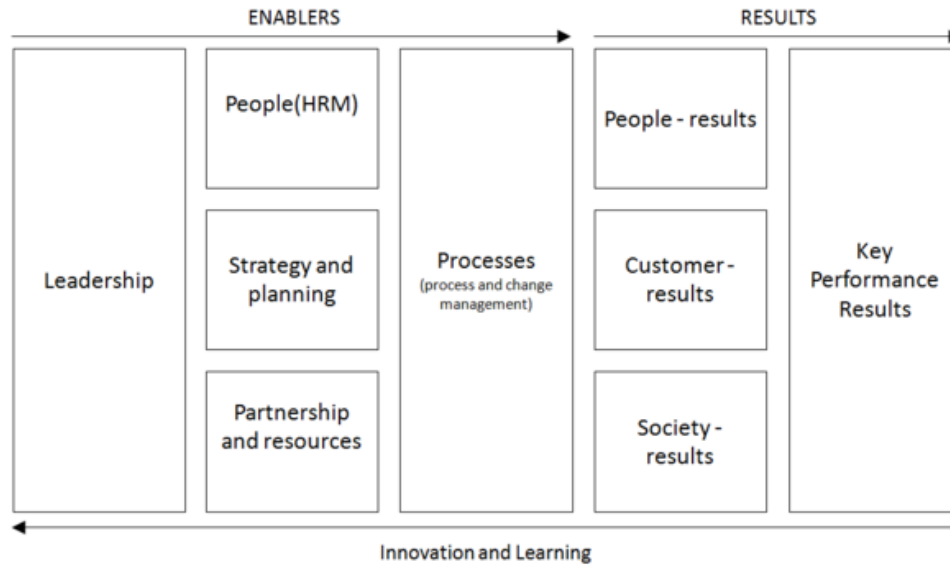


Figure 2.2: EFQM excellence model.

Source: EFQM model 2013.

2.3.3.1.1. The EFQM framework.

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 that the model allows measurement of more than just performance. It also allows for measurement of how the organization operates”. The Model's nine boxes, shown in figure (2.2), 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). To develop the high level meaning further each criterion is supported by a number of sub-criteria. Sub-criteria pose a number of questions that should be considered in the course of an assessment. The detail of this is contained in appendix (3), where below each sub-criterion are lists of possible areas to address. The areas to address are not mandatory nor are they exhaustive lists but are intended to further exemplify the meaning of the sub-criterion (EFQM, 2013).

2.3.3.1. 2. The TQM concepts in relation to EFQM model.

This section discuss total quality management concepts in relation to EFQM where excellence model considered as special types of TQM models that provide 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 achieve sustainable excellence. Within this non-prescriptive approach there are some fundamental concepts which underpin the EFQM model. These are based on well-established total quality management principles, hence the model's original title was 'The European model for total quality management' (Porter & Tanner, 1996). There is no significance intended in the order of the concepts. 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 & constancy of purpose” excellence is visionary and inspirational leadership, coupled with constancy of purpose.”management by processes & facts” excellence is managing the organization through a set of interdependent and interrelated systems, processes and facts.”people

development & involvement” excellence is maximizing the contribution of employees through their development and involvement. “continuous learning, innovation & improvement” excellence is effecting change by using learning to create innovation and improvement opportunities.”partnership development” excellence is developing and maintaining value -adding 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.

2.3.3.1.3. The fundamental concepts of EFQM.

The eight fundamental concepts of excellence applied by EFQM as shown in figure (2.3) represent the way through which general objectives could be drawn where the first concept is dealing with adding value for customers , where excellent organizations consistently add value for customers by understanding, anticipating and fulfilling needs, expectations and opportunities. The second concept is about creating a sustainable future, it describes that excellent organizations should have a positive impact on the world around them by enhancing their performance whilst simultaneously advancing the economic, environmental and social conditions within the communities they touch. The third concept is dealing with developing organizational capability where excellent organizations should enhance their

capabilities by effectively managing change within and beyond the organizational boundaries. The fourth concept concern with harnessing creativity and innovation via generating and increase values and levels of performance through continual improvement and systematic innovation by harnessing the creativity of their stakeholders. The fifth concept is dealing with leading with vision, inspiration and integrity, excellent organizations have leaders who shape the future and make it happen, acting as role models for its values and ethics. The sixth concept concerning managing with agility where excellent organizations are widely recognized for their ability to identify and respond effectively and efficiently to opportunities and threats. The seventh concept is about succeeding through the talent of people, it assumes excellent organizations value their people and create a culture of empowerment for the achievement of both organizational and personal goals. The eighth concept is dealing with sustaining outstanding results where excellent organizations achieve sustained outstanding results that meet both short and long term needs of all their stakeholders, within the context of their operating environment.

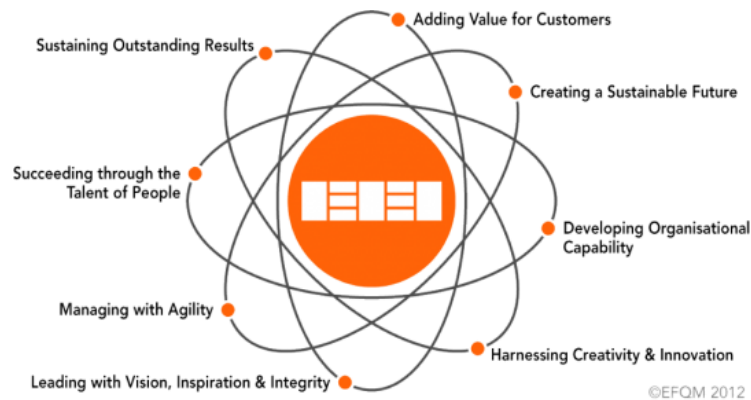


Figure 2.3: The fundamental concepts EFQM excellence model.
Source: EFQM 2013.

2.3.3.1.4. The RADAR logic.

The RADAR logic is a dynamic assessment framework and powerful management tool that provides a structured approach to questioning the performance of an organization (EFQM 2013). This logic as shown in figure (2.4) states that an organization needs four elements to sustain excellent performance, which are:

- Determine the Results it is aiming for as part of its policy and strategy making process. These results cover the performance of the organization, both financially and operationally, and the perceptions of its stakeholders.
- Plan and develop an integrated set of sound Approaches to deliver the required results both now and in the future.
- Deploy the approaches in a systematic way to ensure full implementation.

- Assess and Review the approaches followed based on monitoring and analysis of the results achieved and ongoing learning activities. Based on these findings, identify priorities, plan and implement improvements where needed.

2.3.3.1.5. Applying the elements of RADAR logic.

Applying the RADAR logic to the nine criteria of the EFQM Excellence model is a demanding exercise that requires a sensible implementation approach. (Jackson - 2001) . Some studies recommend introducing the EFQM Excellence model in a "back to front" fashion using RADAR and starting with Results then moving round the RADAR cycle. (Awkati , 2000) as explained bellow:

Results: This covers what an organization achieves, where In an excellent organization the results will show positive trends and/or sustained good performance, targets will be appropriate and met or exceeded.

Approach: This covers what an organization plans to do and the reasons for it where in an excellent organization the approach will be sound , having a clear rational, well-defined and developed processes and a clear focus on stakeholder needs, and will be integrated - supporting policy and strategy that linked to other approaches where appropriate.

Deployment: This covers the extent to which an organization uses the approach and what it does to deploy it, hence in an excellent organization the approach will be implemented in relevant areas, in a systematic manner.

Assessment & Review: This covers what an organization does to assess and review both the approach and the deployment of the approach, where in an excellent organization the approach and deployment of it are subject to regular measurement where learning activities will be undertaken and the output from both areas will be used to identify priorities.

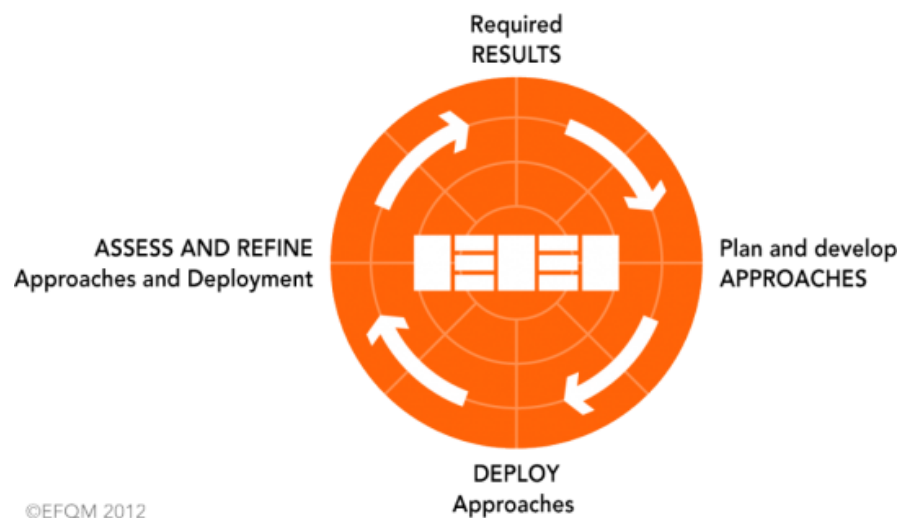


Figure 2.4: The RADAR logic.
Source: EFQM 2013.

2.3.3.1.6. EFQM as self-assessment approach.

"Self-assessment is a comprehensive, systematic and regular review of an organization's activities and results referenced against the EFQM Excellence model. The self-assessment process allows the organization to define clearly its strengths and areas in which improvements can be made and culminates in planned improvement actions which are then monitored for progress , Thus it can be seen as a vehicle for systematic continuous improvement in an organization (Coulambidou & Dale ,1995) . According to EFQM organization self-assessment identified many crucial elements in the organization such as:

- Identify opportunities for improvement.
- Provide new motivation for the quality improvement process.
- Direct the improvement process.
- Manage the business.

Others see different important four main areas of benefit in using self-assessment based on the following points which raised by (Hillman ,1994) :

1. Measurement:

- Gaining consensus on what has been achieved and what still needs to be Done.
- Enabling managers to prioritize action based on facts and identified needs.

- Providing data to compare with, and learn from, "world class" organizations.
- Providing data on improvements over time.

2. Applying best practice:

- Learning from each other and from other organizations.
- Providing objective reviews of progress.
- Providing a common approach to use in all departments and on all sites.
- Minimizing the effort needed to develop assessment methods at different sites.

3. Involvement:

- Enabling everyone to contribute to the assessment process, thereby bringing ownership of the results and proposed actions.
- Enabling staff to see the impact of their improvement efforts.
- Enabling senior managers to drive the improvement process and to empower their staff to exercise initiative at their own level.

4. Reinforcement of direction:

- Demonstrating the long-term commitment, and consistency of purpose.
- Integrating improvement activity into everyday life by focusing on business results.
- Providing a practical tool to drive continuous improvement.

There is clear agreement that self-assessment helps in identifying areas for improvement and directing the improvement process. self-assessment is being viewed from two different angles which are providing motivation for the improvement process and managing the business (Coulabidou & Dale) whereas the other view puts its emphasis on the involvement of staff and the application of best practice (Hillman ,1994) . Self-assessment approach to the management of quality considered as a developmental approach to quality (Barnett ,1992) . The European foundation for quality management organization suggests a number of approaches for self-assessment, which are questionnaire, matrix chart, workshop, pro-forma and award simulation. The EFQM version 2013 recognize that each self-assessment approach delivers different benefits and involves different resources and risks. Before an approach is chosen it is important to consider what the organization is hoping to achieve from using the EFQM Excellence model. For instance, if the aim is to secure a 'quick fix' to a specific problem then this is unlikely to occur given the long-term nature of the Model. Alternatively, if the organization is looking to achieve a quality award it must be remembered that the RADAR scoring matrix awards providing higher scores to organizations who can demonstrate positive trends for more than 3 years, in a wide scope of result areas. There by implying that continuous improvement efforts needed to have been well underway prior to embarking upon

using the EFQM excellence model for attaining an award. In line with this thinking the EFQM model version 2013 have a menu of approaches that organizations can choose from, depending upon whether they are well on the way with applying quality concepts and frameworks. A distinction is also made between the amount of effort required for each approach in terms of low, medium and high effort. Clearly these choices depend upon the availability of resources within the organization regarding commitment, time, energy, information and finance. Likewise the organization may consider applying the EFQM model throughout all departments at once or design a phased approach, whereby some departments can apply it before others, dependent upon the aforementioned resources available.

2.3.3.1.7. The uses of the EFQM excellence model.

The main use of the EFQM excellence model as illustrated before is to carry out self-assessment with the aim of identifying strengths areas for improvement in an organization. A review of the literature, however, shows that there are a number of other possible uses for the EFQM excellence model. These are its uses as a strategic tool, a means of providing a holistic broader view of the business, a tool for performance management, a benchmarking tool, a means of integrating other quality and management initiatives and tools and a means of gaining quality award and its use to motivate staff to get involved in quality improvement activities.

2.3.3.1.8. The EFQM excellence model as a strategic tool.

The use of the EFQM excellence model as a strategic tool and the use of the outputs of self-assessment as an integral part of business and strategic planning are topics that have provoked great debate and a wide range of differing views amongst a host of academics and practitioners. Many writers have strong views that the EFQM excellence model can be used as a strategic tool (Gadd ,1995). Organizations can use self-assessment against the EFQM Excellence model as a strategic tool to build process and achieve integrated management. Some organizations see the outputs of self-assessment as providing a strategic tool for high-level decision-making (Gadd ,1995) . Self-assessment within the EFQM model is holistic, and takes an organization-wide view of the business by focusing on business results and customer satisfaction; it takes a strategic perspective where policy and strategy is an important element of the model and is linked to all the other organizational enablers. Using self-assessment in this way clearly identifies how an organization's strategy shapes its business processes (Porter ,1996) hence self-assessment is a strategic business improvement tool. Managers at the highest level of the organization lead most self-assessments activities where commitment to improvement is demonstrated by senior managers' and directors' involvement in self-assessment activities. The involvement of senior staff makes the use of the EFQM Excellence model strategic in nature. This

does not necessarily follow and neither does the corollary of it, that the lack of senior involvement in self-assessment activities would mean that the use of the model was not strategic (Porter ,1996), However the aspect of customer satisfaction providing a strategic perspective (Gadd-1995) (Leonard & McAdam , 2002). Some organizations considered their initial intent on applying TQM by strongly focus on customers where this point of initial TQM application represents the most strategically important application of TQM hence It has already been identified earlier in this chapter that the EFQM Excellence model is based on TQM principles.

2.3.3.1.9. Academics opinions on EFQM as strategic tool.

Lewis (1999) describes the use of a variant of the EFQM Excellence model as a valuable program to establish strategic management. Price water house Coopers (2000) report that 88% of public sector organizations in their large survey perceived that the EFQM Excellence model helped them to improve their strategic management thinking. Jeanes (2000) sees that organizations are making the model central to their strategic thinking, business planning and daily operation, This view gives the EFQM Excellence model both strategic and operational uses which is supported by Awkati (2000) who reports on the use of the EFQM Excellence model in social services departments. He identifies an increasing use of the model to support strategic and operational activities. Leonard & McAdam (2002) state that the EFQM Excellence

model criteria concerned with policy and strategy also they consider how aspects of TQM have been incorporated in the strategic processes, its clearly obvious that the major emphasis of EFQM model is on policy and strategy development, deployment and communication as can be seen from inspection of the sub-criteria for Policy and Strategy in appendix (3). Co-ordinating between the strategic goals and the activities which will achieve them is the Main link of the model. Leonard & McAdam (2002) also see that the use of the EFQM Excellence model as a model for corporate strategy is undermined by the fact that it is updated every many years and so it is essentially one to two years out of date when used. However the issue of the model being out of date could be apply to any other model considered to be strategic in nature. The EFQM Excellence model is updated every four years or so and the fact that it has changed little over the last twelve years which indicate that it would have provided a reasonable degree of consistency to any organization using it as a basis for its strategy. Leonard & McAdam (2002) argue that the EFQM Excellence model was being used as a framework which provides an organizational overview to support strategic planning, it is possible to view that only highly mature users use the model strategically. Leonard & McAdam (2002) highlighted that an organization using the model provide the overview for its plans, but also its a method of assigning the key processes or issues within the organizational context for strategic purposes. McAdam

and others (2000) explained that, from a survey of 163 public service organizations, found that the use of the EFQM Excellence model has produced improvements in how they developed their strategy, business plans and key measures. This supports the view that there is some evidence to support the use of the EFQM Excellence model as a strategic tool. In addition to the reported direct use of the EFQM Excellence model as a strategic tool, many researchers report the use of the outputs of self-assessment as an integral part of the business and strategic planning process within organizations. In this respect the model can be seen to provide a linkage between improvement activities in an organization and strategic direction. O'Brien & O'Hanlon (2000) report on a case study of EFQM excellence model use that the model was used to align process, team and individual goals with the organization's strategic objectives. Conti (1997) is of the opinion that self-assessment can only realize its full value if it refers to the company's missions and goals as a whole and that self-assessment acquires a strategic value only if a prior link is established with strategic planning, since integration of self-assessment into the planning cycle is a crucial procedure, companies may find it best to adopt a gradual step-by-step approach to integration. Gadd (1995) comments on the action plans arising out of self-assessment and sees their scope as being from a change in strategic direction, to a major process redesign, to some incremental improvements, depending on the

findings of the assessment phase, his study revealed that improvement plans had been adopted as an integral part of the organizations' business plans. He gives the example of the 1994 EQA winners, D2D Ltd, who have built the EFQM Excellence model into their normal business activities where progress on business performance has been realized after implementation and Self-assessment outputs have become a key input to their strategic planning process. McAdam & Welsh (2000) suggest that self-assessment can be a valuable input into the annual business planning cycle. They continue: "In this way the organization's strategic direction can perhaps reflect a more business-focused approach" (McAdam & Welsh, 2000, p.122). Stahr (2001) reports that the agreed outcomes of reviews are used as a basis for the business planning system at Salford Royal Hospitals Trust. Leonard & McAdam (2002), Livsey (1993) and Srinidi (1998) state that there is a natural necessity to align quality programs with business strategy to ensure that quality efforts reflect the long-term goals of the organization. The CMPS Civil Service College Directorate (2002) indicates that the EFQM Excellence model provides a link between what the organization needs to achieve and the strategies and processes needed to deliver its objectives. Tummala & Tang (1996) who's particularly emphasized that quality planning must be integrated into the overall corporate strategic planning process of the organization. Porter and others (1996) state that self-assessment ensures that

business improvement activities are fully integrated with the organization's strategies and plans. They suggest that self-assessment can provide strategic direction for the organization and be a valuable input into the business planning process. This is supported by Pitt (1999) who describes the use of the EFQM Excellence model in the Wakefield and Pontefract Community National Health Service Trust (The Trust). The Trust has adopted the model both as an assessment tool and as a format for many of its documents. For example, the Strategic Direction, Business Plan and Corporate Objectives all make use of the format. Improvement opportunities are fed into the business planning cycle and the process of self-assessment, using the EFQM Excellence model is being developed as part of the business planning cycle. The outputs of self-assessment are one of four main inputs into the business planning process at the Trust along with Market Information, purchaser intentions and service initiatives. Pitt (1999) also reports on difficulties in the timing of the self-assessment cycle and the objective setting cycle (as part of business planning) in the (Trust) when self-assessment was first undertaken, however this was rectified for subsequent cycles. Price Waterhouse Coopers (2000) examined the issue of the integration of the EFQM Excellence model into other business processes in public sector organizations. It was difficult to draw out conclusions from each sector as integration depends on the length of time that organizations have used the model, however 20% of local

authorities believe that they have achieved total integration with their planning processes. This again concurs with the view that it is likely that only mature users of the model will have used it in a strategic manner. It can be seen that the issue of the EFQM Excellence model's use as a strategic tool has provoked a variety of arguments. It would appear from the literature that the organizations which are using the EFQM Excellence model in a strategic manner are quite mature in their use of the model.

2.3.3.1.10. The EFQM excellence model as a means of providing a holistic, broader perspective of the business.

EFQM excellence model being used to provide a holistic, broader perspective of the business. "By providing a holistic view of the organization, the model can provide a framework by which managers can develop a broader perspective of the business and its operating environment" (Gadd, 1995). Managers described the EFQM Excellence model as a framework that assists in providing a conceptual framework to overview the organization through which business improvement can be structured. A study by Leonard & McAdam (2002), focused on the organization as a whole, managers have gained an understanding of how the business knits together, and how all the various divisions, functions and departments integrate. (Gadd ,1995) concludes that, working with managers from other functions form integrated management teams, looking

across the organization and gaining a holistic perspective of the business. An organization which adopted the EFQM Excellence model can take the advantage of improve staff understanding of the business processes and involvement at all levels in decision-making process, including better two-way communication (Chapman - 2000).

Theories promoting the EFQM model states that “Excellent results with respect to Performance, Customers, People and Society are achieved through Leadership, driving Policy & Strategy, People, partnerships & resources and processes. One of the major benefit of the EFQM model proposed is holistic self-assessment process (Porter & Tanner, 1998), since most studies linked this with an increase attention on employees satisfaction and involvement , and this considered as one of the most important drivers of continuous improvement in most classical TQM literature (Deming, 1986; Juran, 1989; Ishikawa, 1989).Employees’ satisfaction is a result of effective management of people. Companies demarche for excellence give primarily concern for their employees (Oakland & Oakland, 1998), hence employees involvement and satisfaction has a positive effect on an organization’s continues improvement, where raising the number of employees initiatives has positive impact on productivity improvement ,and thus involving employees in the companies search for continuous improvement (Dahlggaard et. al., 1998). “A firm that manages to build quality into its employees is already half way toward the goal of making quality products” as Imai (1986) puts it. It is therefore it is vital for any company to identify the drivers of employee satisfaction and loyalty. Optimal utilization of EFQM model is highly related to paying balanced attention and support to the elements of the model at the enabler side, this attitude lead to balance results at the level of results element of the model , the debate of EFQM optimal utilization among studyers and

theorists raised by Dow and others (1999) , Dijkstra (1997), Naylor (1999) ,Eskildsen and others. (2001), Eskildsen , Dahlgaard (1998) , Reiner (2002) , McGee (1993), Sjoblom (1995) and Dale (1997). They were all debating on the significant of equilibrium balance of the efforts being considered at the level of the enablers elements of the EFQM model , although the practice of TQM reflects different results Dow et al. (1999).

2.3.3.1.11. The EFQM excellence model as a tool for performance management.

Several authors report on the EFQM excellence model being used as a tool for performance management, where the model can provide an overall assessment of the organization performance which requires organizations to move more deeply into a performance management culture. Many organizations are using the EFQM Excellence model as the overarching framework to help them achieve a "joined up" performance management strategy (Price Waterhouse Coopers, 2000). A study conducted for 19 large organizations, which were using the EFQM Excellence model and had participated in national quality awards, they concluded that self-assessment helps to focus on performance and so highlights changes and acts as a monitor of the organization (Leonard & McAdam -2002). Stahr (2001) reports that Salford Royal Hospitals use the outcomes of reviews as a basis for the ongoing management board performance-monitoring arrangements. Chapman (2000) reports that the NICO Insolvency Group adopted the EFQM Excellence model specifically to develop performance measures. Study by Leonard & McAdam (2002) demonstrated that the

EFQM excellence model incorporates a comprehensive set of performance measures, beyond financial measures, such a scope in performance measurement helps in representing the role and purpose of public sector organizations.

It can be seen that, according to the majority of literature reviewed, the EFQM Excellence model provides a framework for performance management in organizations. The 'results' criteria of the model provide a means for organizations to set targets and monitor progress against those targets. The RADAR Logic described earlier in this chapter would appear to be particularly useful in this because of the emphasis on setting objectives and assessing and reviewing progress against these objectives.

2.3.3.1.12. The EFQM excellence model as a benchmarking tool.

The EFQM excellence model lends itself for use as a benchmarking tool by examining the implementation of the Model in two organizations which both combined self-assessment with benchmarking (using the EFQM excellence model as a framework) to help identify the key objectives for improvement within their respective organizations, where Subsequently benchmarking has shown progress towards assessing the defined objectives in both companies (Chapman , 2000). The EFQM Excellence model can provides organizations with a temporal or sectoral benchmarking tool and play the role of a vehicle for sharing experience and good

practices (Ghobadian & Woo, 1996), self-assessment enables positive comparisons to be made between departments, divisions and externally against other organizations in a learning culture (Porter & Tanner, 1996) . This activity can help to discover overlooked strengths or areas for improvement and can identify best practices, providing a common framework and a scoring mechanism by which the comparisons can take place. The EFQM award process identifies best-in-class organizations for each element, and so an organization can see, as soon as it has completed a self-assessment to the EFQM model, how its scores compare with those achieved by the best in class. This identifies the size of the performance gap, and points the organization in the direction of particular elements of the model, taking in to account that a comparison of scores on any element of the model is not necessarily taken as a rule. For example two organizations may achieve similar scores through quite different mixes of strengths and areas for improvement. This won't immediately help to guide improvement activities, unless there is an opportunity to discover the reasons why the scores were achieved. The EFQM excellence model provides opportunities to promote and share excellence approaches within different areas of the organization and with other organizations, in other words the model provide an opportunity for benchmarking tool. In summary the EFQM Excellence model provides a common

framework which facilitates benchmarking by providing structural comparing and contrasting strengths and areas for improvement.

2.3.3.1.13. The EFQM excellence model as a framework for integrating other quality and management initiatives and tools.

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 commended the use of the EFQM excellence model to all organizations within the national health service where 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 provides a means for both mapping the areas of impact within an organization of various quality and management initiatives and tools and selecting initiatives in a proactive way to support the development of areas for improvement.

2.3.3.1.14. The EFQM excellence model as a means of gaining a quality award.

Although one of the main reasons that the founder members of the EFQM had for developing the model originally was to provide the basis for an awards process, very few concerns emphasis to the use of the EFQM Excellence model as a means for gaining an award. Porter & Tanner (1996) describe the objective of the European quality awards as being to recognize top quality performances of organizations. They state that winning awards will usually enhance the image and reputation of the organization. In addition to the European awards there are now national and regional awards based on the EFQM Excellence model in Europe. Gadd (1995) suggests that the preparation of an award submission document can be a useful way of gaining a comprehensive assessment of an organization, although the preparation of the document is a lengthy and time-consuming process. Porter et al (1998), having

surveyed 215 organizations and developed 36 in-depth case studies, concluded that winning an award is the Least important reason for using the EFQM excellence model. The EFQM excellence model provides opportunities to recognize both progress and outstanding levels of achievement through internal awards. Although it is difficult to quantify the numbers of organizations using the EFQM excellence model, it is clear from much of the literature reviewed in this chapter that this must now run into many thousands of organizations. Only a relative handful of organizations apply for a quality award in any particular year (EFQM, 2013). This would suggest either that the organizations do not consider themselves ready to apply for an award or that they are using the EFQM Excellence model for other purposes rather than a means for gaining quality award.

2.3.3.1.15. The EFQM excellence model as a means of motivating staff to get involved in quality improvement activities.

Some commentators view the EFQM excellence model as a tool for increasing staff involvement in quality improvement activities within organizations. An extensive survey by Coulambidou & Dale (1995) revealed the major reasons that organizations gave for justifying their continuing with self-assessment. One of the major reasons was that it provided new motivation for the quality improvement process. Hillman

(1994) sees that self-assessment can be used to increase the involvement of staff enabling everyone to contribute to the assessment process, thereby bringing ownership of the results and proposed actions, enabling staff to see the impact of their improvement efforts and enabling senior managers to drive the improvement process and to empower their staff to exercise initiative at their own level. Porter & Tanner (1996) suggest that self-assessment helps to motivate people and gives a fresh impetus to business improvement programs. Self-assessment is a team activity, which engages team members in focused continuous improvement. Organizations find that one of the key benefits of their approach to self assessment is the development of the people involved (Porter -1998). Self-assessment encourages an ethos of continuous process improvement, and involves senior management in this process (Gadd -1995) .The EFQM Excellence model for self-assessment provides a means to create enthusiasm amongst the people within the organization, involve them in the improvement process and give fresh impetus to their pursuit of business excellence. EFQM Excellence model improve staff understanding of the business processes and improve involvement at all organizational levels in the decision making process, it's an opportunity to motivate staff to get involved in quality improvement activities and can be used to reinvigorate improvement initiatives .

2.4. Previous studies conducted in Sudan.

This section illustrates some of the previous studies and papers that concerned with the relation between Total Quality Management application and operational and institutional performance of some Sudanese Institutions , The selection of these studies consider the application of TQM in different sectors of Sudan Economy (Banking , Industrial , Training) where three of these studies were being conducted in the banking sector of Sudan. These studies explore the impact of Applying TQM as management Systems on Such different Institutions.

One of the latest published papers by Inshirah Elmaghrabi and Others (2015) discuss the impact of ISO standards application on IT Security and support Requirements of E-Banking in Sudan , the paper describe the advances in information and communication technology (ICT) as the most important commodity in the digital information age, characterized by ease of communication and abundance of information and networks throughout the world, Which has great effect on the development of all industrial sectors including banking industry, where Banking services has started by traditional means, then electronic systems were used in banking transactions, and later they turned into what is known as Electronic banking “e-banking” which has revealed many risks. It was found that information risks increase with the development of technology. This raised the importance of

information security to ensure optimal use of resources and full adoption of best practices to achieve the level of security required to protect e-banking. The study aimed to measure the application of security requirements for e-banking, according to a series of ISO 27000 standards in Sudanese Banks. The study referred to a set of hypotheses which include planning for the creation and documentation of administrative and technical unique security requirements of the organization according to the standard ISO 27001 documentation which affect positively the level of security and supposed to reduces risk, implementation of administrative and technical unique security requirements of the organization according to the standard of practice ISO 27002 also affect positively the security levels and hence reduces risk, setting and using measures to assess the implementation of the administrative and technical security requirements, and setting corrective and preventive actions for the administrative and technical security requirements that are based on the results of the auditing and assessment can affect positively the continuous improvement of information security management system. The study findings conclude at a apposite relation on reducing IT operational risk and application of ISO 27001 among the Sudanese Banks.

Another study by Abdelbaset M.A. Galal conducted in 2009, discussed The impact of applying Basel 1 Accord and the restructuring program on the Sudanese Banking

System between 1997-2006 , and to what extent Basel 1 accord affected the financial conditions of the Sudanese Banking system, and whether its application minimizes non-performing loans and at the same time building sufficient provisions , by analyzing the performance of 21 banks within a three periods i.e. post application Basel 1 Accord, time of the first application of re-restructuring and prior period of applying re-structuring in the second tier way. The most important findings are Basell Accords application and restructuring program led to the commitment of more than 50% of the Banks by the minimum level of the capital adequacy. Regarding the Banks in adapting their conditions based on owner-equity (Minimum capital requirements) it is found that during the period 2000-2002, 50% of banks did not adapt their conditions whereas, only in 2006, 67% banks adapted their conditions. The Recommendations of the Study are concentrated in necessity of putting strategy to stand the minimum limits of capital and provisions, Building sufficient provisions and reserves, with lying down plans to be maintained in the market and plans to raise and downsize expenses to the acceptable standard level.

Examining Prospects of the Application of total Quality Management (TQM) Approach on Commercial Banks in Sudan was discussed by Abdelmageed Mahamoud Abdelmageed (2005) where the objective of his study is to examine the effect of the application of TQM on Sudanese Commercial Banks. This study

illustrated the capability of TQM to transform any organization to a successful business unit, where this issue is gaining worldwide popularity, hence TQM means commitment to excellence in product or services produced, and putting customers both internal and external in focus to meet their requirements. It includes all of the fundamental management techniques. Quality is the key to profitability, and there is correlation between customer satisfaction and quality. Satisfied customers not only bring return to the business, but also represent powerful advertising force. Likewise, dissatisfied customers not only become customers for competitors, but also represent negative advertising force. This study explained that one of the major challenges for banks would be to continuously meet the changing and rising expectations of the customers who are in fact becoming aware of top-notch services that meet their present and future needs and expectations especially In view of the increasingly competitive environment. Also the study discussed problems of coping with the international standards criteria, such as Capital adequacy standard according to Basel Accord and Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and also Lack of transparency .The further pending problem of Sudanese commercial Banks is that in the absence of international Islamic Monetary Market, they face serious liquidity constraints. This is because they cannot borrow from the international financial markets, due to the extend interest-bearing loans. The findings

of the study was that : apply of TQM approach by Sudanese Commercial Bank is being an essential elements of management philosophy such as customer's satisfaction (both internal and external) new performance assessment tools and mechanisms should be introduced in order to meet present and future requirements of stakeholders. Also Sudanese Commercial Banks lack method of measuring their employee's attitudes and the impact of job satisfaction on productivity. The employees are not well acquainted with TQM concept as prescribed by ISO. In view of the above the studies recommends focusing on customer satisfaction is real measuring and lead to creation of clear relationship with customers to retain their loyalty. In this regard, the impact of poor quality and customer's dissatisfaction on bank's services will affect profits and hence accumulated capital. Finally the studies recommends encouraging commercial Banks accreditation to international standard (ISO).

Another Study to examine the relation between application of quality management system and institutional improvement was presented by Faisal Bashir Musa which assess the Impact of Implementing Quality Management Systems (ISO 90 01/2008) on Improving Organizational Performance in Sudan Customs Authority in the period 2010-2014 .This study aimed at explaining the impact of implementing quality management in Sudan customs authority through various mechanisms which include

: the nature of the relationship between its application of quality management system and the improvement of institutional performance, demonstration of the level of employees satisfaction, activeness of quality management system application (ISO 9001/2008) and the achievement of the strategic goals of Sudan Customs Authority. The study revealed existence of statistically significant relationship between the application of quality management system and the employees satisfaction of Sudan customs Authority and also the result revealed statically significant relationship between the application of quality management system (ISO 9001/2008) and the achievement of the strategic goals of Sudan customs Authority. The Maine recommendation of the study is the need to adopt a systematic continuous improvement programs which can improve the work environment to keep pace with developments in a modern business environment.

The Entrance of total Quality Management and its impact on human Resources Development in Dall Industrial Group (Capo Dairy Factory & Sayga Flour Mills) is a title of study being presented by Mubarak Daood Sulaiman Hassan. The study covered the period between 2010-2104. The aim of this study is to measure the impact of applying Total quality Management (TQM) approach on human resources development in a production organization. The outcome of this study found that there is appositive relation between the applications of TQM approach with human

resources development in productive organizations. Also the study showed differences in the views of the study samples with respect to the development of indicators so as to measure the capabilities of the organizations.

The role of Total quality management in Enhancing the vocational training services, was discussed by Abd Alrahim Mohamed Ahmed Mohamed (2014) through a case study of Khartoum state vocational Training and Entrepreneurship Development project ,This study presents a practical successful attempt to use the TQM in business services which can help practitioners in reliable basis, where the TQM provide a comprehensive system for all processes at the administrative and technical dimensions. That can lead to contribution in developing the vocational training sector, hence the importance of vocational training services sector based on capacity building and skills for those interested in job creation which Can play a vital role in absorbing large proportion of unemployment in the economy in many countries of the world, the application of training competencies system under the proposed perspective may contribute to raise the numbers of effective professional training centers and improve the output of its operations according to the criteria of world records performance, which contributes in increasing employment opportunities for the beneficiaries of vocational training and skills of business services in the internal and external labor market, also it contributes to the provision of professional

expertise to attract investment to areas where human cadres have the required skills . The study aimed to add a new dimension and attempt to study strengthen the traditional pattern of vocational training in Sudan through the TQM, that is by adding new value by focusing on the beneficiaries of vocational training services and provide customized service. Also the study aimed to develop a conceptual framework of the principles of total quality management in achieving the quality of services, takes into account the specificity of the process of producing the service and then distinguish them from the process of production of the commodity. The study points of discussion were around the question of how can the principles of total quality management contribute to gain trainers satisfaction for vocational training services, and job satisfaction for workers in vocational training centers as well as improve business skills which can be reflected in increasing the effectiveness of the activities and operations . The study outputs prove all the points of discussion as positive.

Another thesis reflects the impact of application of Total Quality Management in foreign Direct investment in Sudan, studied some Enterprises in the Industrial Sector in Khartoum State during the period 2003- 2012, by Duria Haidar, Sidig Musa (2013) . The Study tried to identifies the reality of applying Total Quality Management at the industrial enterprises. The study summary was “ applying the Total Quality Management system in most of the direct foreign investment has great

impact and positive output on these investments”. The significance of this study is to shed light on the foreign direct investment, of which economical, political and social impact is reflected on the country and its role in transferring technology and human development by applying Total Quality Management approaches , where National Industry will be forced to shift to Modern business environment , which can Facilitate customers and employees satisfaction , the thing which can lead to Improved product quality and hence increase profits, and so increase market competition of the National Industry .

Another study to assess the impact of the application of Quality Management systems to increase the effectiveness of performance in Sudanese industrial facilities between 1999 and 2005, was conducted as the case of some certified facilities of ISO 9001: 2000. (Arfa Gibreel Abu naseb Musa , 2006) where the studyer elaborate the significant of quality management systems as an important entry point to bring about radical change in the structure of any institutions and the emergence and importance of quality management standards as an engine of the economy. where a group of standards of the International Organization for Standardization (ISO) such as ISO 9000 which provide assurance of quality management system of the organization, and ISO 14000 standard which provide a frame for the environmental management systems and so on. The study focused on the relation between higher

productivity and efficiency and quality management systems within Sudanese industrial sector. The study discussed the following topics: Knowledge developed from the application of quality management systems in relation to the development of products according to the customer's desire, Organizational culture, causes of low productivity, the relation between productivity and profitability, management commitment to continuous development and improvement. The study reach to certain relation between different management tools which are , a positive relation between the application of quality management systems and the development of Sudanese industrial institutions, There is an inverse relationship between the lack of quality system design and product quality (goods or services) offered by the institution to target group, There is a positive relationship between supporting and helping of the senior management to the quality system in industrial institutions and efficient application of the quality system, There is a positive correlation between the lack of obstacles that hinder the implementation of quality management systems and technical development for industrial facilities. Also the study find that, Companies which can build strong relationships with customers and provide superior management relationship based on proper understanding of the desire customer can increase profitability and productivity and increase customers' confidence with these companies.

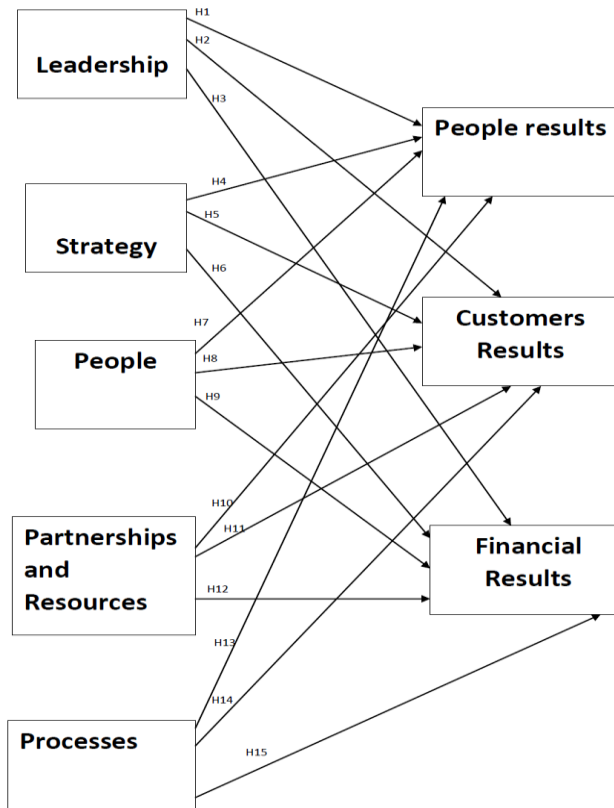
This Study is examining the Quality Management System as a management approach rather than an individual management system, through examining the casual relation of the EFQM enablers results elements.

2.5. The study model.

The TQM deals with the totality of application of quality principles at all activities levels of the organization, where interdependence of TQM principles and practices leads to a holistic view of quality management (McGee, 1993; Dow et al., 1999) based on such literature the harmony application of quality practices is necessary for realizing the full benefits of any TQM program (Tamimi, 1998). The EFQM excellence model does not only reflect associations between the components in each of its domains, but also suggests that the enabler criteria have a direct influence on the results. (J. Carlos Bou-Llusar, Ana B. Escrig-Tena, Vicente Roca-Puig, Inmaculada Beltrán-Martín, 2005) .Excellence enablers will lead to superior results (Moeller et al., 2000; Prabhu et al., 2000). This implies that excellent results with respect to performance, customers, people and society are achieved through leadership driving policy and strategy, partnerships and resources, and processes (EFQM, 2013).Despite the fact that the causal relationship between enablers and results constitutes the full power of the model (Naylor, 1999) , the causal structure of the model can define the dynamic logic of the model. Conducted study on the

relationship between people, processes, people results and key performance results concluded to that weaknesses in the management of people and processes can be seen in people results and key performance results where Eskildsen and Kanji (1998) demonstrated three partial linkages on this issue. Another study found strong association between people , people results where emphasis on leadership and customers, through the assurance of good training for employees (people) and people-related issues on operational performance measures can have significant effect on employees satisfaction, customers satisfaction and business results (key performance results) (Prabhu et al. 2000).

The study model of this study is designed upon the causal structure of the EFQM model which intended to examine the causal relationship between the elements on each side of the model and weather, enablers and results can be treated as two interdependent sides. Hence the five enablers are the independent factors and customers results , people results and business financial results are the dependent factors as seen in figure (2.5) , where the hypotheses of the study reflects positive significant effect of the five enablers on customers results , people results and business financial results.



Enablers have positive significant effect on Results According to EFQM model

Figure 2.5: Study model.

Source: Prepared by researcher (2019).

2.5.1. The variables of the model.

The variables of the model include eight variables reflected in the EFQM as the first eight criteria, which include the five enablers of the model, and three results. These formulate the independent and dependent variables of the model as seen in figure (2.5).

2.5.1.1 The independent variables of the model.

The independent variables of the model Include the left side of variables in figure (2.5) which reflect the enablers side of the EFQM model which are Leadership , Strategy , People , Partnerships and resources and Processes . This section illustrate definitions and description of these variables of the model.

2.5.1.1.1 Leadership.

The business environment all around the world recently has faced accelerated dynamic changes due to rapid technological development in recent decades, unprecedented market competition, exponential surging and accelerating customer expectations, changing governmental policies and regional and international regulations (Anupam Das, et al., 2011),forced many corporations to transform their management approaches to cope with these circumstances in order to empower their abilities to meet the customer requirements in different perspectives such as quality, service, innovation, speed, and price. Other corporate goals are to increase flexibility in meeting new competitive conditions and to create frameworks that can enable them to continuously improve their business Performance. (Anupam Das, et al., 2011). Academics and practitioners both agree that appropriate managerial leadership is one of the factors that determine the variation in the success rate of corporations

(Perles, 2002). The Deming Prize, European quality award (EQA), and the Malcolm Baldrige National quality award (MBNQA) also recognize the crucial role of top management leadership in creating the goals, values, and systems that guide the pursuit of continuous performance improvement. (Anupam Das, et al., 2011). Leadership goes beyond the boundary of formal power where leaders can create a new environment in the organization by their inter-personal relationships and influences which involve others in the change initiative through affecting others out of formal authority to extend one's performance capabilities and empower them to do their best (Mumford et al., 2000). According to Spreitzer and others (1997) competent leaders have interpersonal skills that help them in bringing out the best in people, increasing their capability for cooperation and team building, attracting and developing talent, motivating and aligning people to the vision. Some authors in the TQM literature pointed out that leaders are able to influence the feeling of their followers to provoke creativity, develop integrated teams, define and communicate a shared vision, and generate compromise (Guille'n and Gonza'lez, 2001; Goetsch and Davis, 2006). According to Kotter (1990) leaders play three roles: setting a direction, aligning people, and motivating and inspiring people. According to Barner (2000) leadership competencies can be defined as the ability to adapt, effective interpersonal communication and good Decision-making. Leadership competencies are considered

important for several reasons which including the fact that they guide direction, they are measurable, and competencies can be taught (Intagliata et al., 2000). Leadership competencies are used as the basis for strengthening an organization's leadership team and determining the types of educational and leadership development opportunities that are needed for future leaders (Barner, 2000; Ulrich et al., 2000). According to Brake (1997) competent leaders have a global mindset; they seek knowledge and expertise beyond boundaries and draw information from many sources in many ways, Competent leaders also need to stay abreast of world standards of competition and know what it takes to match and beat those standards (Birchall et al., 1996); they need to understand the global nature of their business and be able to analyze current trends and market conditions (Brake, 1997).

The EFQM Excellence model defined Leaders as those who develop and facilitate the achievement of the mission & vision, develop values required for long term success and implement these via appropriate actions and behaviors, and are personally involved in ensuring that the organization's management system is developed and implemented, Leaders play the role models of culture of excellence in terms of ethics and values, they are reviewing and improving the effectiveness of their own leadership and acting upon future leadership requirements, being personally and actively involved in improvement activities, stimulating and encouraging

empowerment, innovation and creativity e.g. by changing the organization's structure, funding learning and improvement activities , encouraging, supporting and acting upon the findings of learning activities , prioritizing improvement activities, encouraging collaboration within the organization. Leaders are personally involved in ensuring the organization's management system is developed, implemented and continuously improved, and such activities can include aligning the organization's structure to support delivery of its policy and strategy; ensuring a system for managing processes is developed and implemented; ensuring a process, or processes, for stimulating, identifying, planning and implementing improvements to enabling approaches e.g. through creativity, innovation and learning activities. Leaders are personally involved in ensuring the organization's management system developed, implemented and continuously improved and this is could be attained through meetings, understanding and responding to needs and expectations; establishing and participating in partnerships; establishing and participating in joint improvement activity; recognizing individuals and teams of stakeholders for their contribution to the business, for loyalty etc; participating in professional bodies, conferences and seminars, particularly promoting and supporting Excellence supporting and engaging in activities that aim to improve the environment and the organization's contribution to society. Leaders motivate, support and recognize the organization's people and this

may include personally communicating the organization's mission, vision, values, policy and strategy, plans, objectives and targets to people; being accessible, actively listening and responding to people; helping and supporting people to achieve their plans, objectives and targets; encouraging and enabling people to participate in improvement activity; recognizing both team and individual efforts, at all levels, within the organization, in a timely and appropriate manner.

2.5.1.1.2 Strategy.

Organization formulate strategies that shows the direction in which the organization needs to move, which allows organizations to direct their efforts towards an identified objectives (Candido & Santos, 2011). Strategic planning help in providing good understanding and managing of business specially in complex markets which in most cases characterized by certain levels of uncertainty, strategic planning and strategy implementation that help in developing relationships with clients and suppliers and creating partnerships represents a good practice of successful companies (Ishaq, 2012). The concept of strategy covers two different areas, which are strategy formulation and strategy implementation. Strategy formulation basically related to the activity of setting the strategy, and this task is classically taken by top management (Ole Friis et al., 2016). Formulating strategy in a changing environment

is not a simple task, and it requires a huge effort such as data gathering and analyses, preparation of documents, reports and presentations, meetings, conferences and workshops. It is expensive work that often involves managers, strategic planners, management consultants, communication specialist, lawyers, financial specialist, etc (Whittington, 2003) these activities include systematic analyses of the business environment , strengths and weaknesses (Porter, 1980), the core competences (Prahalad and Hamel, 1990) or dynamic capabilities (Teece et al., 1997; Regnér, 2008). The strategy literature basically rely on the rational mode of top management which is supposed to takes in its consideration all available alternatives into account, identifies and evaluates all consequences related to the alternatives, and selects the optimal options (Ole Friis et al., 2016), Thus, strategy-making (and thinking) is a rational process from analysis to explicit goal-setting to evaluation of generated alternatives and choices ,to a plan for achieving the goals being determined developed (Andrews, 1971; Ansoff, 1965,Porter, 1980). The second and the most crucial part of Strategy is the strategy implementation which affects the entire organization it requires communication, allocation of resources, change management, etc. (Hrebiniak, 2006). The EFQM model define excellent organizations as those which implement their Mission and Vision by developing a stakeholder focused objectives which based on understanding the needs and expectations of both

stakeholders and the external environment as well as internal performance and capabilities , which are reviewed, updated communicated, and monitored on regular basis, by using mechanisms that help in identifying changes in the external and internal environment and translate these into potential future scenarios for the organization, where such tasks could be performed through deferent activities which include ; analyzed operational performance trends to understand their current and potential capabilities and capacities and identify where development is needed to achieve the strategic goals; analyzed data and information regarding existing and potential partners' core competencies and capabilities to understand how they complement the organization's capabilities; Determine the potential impact of new technologies and business models on the performance of the organization ; Compare their performance with relevant benchmarks to understand their relative strengths and areas for improvement. The EFQM model also defined excellent organization as those which Create and maintain a clear strategy and supporting Policies to achieve the Mission and Vision of the organization, Integrate the concepts of sustainability within their core strategy, value chain and process design and allocate the resources required to deliver these goals by Adopt effective mechanisms to manage the strategic risks that identified through scenario planning and generate shared value to benefit wider society. The EFQM model considered the communication,

implementation and monitoring of strategy as the vital link for successful strategy and link could be achieved through different activities among which are translating strategies into aligned processes, projects and organizational structures, ensuring changes can be implemented with appropriate speed throughout the value chain; Establish targets based on comparisons of the performance with other organizations, current and potential organizational capability and strategic goals ; Ensure that financial, physical and technological resources are available to support organizational development ; Deploy strategy and supporting policies in a structured manner to achieve the desired set of results, with clearly defined “cause and effect” relationships ; Set clear goals and objectives for innovation, based on an understanding of the market and opportunities, supported by appropriate policies and resources ; Communicate strategy and supporting policies with relevant stakeholders.

2.5.1.1.3. People.

Investment in human capital is one of the successful factors of any business success, so as to build and retain that resource in the future and to retain that resource in the present, contribution to the organization human capital may build their competitive advantages (de Geus, 1997; Currie, 1998; McCracken and Wallace, 2000). An organization can develop several tools and factors through which can build

competitive advantages among which is the human capital, through whom an organization can possess core competences (Prahalad and Hamel, 1990). The relationship between human resource management practices and business results is built on the premise that better deployment and use of human resource should correlate to better business performance (Ulrich, 1997) , that's Valuing human resources results in several positive individual and organizational outcomes, such as higher performance (Sandberg, 2000), high-quality individual and organizational problem-solving (Schroder, 1989), enhanced career plans and employability (Weick, 1996; Raider and Burt, 1996), sustainable competitive advantage (Winterton and Winterton R, 1996), higher organizational commitment (Iles et al., 1990), and enhanced organizational retention (Robertson et al., 1991). It is widely known from practice that employee participation and empowerment, job design including team-based production systems, extensive employee training and performance-contingent reward systems are widely believed to improve the performance of the firm (Pfeffer ,1994). Employee productivity, machine efficiency and customer alignment are related to organizations focus on human capital management (Youndt et al. 1996) . Huselid et al. (1997) found that firm effectiveness was associated with the capabilities and attributes of human resource ,Further they concluded that there is a positive relation between human capital management effectiveness and productivity,

financial results and market value of the organization. Illustrating Human factor within the organizational culture can accelerate successful implementation of total quality management (TQM) programs (Rad, 2006) According to EFQM excellence model criteria People are the ones who achieve the occurrence of the quality in the company where successful organizations manage, promote and develop the potential of their employees at the individual, team and organizational levels . Organizations that focus on continues training and encouragement of their people are choosing the best way to achieve success (Tari et al., 2007). Trained and rewarded employees are able to identify and solve problems, improve work methods and take responsibility for the quality (Lam et al., 2011).

EFQM criteria define excellences organizations in many terms among which are people, where they value their people and create a culture that allows the mutually beneficial achievement of organizational and personal goals, they develop the capabilities of their people and promote fairness and equality. They care for, communicate, reward and recognize, in a way that motivates people; Builds commitment and enables them to use their skills and knowledge for the benefit of the organization; People performance levels, plans and objectives are clearly defined and aligned with the organization strategy; Involve employees and their representatives in developing and reviewing the strategy policies and plans:

Adopting creative and innovative approaches when appropriate and support to ensure fairness and equal opportunities, effectively plan to attract, develop and retain the talent people and use appropriate strategies and tools to maintain a dialogue. Excellence organizations Develop people's skills and competencies to ensure their future mobility and employability, Ensure their necessary competencies, resources and opportunity that allow them to maximize their contribution taking in to account that innovation can apply to products, processes, marketing, organizational structures and business models; Create a culture of creativity and innovation across the organization, ensuring people have an open mind-set and can respond quickly to challenges they face. Excellent organizations encourage their people to be ambassadors of the organizations' image and reputation; communicate a clear direction and strategic focus to ensure that people understand and can demonstrate their contribution to the organization's on-going success. Enable and encourage the sharing of information; Develop a culture that continually seeks to improve the effectiveness of collaboration and teamwork throughout their value chain ; Alignment of remuneration, benefits and terms of employment with transparent strategies and policies ; Ensure a healthy work / life balance ; Respect and embrace the diversity of their people and the communities and markets the organization serves.

2.5.1.1.4. Partnerships and resources.

Strengthening weak aspects of any business due to decreasing of value creation over time, might create an intention for partnerships with other specialized outsource companies in order to improve effective adaptation in a competitive environment. Since 1990s the perspective of outsourcing has engaged strong attention as a key enabler of higher performance in manufacturing companies (Ellram, 1991; Lambert et al., 1996; Mohr and Spekman, 1994; Peters, 1991). Since the end of the last century, academics and practitioners alike have given strong recommendations for companies to collaborate (Lambert et al., 1996; Lemke et al., 2003; Mentzer et al., 2000; Mohr and Spekman, 1994). Outsourcing has become a strategic imperative as organizations seek to reduce costs and specialize in a limited number of core areas. Business process outsourcing has grown as organizations have been transferring responsibility for entire functions such as procurement, logistics, customer contact, information technology and legal support (Mani et al. 2010). Performance improvement has become a key objective for organizations in business process outsourcing arrangements. The motivations for Business process outsourcing have evolved from a primary focus on cost reduction through lower vendor production costs, to an increasing emphasis on performance transformation in areas such as quality, functionality, and service (Handley and Benton, 2012), rather than attempt to

improve performance internally, companies are using outsourcing to consolidate and standardize processes, achieve economies of scale, access skills at a lower cost, and improve service quality (Li et al. 2008). The EFQM Criteria of partnerships and resources define excellent organizations as those which plan and manage external partnerships, suppliers and internal resources in order to support their strategy, policies and the effective operation and processes. They ensure that; they effectively manage their environmental and societal impact where Partners and suppliers are managed for sustainable benefit; funds are managed to secure sustain Buildings, equipment, materials and resources; Technology is managed to support the delivery of strategy; Information and knowledge are managed to support effective decision making and to build the organization's capability; Partners and suppliers are managed for sustainable benefit via segmenting them in line with the organization's strategy, and adopt appropriate policies and processes for effectively working together for the sake of building sustainable relationship with partners and suppliers based on mutual trust, respect, openness and establish appropriate networks to enable them to identify potential partnership opportunities to enhance their capabilities and ability to generate additional stakeholder value. The EFQM consider the purpose of utilizing the financial resources is to secure sustained success and to support the overall strategy of the organization and ensure financial resilience in

order to optimize the use of resources, Allocate resources for long-range needs rather than just short-term gain and optimize the use and effectively manage the lifecycle and physical security of their tangible assets and work to minimize their local and global environmental impact, including setting challenging goals for meeting legal standards. The EFQM consider technology one of the main factors for business excellence, where excellent organizations view technology to supports the organization's overall strategy; improve the agility of processes and projects. Development and deployment of new technology involve relevant stakeholders to maximize the benefits generated as an added value for the organization in the light of their impact on organizational performance and capabilities, hence technology is developed to support the culture of creativity and innovation. The knowledge and information created within the activities of the organization are managed to support effective decision making and to build organizations capability through transforming data into information and where relevant in to knowledge that can be shared and effectively used, Establish approaches to engage relevant stakeholder's networks to identify opportunities and use their collective knowledge in generating ideas and innovation that can be transformed into reality within timescales that maximize the advantages that can be gained.

2.5.1.1.5. Processes.

The whole activities of the organization are seen as processes (Harmon -2010, Davenport -2005, Bititci et al. -2010) , the key driver of any organizational success is the way these processes are manage, hence everything may be looked as process (Deming, 2000; Slack et al., 2006), a key factor of the organization's ability to cope and react positively to threats, opportunities and sustainably is the degree of maturity and capability of business process (Harmon, 2010; Bititci et al., 2010) where sustainability in such perspective refers to an organization's capability to maintain and improve its performance overtime. The sustainability of an organization in the market is highly related to its position among competitors where an organization with well-developed processes, enabling horizon scanning, monitoring, controlling with continuous improvement are likely to outperform their competitors and sustain their performance (Eisenhardt and Martin, 2000; Winter, 2003; Davenport et al., 2004, Morgan, 2006; Helfat et al., 2007; Bititci et al.,2010; Harmon, 2010). The thought of business process improvement and change management have took big space and widely recognize among thinkers, academics and management professionals (Harmon, 2010; Davenport, 2005; Jeston and Nelis, 2008). The quality management and IT revolution in management systems considered business processes and processual thinking as central concepts that pave the way for new tools , systems and

methods for business process improvement, such as Lean and Six-Sigma (Pande et al., 2000; Hammer, 2002; Antony, 2006; Zu et al., 2008; Schroeder et al., 2008). When taking business processes from systems point of view, critical prerequisite for specification, interrelations and networking, design and implementation of effective information systems are highly considered (Dumas et al., 2005; Davenport et al., 2004; Jeston and Nelis, 2008). Business process as a system is defined as a series of continuous cross-functional activities that are connected together with work flowing to achieve certain outcome or objective (Davenport and Short, 1990; Hammer and Champy, 1993; Davenport, 1993; Ould, 1995; Zairi, 1997; Slack et al., 2006, Harmon, 2010). The distinction of business process approach came not only from clarifying what / how the activities are done , but also from the view of these activities relations and how work flows can produce efficient and effective results which clearly play vital role in defining how organization perform. Organizations in recent years are searching for means to enhance their competitive position in the markets and this could be realized by becoming more process-centric (Jeston, 2008; Richardson, 2007). Process orientation is important for organizations keen on breaking down barriers within the structure, improving communications for the sake of increasing customer value (Sever, 2007). Process-driven organization is geared towards meeting and satisfying customer needs (Devika et al. 2016).

The EFQM defined excellent organizations as those which design, manage and improve processes, to generate products and services that increasing value for customers and other stakeholders; Products and services are developed to create the optimum value for stakeholders ; Customer relationships are managed ;manage end to end processes, including processes that extend beyond the boundaries of the organization; ensure process owners understand their role and responsibility in developing, maintaining and improving processes; develop related outcome measures for enabling the review of efficiency and effectiveness of the key processes and their contributions towards the strategic goals; data on the current performance and capabilities of their processes well used, as well as appropriate benchmarks to drive improvement, creativity and innovation. Based on EFQM criteria excellent organizations are Strive to innovate and create value for their customers, involving them and other stakeholders where appropriate in the development of new and innovative products, services and experiences ; Use market study, customer surveys and other forms of feedback to anticipate and identify improvements that aimed at enhancing the product and service portfolio ; Develop their portfolio in line with the changing needs of existing and potential customer groups; Design their product and service portfolio and actively manage the full product lifecycle in a responsible way; know who their different customers groups are, both existing and potential, and

anticipate their different needs and expectations; transform needs, expectations and potential requirements into attractive and sustainable value propositions for both existing and potential customers ; Implement the business model by defining their value proposition, “unique selling points”, positioning, target customer groups and distribution channels ;develop marketing strategies to promote their products and services to target customers and user groups ; produce and deliver products and services to meet, or exceed, customer needs and expectations in line with the offered value proposition; develop an effective and efficient value chain to ensure consistently delivering on their promised value proposition; ensure people have the necessary resources competencies and empowerment to maximize the customer experience; Manage products and services throughout their lifecycle, including recycling where appropriate, considering any impact on public health, safety and the environment; Compare their performance with relevant benchmarks and learn from their strengths and opportunities for improvement in order to maximize the value generated for customers; Segment customers, in line with the organization's strategy, and adopt appropriate policies and processes for effectively managing the relationship; Determine and meet customers’ day-to-day and long term contact requirements; build and maintain a dialogue with customers, based on openness and transparency; Continually monitor and review the experience and perceptions of

their customers and ensure processes are aligned to respond appropriately to any feedback.

2.5.1.2. The dependent variables of the model.

Studies conducted in the results side of organizations implementing TQM can be classified into two different areas, where some studies focused on the economic side, taking into account any improvement in the financial results of the firm (Boulter et al., 2013; Easton and Jarrell, 1998; Hendricks and Singhal, 1997, 2001; Heras-Saizarbitoria et al., 2011; Hongyi et al., 2004; Mathews et al., 2001; York and Miree, 2004). On the other hand, there are studies that focused on the main benefits obtained from the implementation of TQM from a non-economic point of view. These are customer satisfaction, employee satisfaction and improvements in the internal processes of the firm (George et al., 2003; Heras-Saizarbitoria et al., 2011; Hongyi et al., 2004; Mathews et al., 2001). The dependent variables of the model include the right side of variables in figure (5) which reflect the results side of the EFQM model which are People results , Customers results and Financial results . This section illustrate the definitions and description of these variables.

2.5.1.2.1. People results.

Employee satisfaction and loyalty takes a critical position in today's economy, Companies are always seek to build positive attitude towards job satisfaction, the thing which leads to high levels of employees performance (Marimon et al., 2012). Many empirical studies have shown that employee satisfaction has a positive influence on the organizational capability and loyalty (Mak & Sockel, 2001). Based on the theoretical considerations of the EFQM excellence model people (employees) results could be measured in different ways among which are their perceptions and performance indicators. Measurement of perceptions should give a clear understanding of the effectiveness in the areas of strategy and management support, levels of deployment, policies and processes. Measures of people (employees) perceptions could include satisfaction, involvement and engagement, motivation, empowerment, style of leadership and management, training and career development, effective communications and working conditions. Performance Indicators are the internal measures used by the organization in order to monitor, understand, predict and improve the performance of the organization's people and to predict their impact on perceptions. These indicators should give a clear understanding of the deployment and impact of the organization's strategy and supporting policies. Measures of performance indicators could include, Involvement

and engagement activities, Competency and performance management activities, leadership performance, training and career development activities, internal communications.

2.5.1.2.2. Customers results.

Organizations working in the current economic context which characterized by a very competitive and changing global 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 can be a 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 (Bitner,1990; Headley and Miller, 1993; Zeithaml et al., 1996; 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. Others indicators related to the organization performance which are internal measures used by the organization in order to monitor, understand, predict and improve the performance of the organization and to predict their impact on the perceptions of its customers. These indicators should give a clear understanding of the deployment and impact of the organization's customer strategy, supporting policies and processes. Performance indicators measures can include, levels of product and service deliver, customer service, relationships and support, complaints handling and involvement of customers and partners in the design of products, processes, etc.

2.5.1.2.3. Financial results.

Studies which considered the economic point of view when taking the business results into account highlight the fact that, firms that have implemented TQM in a systematic way obtain greater operational benefits and are capable of carrying out cost control that permits them to reduce their costs and hence the price-cost ratio of their products, where organizations characterized by such features can get greater market share than their competitors in a sustainable manner where performance development can be maintained (Raquel Gómez , et al 2019). Performance in the sense of firm growth is usually defined in terms of sales growth and financial indicators improvement , where a higher growth rate may lead to higher profitability (Glancey ,1998). Firm's capacity optimization is reflected in the growth of total sales, where the growth of total sales may be regarded as a good indicator of a firm's market expansion (Havnes and Senneseth, 2001), Hence the business result of the company is measured by the results realized on the market, which may be reflected in terms of financial results and profitability that can meet stakeholders and the hierarchy of employee's needs (Maslow, 1943). The EFQM model considered Excellent organizations as those which achieve and sustain outstanding results that meet or exceed the needs and expectations of their business stakeholders by setting clear targets for key business results based on the needs and expectations of them, in

line with their chosen strategy; Understand how their key business results compare to similar organizations and use this data, where relevant, for target setting; Clearly understand the underlying reasons and drivers of observed trends and the impact these results will have on other performance indicators and related outcomes; Have confidence in their future performance and results based on their understanding of the established cause and effect relationships .

2.6. Theories used to explain the relationships between variables of the EFQM model.

Some studies are attempting to define the effect of TQM on organizational Performance, where most empirical and theoretical evidence on this area reflect how TQM influences results, such as employee and customer satisfaction, financial indicators service and product quality and so on (Dow et al., 1999; Powell, 1995). The empirical evidence of these studies support significant interrelations between the result elements, where results on one level contribute to outcomes on others results (Oakland and Oakland, 1998). The interdependent nature of the quality results is present in the bottom line of the EFQM Excellence model principles which explain that excellence depends on balancing the needs of all stakeholders (Nabitz and Klazinga, 1999). From the enabler perspective, the structure of the model highlights the same logic between the result elements (Ghobadian and Woo, 1996).

This logic assumes that, positive employee results, customer results and society results will, together lead to positive business results. Experiences and studies on the impact of EFQM model on organizational performance support the interrelation between the enabler elements in the EFQM Excellence model, that's the elements of the enabler's side of the model interrelate to each other. Dijkstra (1997) carried a study to clarify the structure of the EFQM model, the results of such study shows positive relation exist between the enabler criteria due of the existence of a common latent general factor behind them, where the same logic can be applied in analyzing the interrelation between the result criteria.

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). This belief is included in the definition of the model: "excellent results with respect to performance, customers, people and society are achieved through leadership driving

policy and strategy, partnerships and resources, and processes” (EFQM, 1999). The causal relationship between enablers and results constitutes the full power of the EFQM model (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 study on the EFQM excellence model. Many attempts by different theorists and studies have addressed this topic, for example Eskildsen and Kanji (1998), lead study on the relationship between people, processes, people results and key performance results. Their study findings shows that weaknesses in the management of people and processes can be seen in people results and key performance results. Another study conducted by Prabhu et al. (2000) illustrated three partial linkages between enablers and results of the EFQM model, this study concluded in to strong association between people and people results, where the study emphasizes on people related issues. Study by Eskildsen and Dahlgaard (2000) discussed some linkages between the five enabler criteria and people results, this study found that leadership significantly drives people, policy and strategy, partnership and resources, which affect processes. Also the study illustrate direct influence of policy and strategy on people and partnerships and resources. Also people results affected directly with people and processes. Findings of study by a group of researchers (J. Carlos Bou-Llusar, Ana B. Escrig-Tena, Vicente Roca-Puig

and Inmaculada Beltrán-Martín 2003) shows the strong relation between the set of enablers criteria and the result criteria set of the EFQM model . The study reflect that all the enabler criteria contribute in the same way to result improvements, consequently a balanced approach in the development of enablers allows correlation between enablers and results to be maximized.

2.7. Development of study hypotheses.

The previous studies prove the positive relation between TQM and positive improvement of any organization, But as we can realized after the late world financial crises in 2008 special rules and regulation were being issued by international financial organizations which led to international agreements to organize the relationships between financial international institutions, among which Basel Agreement, which is considered the famous agreement to regulate the international financial institutions in this era . This Study is intending to explore the EFQM as comprehensive framework to apply Total Quality Management , Excellence principles and tools in Banking industry , and how that can help Banks to meet the expectations of their stakeholders. Especially regulatory bodies at national and international levels, which got great considerations after the world financial crises in 2008. The Basel 3 principles specially those concern with Corporate

Governance “ are set of relationships between a company’s management , its board , its shareholders, and other stakeholders, that provide the structure through which the objectives of the company are set and the means of attaining those objectives as well as monitoring performance” ,These principles were taken with great consideration as standards by central Banks and regulatory bodies such as Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) As Basel International Agreement states , in order to mitigate financial risks and organize relationships between various financial institutions and its customers. This study is intended to examine the role which the European Foundation Quality Management Model can play as an approach which can organize the relationships between different stakeholders of any company (Banks in our case) taking the Banking sector in Sudan as a case study due to its efforts on implementing the EFQM model as Management Approach to improve performance and mitigate risks associated to its activities. The EFQM seems to be the nearest management model that can link Banks with Basel 3 Accord specially those concern with Governance principles and strengthen financial position, hence the model is designed to manage and measure the relations between different levels and different stakeholders who are affecting and affected by the company (Banks) activities. The Model can be applied to any organization, regardless of size, sector or maturity. The EFQM provides a common

language that enables both inside and outside organization stakeholders understand each other. It ensures that all management practices used by any organization form a coherent system that is continually improved and delivers the intended strategy for the organization.

As the aims of this study include development of business model that can help in achieving positive results in banking industry in Sudan it is important to propose a number of hypotheses which will result in a better understanding of the study problem. Furthermore, developing hypotheses will clarify uncertainties that may occur while investigating the subject of implementation of EFQM. The reasons behind choosing hypotheses that related to EFQM model element is the declaration 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.

The EFQM Excellence model is build 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. The hypotheses 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 three criteria in the results side of the model which are People results, Customers results and Business results, accordingly fifteen hypotheses are drown out of this assumption where each criteria in the enablers side of the EFQM model is examined against three criteria at the results side on the model in terms of the positive relation between the independent variables which are the enablers and the dependent variables which are the results. As shown in figure (2.5) which explained the relation direction of the casual effect of the enablers on results. Based on the analysis of the positive relations of the EFQM model sides apart from the society results, which contain fifteen hypotheses that can examine The causal positive relation between the enablers and results as mentioned earlier in chapter one of this study in which classify the sub hypothesis based on the five criteria of the EFQM model and as followed:

Leadership.

- H1 : leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on employees satisfaction.
- H2: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on customers satisfaction .
- H3: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on business financial results.

Strategy.

- H4: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on employees satisfaction
- H5: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on customers Satisfaction
- H6: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on business financial results.

People.

- H7: Appreciation of Employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals ‘have positive significant impact on employees satisfaction.
- H8: Appreciation of Employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals ‘have positive significant impact on customers satisfaction .
- H9: Appreciation of Employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals ‘have positive significant impact on business financial results.

Partnerships & Resources.

- H10: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes‘ have positive significant impact on employees satisfaction .
- H11: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes‘ have positive significant impact on customers' satisfaction .

- H12: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes, have positive significant impact on business financial results.

Processes, Products & Services.

- H13: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on employees satisfaction .
- H14: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on customers satisfaction .
- H15: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact business financial results.

Chapter three

Macro-economic outlook of Sudan

(Banking sector operating environment)

Introduction

This chapter is studying the economic and business of Sudan within different periods of time with concentration on the periods before and after the secession of the south in 2011, where banking sector of Sudan is operating. The objectives of this chapter is to explain the complications of Sudan economy since and before the secession of the South till recently, hence the EFQM model has been adopted by Sudanese banking sector in 2012 as part of continues treatments of balancing the economic and business environment. The secession of the south led to highly complicated situation on Sudan economy. This part of the study is exploring the economic and business environment of Sudan, which has direct impact on banking sector business operations and strategies, as well as might affect the application of the EFQM model during such periods of Sudan Economy.

3.1. Sudan macro-economic indicators.

An economic indicator is known to be defines with in macroeconomic scale, to interpret current or future business environment of a country, these indicators help to explain the overall health of an economy. Such Indicators contain gross domestic products, national

Income, aggregate demand, public savings, and money supply, agricultural and industrial sectors, balance of trade ... etc.

3.1.1. Gross domestic product (SDG).

Sudan's gross domestic product (GDP) growth rate in SDG statistics was reported by Sudan central bureau of statistics at 20% in Dec 2018. This records an increase from the previous rate of 13% for Dec 2017. Sudan's gross domestic product (GDP) data reflects the lowest growth rate of the period 2000 to 2018 as 3% in 2009 and 13% in 2008. The years 2013 and 2014 reflects the highest GDP growth rates as 37% and 47% respectively as shown in figure (3.1). The agricultural sector remains historically as the main contributor to GDP. The Sudan GDP growth rate remains for several decades in apposite position. But due to accelerating inflation rates in the last three years it shows negative growth rates when we calculate the growth rates in USD as shown in section (3.2.2.) Of this chapter, hence the exchange rates reflects a depreciation of Sudanese pound against forenoon currencies.

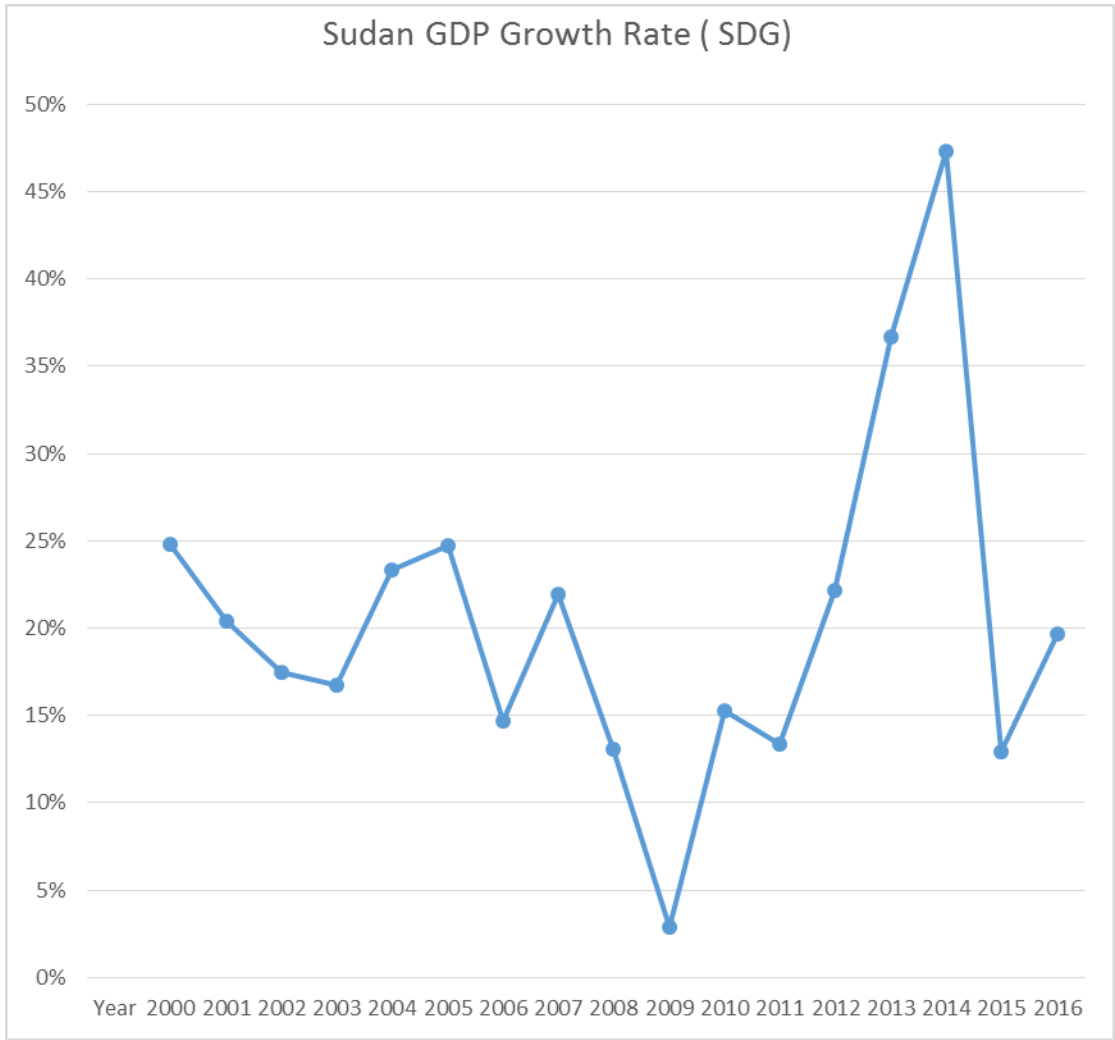


Figure 3.1: Sudan GDP Growth rate / GDP (Annual %) for the period 2000 to 2016.

Data source: Sudan central bureau of statistics 2018.

Figure prepared by researcher.

3.1.2. Gross Domestic Product (USD).

Sudan was able to achieve and sustain high growth rates in the 1990s and 2000s within a framework of very tough self-imposed structural adjustment programs

(SAPs). The real gross domestic product (GDP) growth rate per USD, on average, for the period 2000-2008, amounted to 7.7% annually, varying between a high of 10.2% in 2007 and a low of 6.1% in 2003. GDP growth rate is estimated at 4.9% in 2009 and projected to be around 5% in 2010. The sustained growth rates of GDP for the period 2000-2008 were achieved within a context of stable macroeconomic policies and relatively controlled and carefully guided inflationary pressures. The government was able to stabilize prices and sharply reduce inflation from a record high of 130.6% in 1996 to a single digit by the end of the 1990s, where oil and related sectors have been driving GDP growth. agriculture (composed of irrigated, traditional rain-fed and mechanized crops, livestock and forestry sub-sectors) contributed more than 40% of GDP in the 1960s, 1970s and 1980s but declined to more than 36.2% and 35.9% in 2008 , 2009 and 2010 respectively, as shown in figure (3.2).

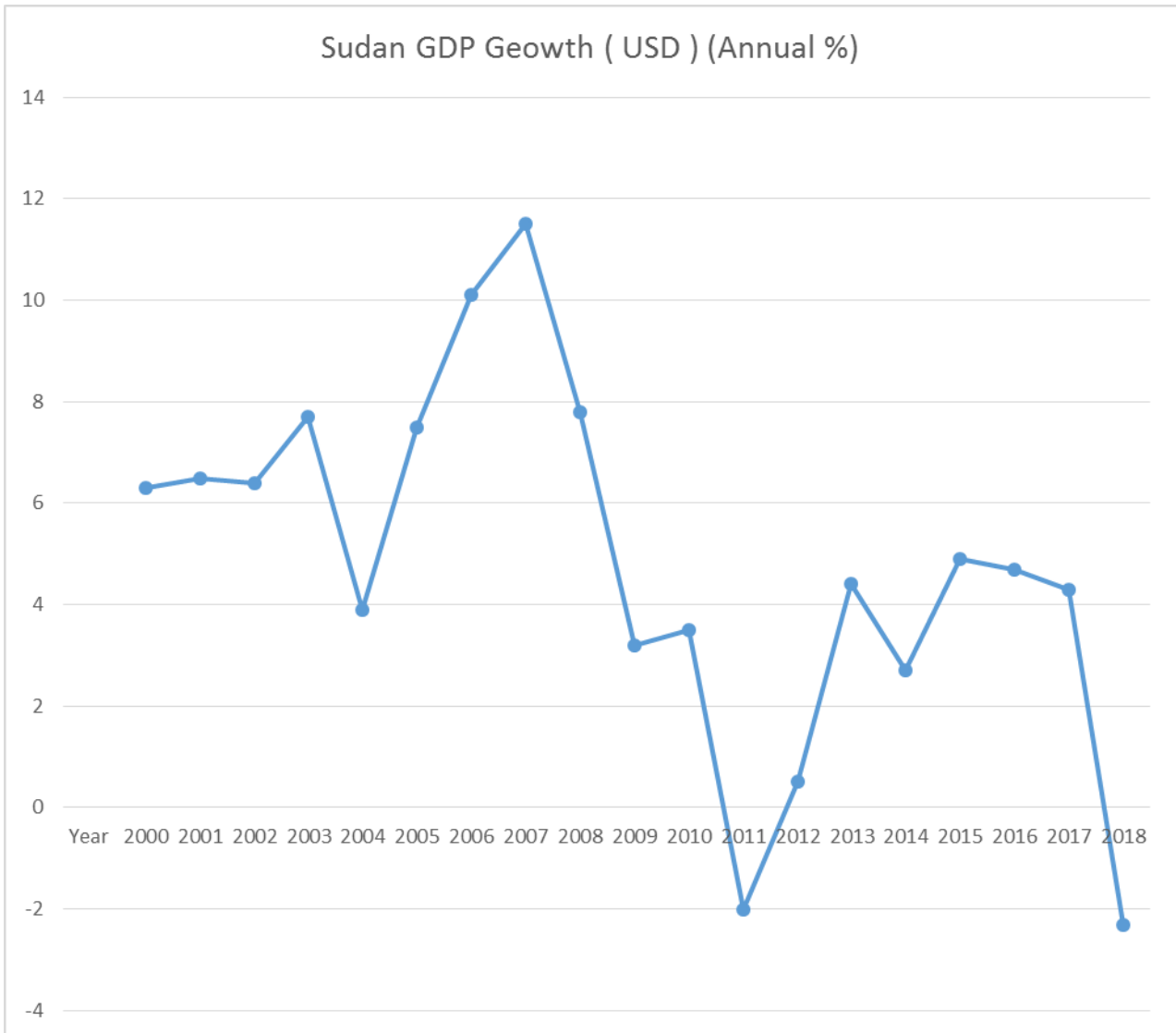


Figure 3.2: Sudan GDP growth rate / USD (Annual %), for the period 2000 to 2016.

Data source: world Bank Databank.

Figure prepared by researcher.

The secession of South of Sudan in 2011 resulted in declining Real GDP by - 2.8% in 2011 down from 3.5 % in 2010. This slowdown in growth is attributable to the loss of oil revenues. GDP further grow to .5% in 2012 and then to 4.4% in 2013 and decline

again in 2014 to reach 2.7% and then grow again in 2015 to reach 4.9% and then 4.7% in 2016 and 4.28 in 2017 . The year 2018 shows a sharp decline on Sudan GDP where the growth rate declined to -2.32% showing decline rate of 7% from the previous year as illustrated in figure (3.2) (world Bank 2019) .

3.1.3. National income, aggregate expenditure and aggregate demand.

The national income of Sudan indicate high levels of growth since it is the net result of all economic activities of any country during a period of one year and is valued in terms of money. The curve is showing a severe growth rates for the years after 2011 , this is rabid growth is also accompanied by high growth rates for the aggregate demand which reflects higher rates than the National Income in the same period as illustrated in figure (3.3) and appendix (4) . The National income increase by 237% in the period 2011 to 2016 while the aggregate consumption exceeded the national income in the years after 2015, the thing which indicate inflation in the prices of goods and services in the economy (Sudan Central Bureau of Statistics 2018). This means the public savings has been affected negatively in the periods after the year 2015. Where aggregate demand has not been reach since the year 2000.

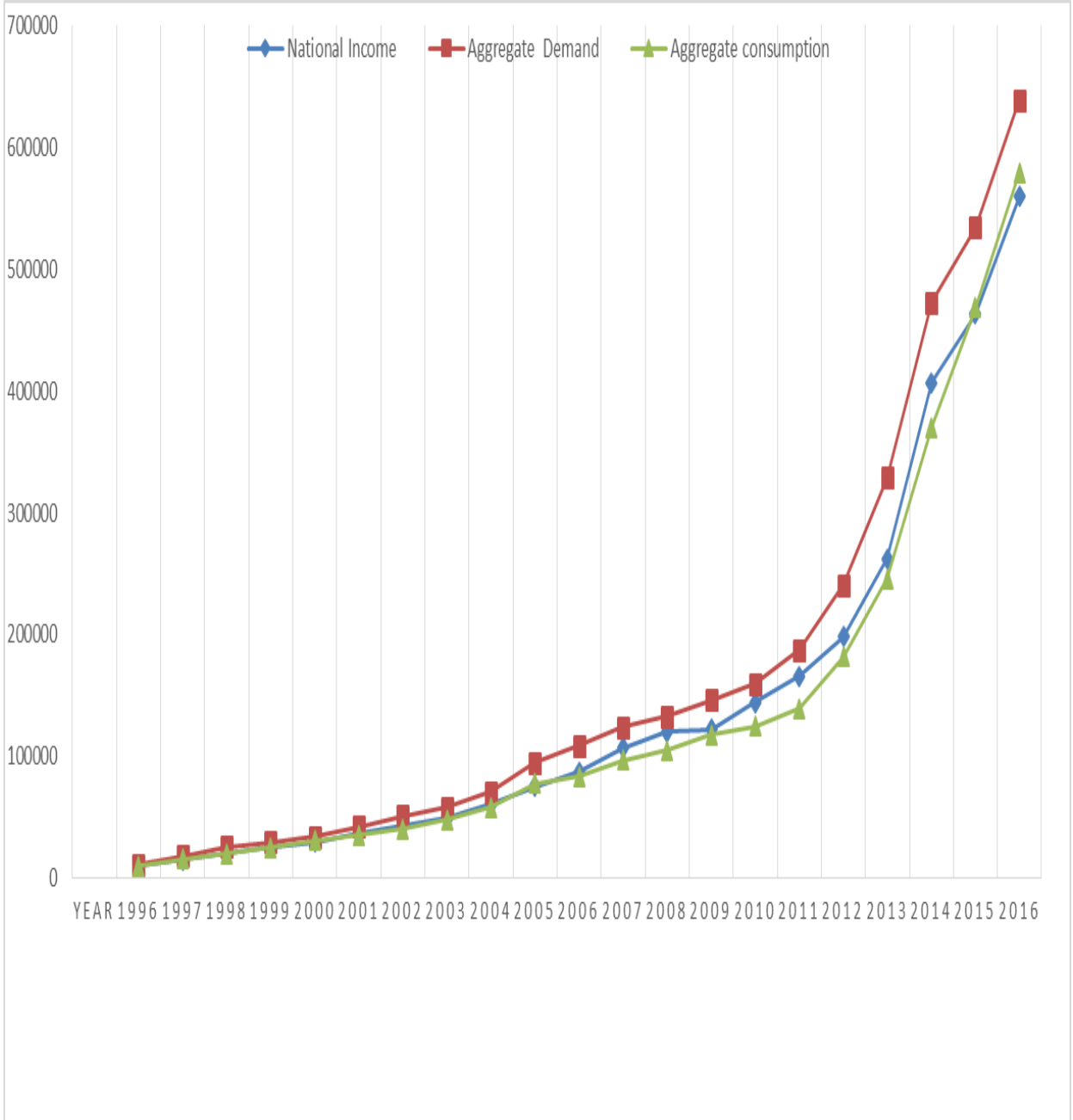


Figure 3.3: Sudan NI, aggregate demand and consumption indicators for the period 1996 – 2016.

Data source: Sudan central bureau of statistics.

Figure prepared by researcher.

3.2. Agricultural sector of Sudan.

The economy of the Sudan historically is highly dependent on agriculture, which occupies 28 percent of its employment (ILO estimates of 2018) and accounts for about 30 percent of its GDP. Its crop portfolio is quite diversified, including cereals (such as sorghum, millet, wheat, and maize), oilseeds (mainly sesame, groundnuts and sunflowers), industrial crops (cotton and sugarcane), fodder crops (alfalfa, fodder sorghum and Rhodes grass), pulses (broad beans and pigeon peas) and horticultural crops (onions, tomatoes, citrus, mango, etc.). Moreover, land of Sudan is suitable for animal husbandry, with an estimated total livestock population in 2018 of 109 million heads of cattle, sheep, goats, camels and others (FAO 2019) Most of Livestock of Sudan are raised with in the pastoral sector and agro-pastoral groups. Pastoral herds are mainly manage in semi-nomadic system, as in western Sudan and along the southern Blue Nile where traditional herd movements occur between wet- and dry-season grazing areas (Farida M 2014). The rainy season affords rich grazing, and provides pasture and water. However, mud and biting insects experienced during the rainy season in other areas disturb the herds (Babiker 1997).

The revival of agriculture is critical for overall economic growth and poverty reduction, particularly in rural areas. The contribution of agriculture, forestry and fishing to Sudan's as percentage to value added GDP was on the average of 40% on

the years 2000, 2001 and 2002 (World Bank 2019). And shows a decline to the average of 33% on the years 2003, 2004, 2005 and 2006. The years between 2006 and 2011 shows sharp decrease of the contribution of the agricultural sector on GDP which was between 25% and 23% and this is due of concentration and attention on the oil sector and neglecting other sectors and this is could be realized on table (3.1) which illustrate the domination of oil Exports in the period 2000 to 2011 which was between of 75% to 95% of Sudan exports (Central Bank of Sudan 2013). after the secession of the South in 2011 the Government of Sudan on it efforts to balance the balance of trade work on increasing the Agricultural exports, and put more efforts on developing the Agricultural sector, however, during the period 2012 to 2015 the contribution of Agricultural sector increased to levels between 31% to 33%, As shown in figure (3.4).

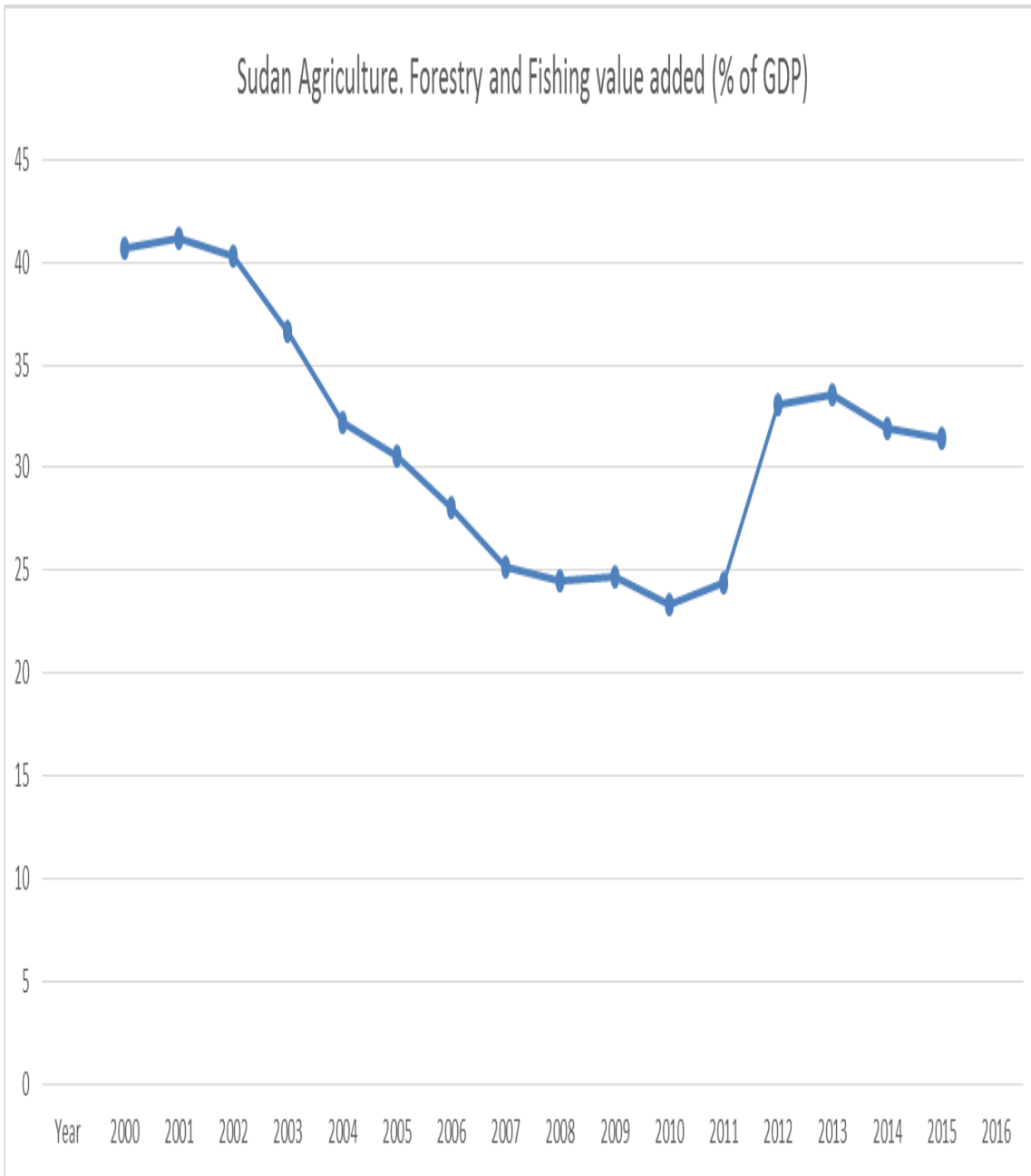


Figure 3.4: Sudan agriculture, forestry and fishing value added (% of GDP for the period 2000 – 2016.

Data Source: world Bank Databank.

Figure prepared by researcher.

3.2.1. Patterns of Crop production in Sudan.

Crop production in the Sudan is practiced under three main patterns:

1. Irrigated agriculture, which includes:

* Large national irrigation schemes (Gezira, Suki, New Halfa and Rahad) using river flow from the Nile and its tributaries.

* Large spate irrigation schemes (Gash and Tokar) using seasonal floods.

* Small scale irrigation along the banks of the Nile and its tributaries.

2. Semi-mechanized rainfed agriculture.

3. Traditional rainfed agriculture.

Agricultural irrigated sector depend mainly on irrigation on the River Nile and its tributaries by means of gravity or pumps, or from spate flow from the seasonal rivers at Gash and Tokar deltas. The principal crops of the irrigated sector include sugarcane, cotton, sorghum, groundnuts, wheat, vegetables, fruits and green fodders. According to the season, the sector takes advantage of the rains, especially during the establishment of summer crops. In recent years, several large private enterprises have emerged, producing fodder crops such as alfalfa and Rhodes grass for export, mainly to the Gulf countries. These enterprises are usually highly mechanized, use efficient irrigation systems such as center pivots and other forms of sprinkler irrigation and generally achieve high yields of good quality fodder.

Semi-mechanized rainfed agriculture is so called because mechanization is usually limited to land preparation and seeding. Other field operations, including harvesting, are usually carried out manually, although combined harvesting is becoming less rare. Semi-mechanized rainfed agriculture is practiced in a broad belt of 6.7 million hectares and receives, on average, more than 500 mm of rainfall annually (FAO 2019). It runs through Kassala, Gadarif, Blue Nile, Sennar, White Nile and South Kordofan states. This belt is effectively the granary of the country, with sorghum accounting for about 80 percent of the cultivated land and usually producing about 45 percent of the country's requirements. Other crops include sesame, sunflowers, millet and cotton (FAO 2019).

The traditional rainfed sector covers about 9 million hectares and occupies the largest number of farmers. The sector is made up of small family units farming from 2 to 50 hectares for both income and subsistence. On the larger units, there may be a modicum of mechanization in the form of land preparation, but most operations are carried out manually. The traditional sector predominates in the west of the country, in Darfur and in much of Kordofan State, where the main cereal crops are millet and sorghum. Input levels are low and yields are especially vulnerable to unfavourable rainfall. Other important crops in this sector include groundnuts, sesame, hibiscus (karkadé), watermelon and gum arabic. Crop production in the rainfed sectors

exhibits very wide annual fluctuations as a result of unreliable rainfall amounts and distribution, which can result in late sowing, long dry spells, flooding from intense downpours, the necessity to re-sow and, not uncommonly, complete crop failure (FAO 2019). Unlike The situation in the irrigated sector which is much more predictable.

The majority of the farmers use the seeds retained from the previous year or purchased locally from the market. The purity of the seeds is often low and the productivity of the traditional varieties is decreasing every year. Improved seeds are used mostly on the irrigation schemes and by some farmers in the semi-mechanized rainfed sector, while their adoption in the traditional rainfed sector remains still negligible. Fertilizers and herbicides were generally available, but at very high prices. The costs of agricultural labor were also at very high levels. The expansion in area planted recently faced by shortages of fuel and the reduced availability of other inputs increased the demand for manual operations. In addition, laborers were requesting higher wages to protect their purchasing power, following high inflation rates. The difficulties created by higher production and labor costs have been exacerbated by the national financial crisis and by the decision of the Central Bank of Sudan to set limits on cash withdrawals. Reduced liquidity was reported as one of the main problems to adversely affect agricultural operations during the last two years, due to delay in

payment to laborers and input suppliers. Farmers were often forced to sell limited part of their production on a daily basis in order to generate enough cash to pay laborers, instead of selling all of the harvested crops.

Employment in agricultural sector is decreasing due to different reasons among which are climate change , wars , migration to urban areas , tribal conflicts , low level of Technology and agricultural extension, , low levels of civil services in rural areas, Economic fluctuation. The indicator of employment in agriculture as a percentage of total employment shows a 15% decrease between 1991 and 2018 as shown in figure (3.5).

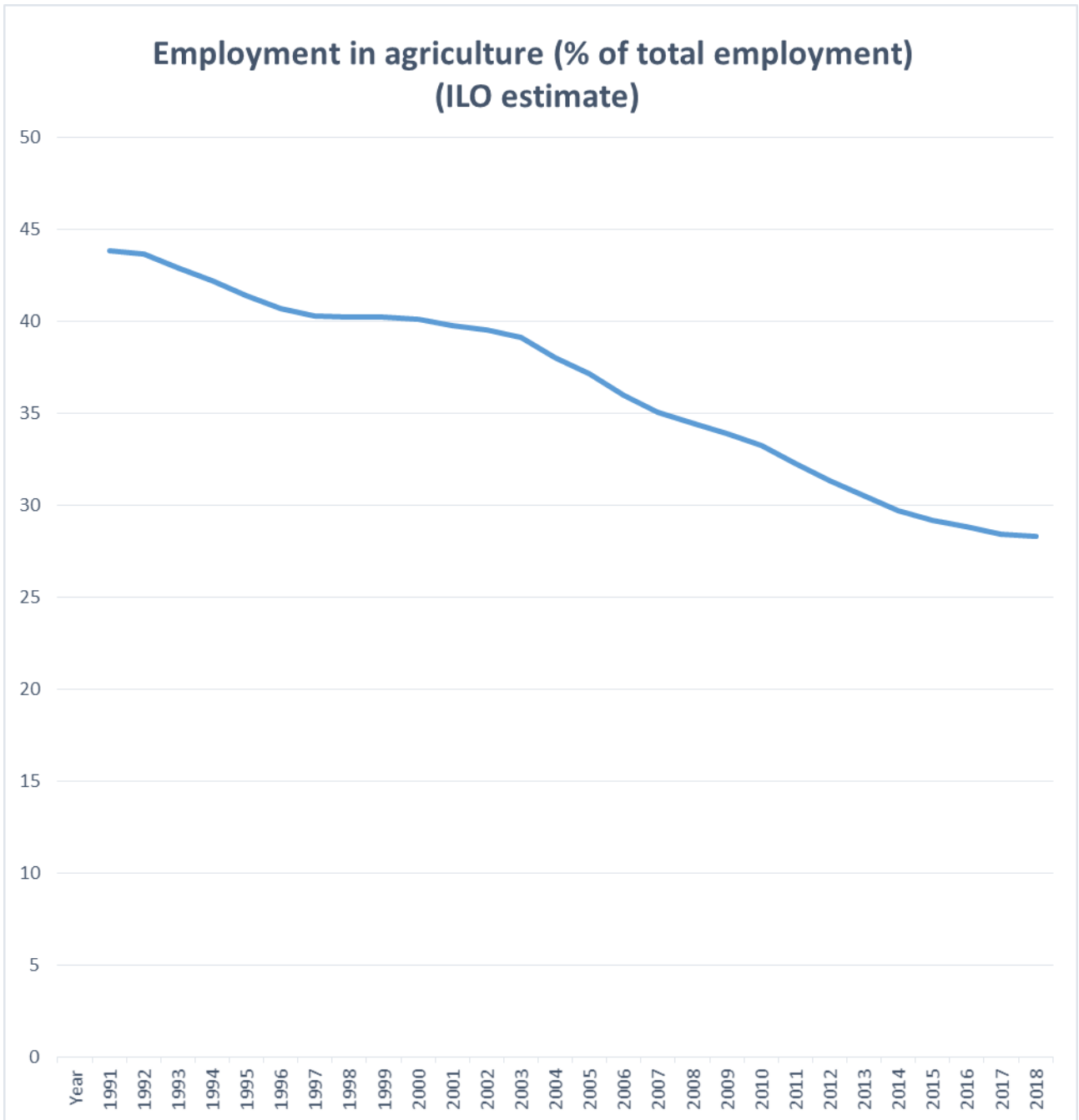


Figure 3.5: Employment in agriculture (% of total employment) (ILO estimate).
Data Source: International Labor Organization, ILOSTAT database.
Figure prepared by researcher.

3.3. Industrial sector of Sudan.

The industrial sector (including manufacturing and mining, water and electricity, building and construction and transport and communications) contributed in Sudan GDP by 33% in 2007 and 31.4% in 2008, whereas services (private and government) systematically contributed more than 30% for the whole period of 1980-2009 (Medani M. Ahmed 2010) (World Bank 2019) as illustrated in figure (3.6). Sudan is increasingly becoming dependent on oil revenues and export earnings. This oil dependency is threatening budget credibility, predictability and planning functions and also the ability to deliver services planning. It also endangers budgetary allocations and resource distribution to different tiers of government In Sudan (IMF 2017)

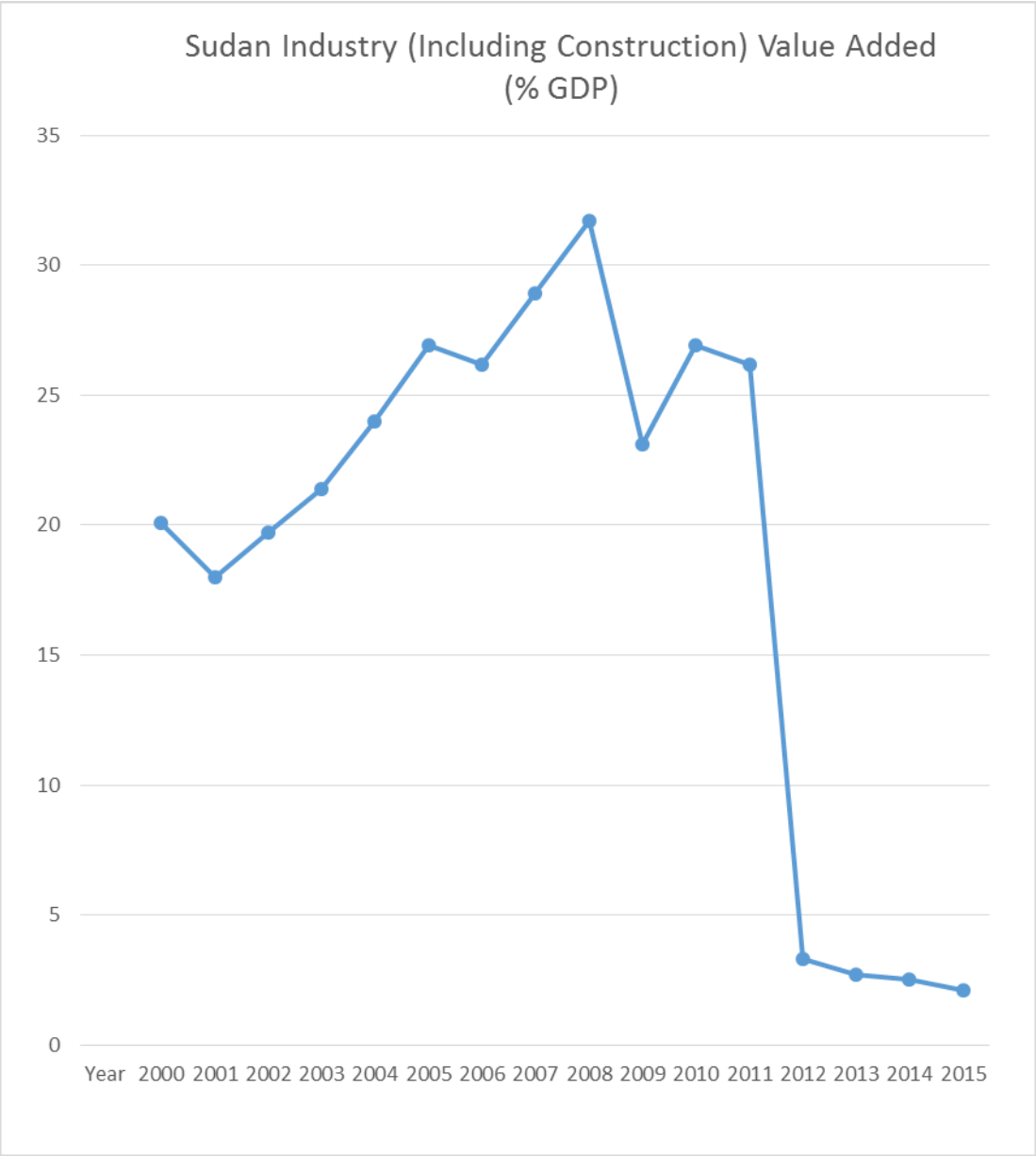


Figure 3.6: Sudan Industry, value added as % of GDP.

Data Source: world Bank Databank.

Figure prepared by researcher.

As we can realized in figure (3.6) the years 2011 and 2012 shows a severe deterioration of the added value of industrial sector of Sudan to GDP that's from 26.2% in 2011 to 3.3% in 2012 and 2.1 in 2015, this is obviously due to Oil exports revenues stopped as a result of the secession of the south. Sudan historically depended on traditional exports, which come mainly from agriculture (irrigated, rain-fed traditional and livestock sub-sectors), with a small contribution from manufacturing and mining. Agricultural exports are mainly cotton, sesame, gum Arabic, oil seeds, sorghum and livestock products (live animals, meat, hide and skins). Manufacturing and mining exports are sugar, molasses and gold (Table 3.1). With the discovery of oil in 2000, Sudanese export composition and value changed drastically. Non-oil products became insignificant in value and as a percentage of total exports. Oil exports have become predominant (relative to non-oil exports), amounting to 74.8% of all Sudanese exports in 2000 and reaching a higher record of more than 95% in 2008. The country has steadily become completely dependent on oil as the main source of export earnings during the period (2000 to 2012) (Central Bank of Sudan).

Table 3.1 : Exports of Sudan during the period 2000 to 2012.

Item	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012
Pertolium and products	74.8	81	77.5	80	82	86.8	89.9	94.6	95.1	88	85	23.5
Cotton	2.9	2.6	3.2	4.2	2.5	2.2	1.5	0.8	0.5	1	1	0.3
Gum Arabic	1.3	1.4	1.6	1.4	1.6	2.2	0.9	0.6	0.5	0.5	0.5	1.7
Gold	2.6	2.5	2.7	2.3	1.3	1.3	0	0	0	5	9	53.1
Sesame	8.1	6.2	3.2	2.9	4.7	2.5	3	1	1.2	2	1	5.5
Sorghum	0	0	0.3	0.1	0	0	0	0	0	0	0	0.3
Vegatable oil	0.3	0.5	0.3	0	0	0.5	0	0	0	0	0	0
Sugar and Molasses	1.1	1.2	0.9	0.6	0.5	0.5	0	0	0	0	0	0
Livestock and meat and hide	5	1	7.1	5.4	4.1	2.8	2.2	0.9	0.3	2	2	10.9
Others	3.9	3.6	2.8	2.5	3.3	3	2.5	2.1	2.4	1.5	1.5	4.7
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source : Central Bank of Sudan annual reports (varous years).

The comparison between the contribution of Agricultural and Industrial sector as a percentage of GDP reflects an imbalance of the industrial sector contribution especially after the year 2011 as shown on figure (3.7)

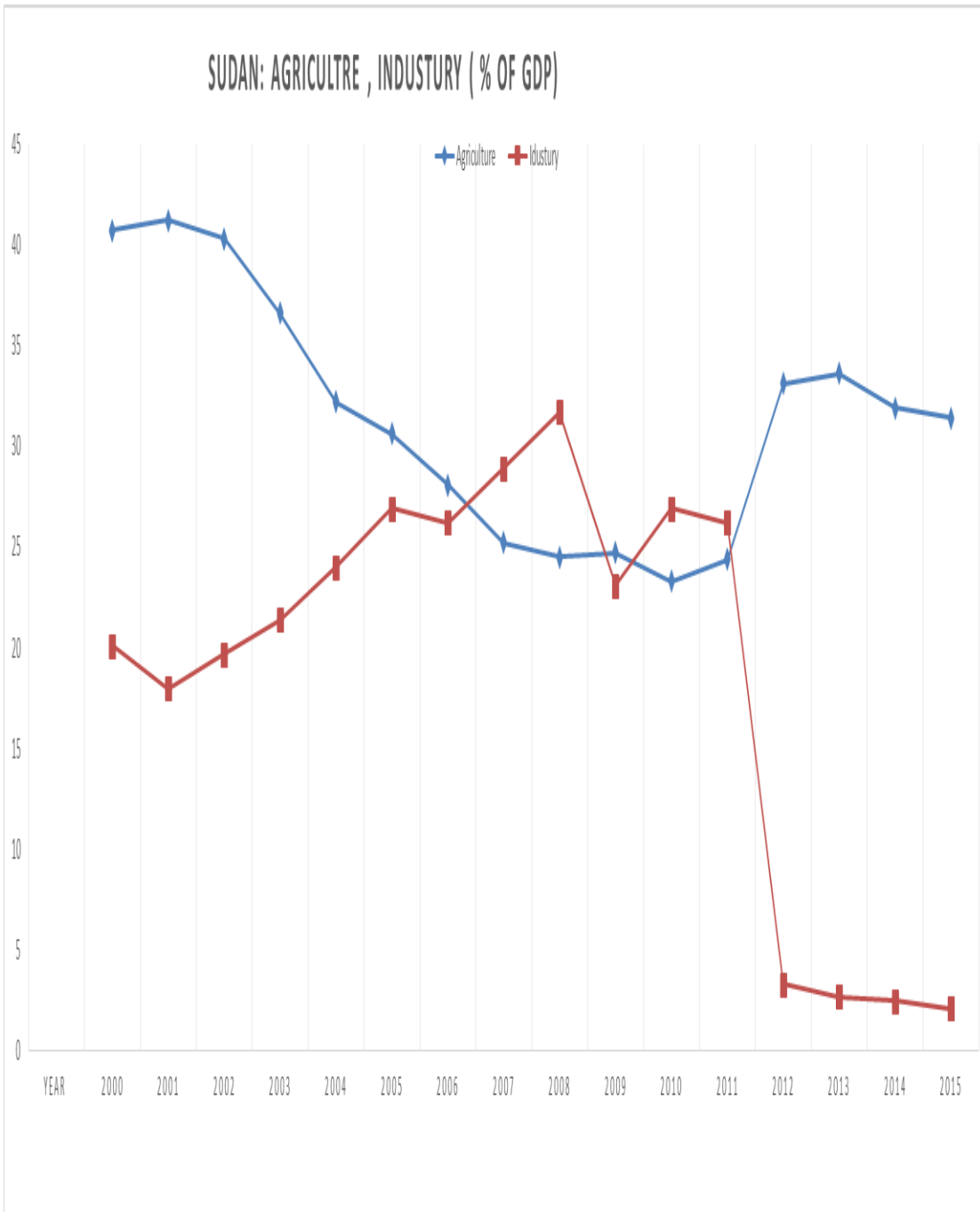


Figure 3.7: Sudan agriculture, industry as % of GDP.

Data Source: World Bank data bank.

Figure prepared by researcher.

3.4. Sudan trade balance.

The foreign trade statistics presented in Table (3.2) , cover all Exports and Imports registered at all custom's stations in Sudan .They also include the exports and the imports channeled through Khartoum Airport , Port Sudan is the main channel where the most of Sudan's foreign trade pass through (Central Bank of Sudan).

Table 3.2: Sudan Trade Balance during the period 2007-2018.

Sudan Trade Balance during the period 2007-2018 (Value In USD.000's)			
	Trade Balance	Imports	Exports
Year			
2007	103,793	8,775,457	8,879,250
2008	2,318,964	9,351,540	11,670,504
2009	1,433,813-	9,690,918	8,257,105
2010	1,359,510	10,044,770	11,404,280
2011	957,424	9,236,008	10,193,432
2012	5,163,819-	9,230,318	4,066,499
2013	5,128,336-	9,918,068	4,789,732
2014	4,757,577-	9,211,300	4,453,723
2015	6,340,104-	9,509,115	3,169,011
2016	5,216,968-	8,310,607	3,093,639
2017	5,033,287-	9,133,998	4,100,381
2018	4,365,399-	7,850,081	3,484,682

Source: Central Bank of Sudan- Foreign Trade Statistical Digest
January –December2018.

As figure (3.8) illustrate, Sudan balance of trade show negative record since the period 2012, as a result of imbalance between imports and exports. The Trade Balance was balanced in 2011, where after that year it shows a deficit in its balance, figure (3.8) and appendix (9) reflects The trade Balance goes negatively between the years 2011 to 2018.

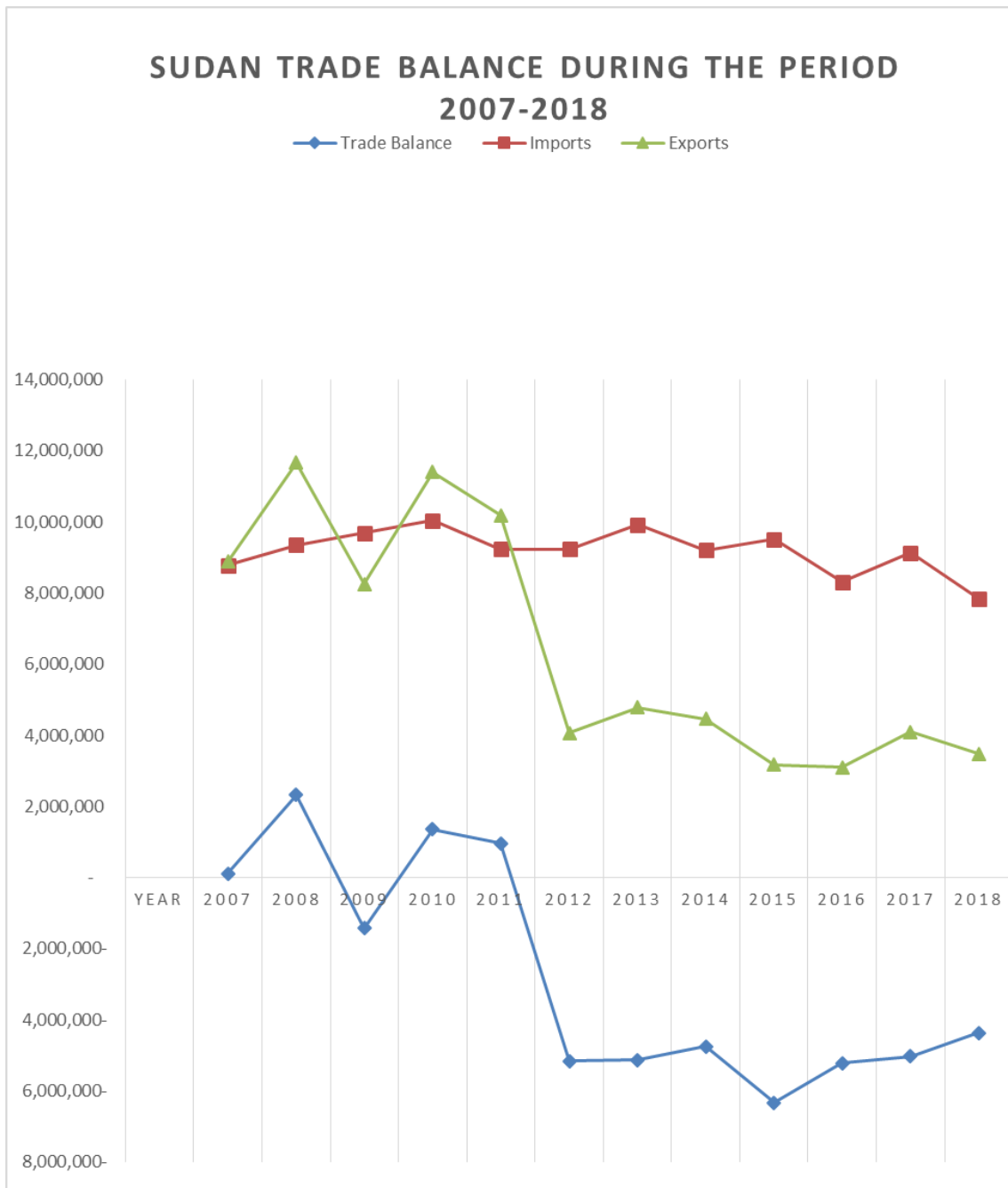


Figure 3.8: Sudan trade balance during the period 2007-2018.

Data Source: Central Bank of Sudan- Foreign Trade Statistical Digest-January –December 2018.

Figure prepared by researcher.

3.4.1. Sudan trade balance and currency exchange rates.

Currency exchange rate considered as one of the most important determinants of a country's relative level of economic health. Exchange rates play a vital role in a country's level of trade. That's why it is among the most watched economic measures. One of the main determinants of the currency Exchange rate is the balance of trade indicators which reflect all payments flow between the country and other countries due to Trade exchange for goods and services. A deficit in the current account shows the country is spending more on foreign trade than it is earning. In other words, the country requires more foreign currency than it receives through sales of exports, and it supplies more of its own currency than foreigners demand for its products. The excess demand for foreign currency lowers the country's exchange rate until domestic goods and services are cheap enough for foreigners, and foreign assets are too expensive to generate sales for domestic interests and this is the case of Sudan Trade Balance as seen on figure (3.8). Where Imports value exceeds exports especially since 2011, as a result the Balance of trade goes in to negative side of the curve, which means higher Exchange rates for foreign currencies exists. This is shown on table (3.3) which also reflect the Central Bank of Sudan official Exchange Rate of Sudanese Pound against Euro, which illustrate an increase in the official exchange rate of Euro by nearly seven hundred times against the Sudanese

pound during the three years 2016, 2017 and 2018. According to the Central Bank of Sudan official record.

Table 3.3: Exchange rate of Sudanese pound against euro (2016-2018).

Year	Exchange Rate of Sudanese Pound against Euro
2016	6.8811
2017	8.4125
2018	54.2792

Source: Central Bank of Sudan. Economic and Financial Statistical Review October –December 2018.

The Central Bank of Sudan raised the official rates of foreign currencies to narrow the gap between the official rate and the parallel market rate of exchange for which the premium on the parallel market has almost doubled the official rate as shown in figure (3.9) and appendix (6). The government of Sudan did so as one of the measures to adjust the economic situation in to a balanced status. These measures were implemented as a part of new economic policy which followed by attempting to generate new sources of export revenues from gold mining, while carrying out an austerity program to reduce expenditures and thereby balance the Government budget (UNDP 2013).

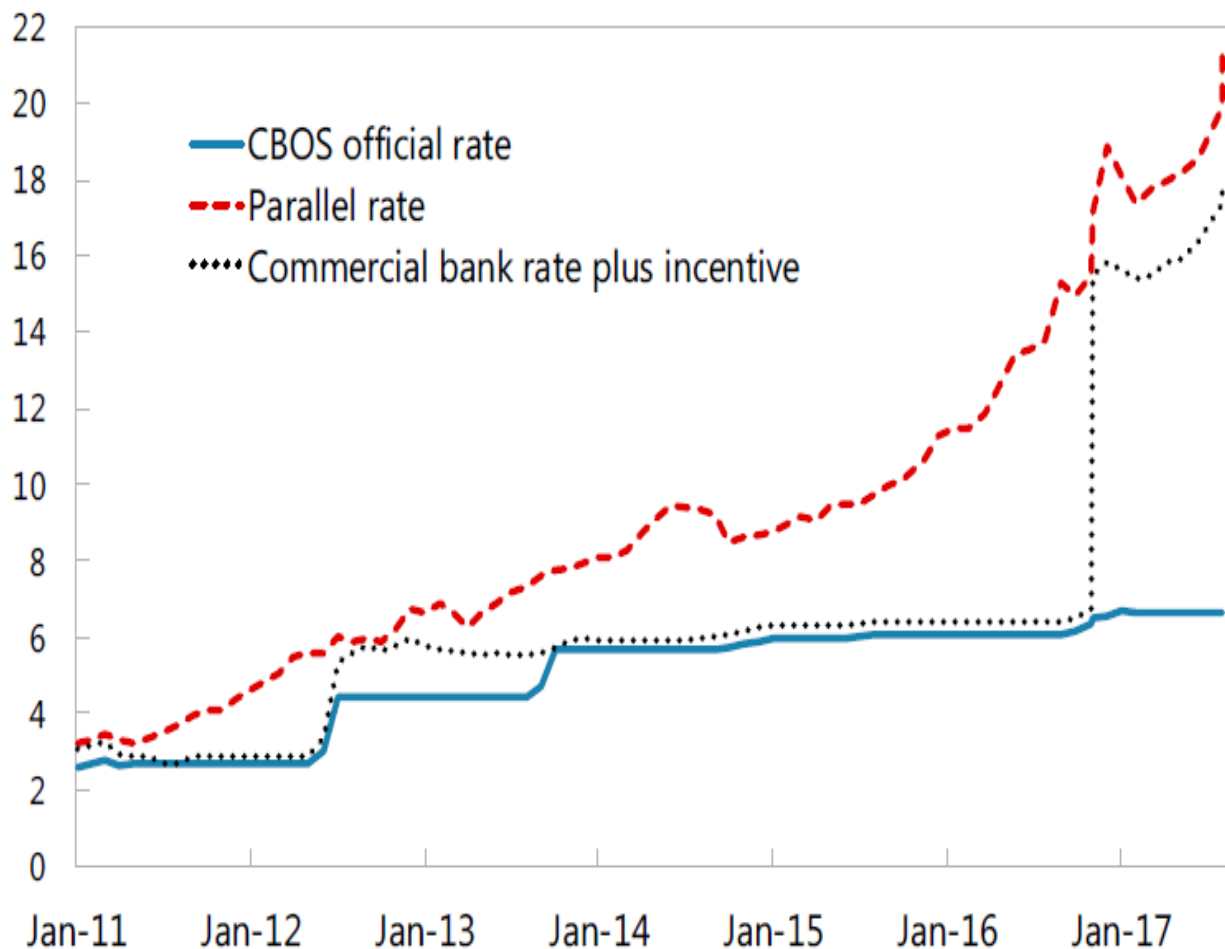


Figure 3.9: Sudanese Pound exchange rate against USD.

Source: IMF Sudan Country Report 2017.

Efforts have been waged to expand the mining sector with particular focus on gold to compensate for the oil loss in the export sector. The country is also struggling to attract major new investment in other sectors. The mining sector faced many management difficulties where the big percentage of the product being traded outside the official channels. New foreign investments also faced with an unstable economy (UNDP 2013).

3.5. Inflation rates in Sudan economy.

Inflation in any economic is defined as continues increase in the general price level of goods and services over a period of time (Barro, 2013). As prices rise each unit of currency buys fewer goods and services (Walgebah et al, 1973). Single unit of currency loses value as it buys fewer goods and services, which resulting in a reduction in the purchasing power per unit of money and a loss of real value in the medium of exchange and unit of account within the economy. The loss of purchasing power impacts the general cost of living for the common public which ultimately leads to a deceleration in economic growth. Inflation rate is defined as quantitative measure of a persistent increase of general prices levels in an economy, while consumer price index is defined as annualized percentage change in a general price index over time. The Inflation rates in Sudan has raised Fluctuatingly during the periods 2011-2018 (Sudan Statistical central Bureau - 2018) as shown in figure (3.10) and appendixes (5 & 8)) which indicate a sharp increase in the inflation rates where it illustrate an increase of 56% between the year 2015 and 2017. By the year 2018 the inflation rates increased to reach 73% According to the Central Bank of Sudan. Inflation Rates by Item Group as seen in table (3.4) shows an increase in health services by 3.8% in the year 2008, 48% for 2013 and 53.1 in 2017. Food and drinks prices raised as 18% in the year 2008, 20% in 2011, 38.7% in

2012 and 35% in 2017. Clothing and footwear highest inflation rate was in 2012 and 2015 by 49.5%, the lowest rate was in 2008 by 7.8%. Transport cost increased by 0.4% in 2008, 53.5% in 2012, 66.5% in 2013, 73.8 % in 2015 and 53% in 2017. Recreation and culture shows an inflation rates of 8% in 2008, 5.5% in 2009, 63.7% 2012, 77.6% in 2013 and 46% in 2014 and 28.5 %in 2017. Education shown inflation rate of 14.3% in 2008, 38.1% in 2014, 32.8% in 2016 and 17% in 2017.

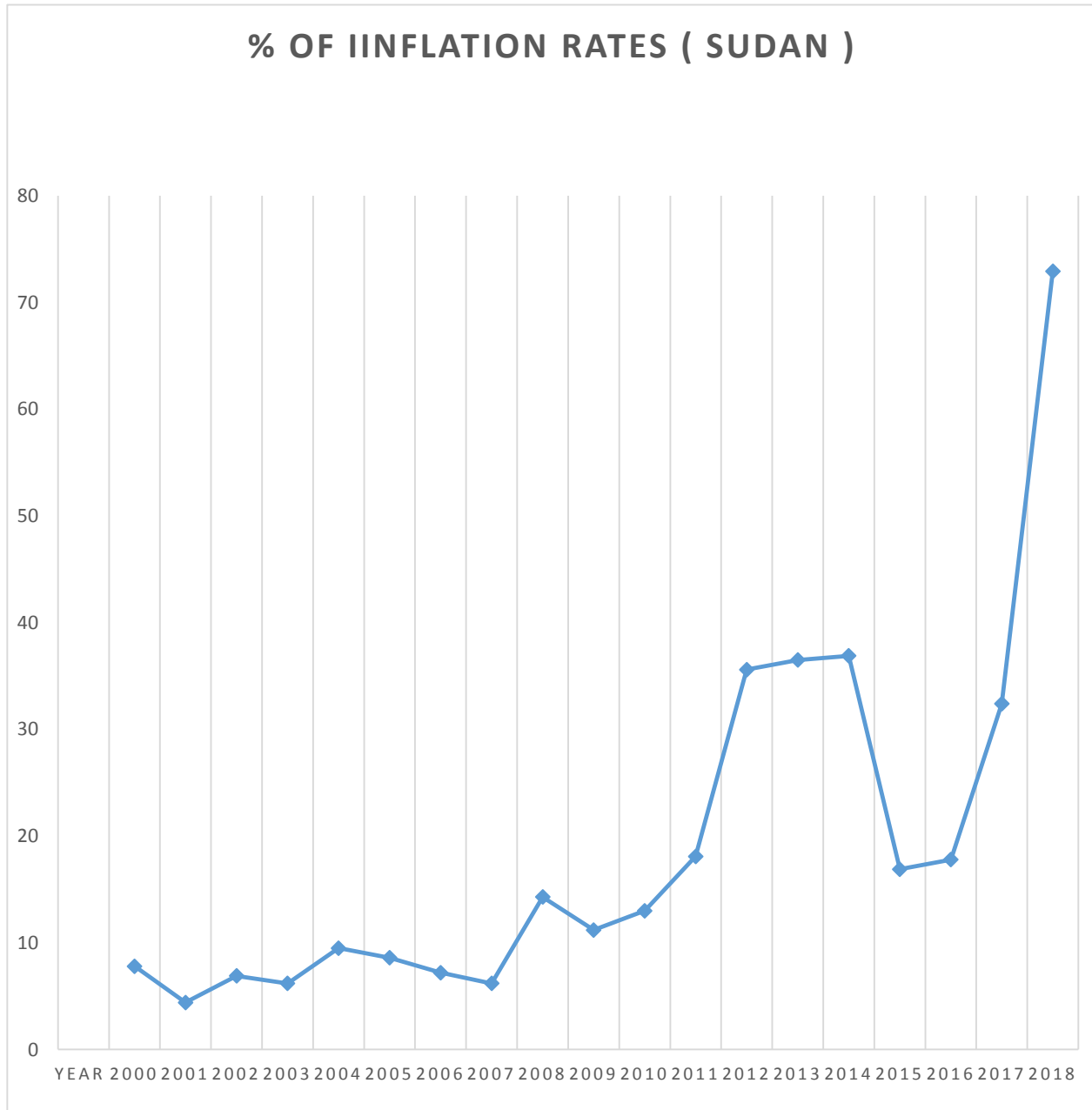


Figure: 3.10: Sudan inflation rates during the periods 2000 2018.

Data Sources: consumer price index and Inflation- Sudan Central Bureau of Statistics.
Central Bank of Sudan - The Economic Review December 2018.

Figure prepared by researcher.

Table 3.4: Inflation rates by item group for the years 2008-2017.

Inflation Rates by Item Group for the years 2008-2017												
Code	Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	
	Item											Weights
1	Food and Drinks	35	13.8	13.8	31	30.8	38.7	20.4	15.6	12.2	18	52.9
2	Tobacco	22	29.3	22	34.1	24.7	41.9	11.2	8.4	4.2	6.7	0.7
3	Clothing and footwear	17.7	20.4	27	49.6	19.5	49.5	17.4	9.9	10	7.8	4.5
4	Housing	15.5	16.7	20.8	19.9	19.5	13.5	11	9.9	8.6	3.2	14.2
5	Furniture&H/H Eqp.	21.8	17.2	15.1	45.5	58.5	39.6	20.5	8.3	9.1	-0.8	6.9
6	Health	53.1	21.7	12	30.3	48	37.4	20.1	5.1	9.6	3.8	1
7	Transport	53	25.3	14.2	73.8	66.5	53.5	14.8	2.4	4.3	0.4	8.3
8	Communications	14.7	36.9	34.4	41.8	26.3	31.7	6	3.4	6.9	18.8	1.7
9	Recreation and Culture	28.5	24.5	33.8	46.4	77.6	63.7	8.5	6.6	5.5	8	2.2
10	Education	17	32.8	32.7	38.1	23	13.4	25.6	31.3	18.7	14.3	2.7
11	Hotels, Cafes and Restaurats	41	23.5	16.8	37.1	40	12.9	14.5	19.3	34.8	18.8	2.3
12	Others	29	21.7	13	45.9	54	36.5	17	10.3	11.6	8	2.6
Over All Index		32	17.8	16.9	36.9	36.5	35.6	18.1	13	11.2	14.3	100

Source: Consumer Price Indices by Items Group – Sudan Central Bureau. Of Statistics.

3.5.1. Sudan consumer price index.

Consumer price index of Sudan according to official records of the Sudan central bureau of statistics (figure 3.11) (appendix 5) show a historical constant price levels of

goods and services especially during the period 1970 -1980. The CPI fluctuations were between (0.009) and (0.002), whereas it was between (0.011) and (0.081) during the period 1981-1988. The period of 1989 – 1991 reflects CPI fluctuations below zero level. The period 1992-1993 shows A CPI fluctuation of one digit. The period 1995 to 2006 shows A CPI fluctuation of two digits. The Period 2007 to 2017 reflects a CPI fluctuation of three digits. A sharp increase record for the CPI in its history shown during the period 2012 -2017 as shown in figure (3.11) which illustrate an increase from (230.00) to (783.16). The years 2015 and 2016 reflects CPI of (502.53) and (591.73) respectively.

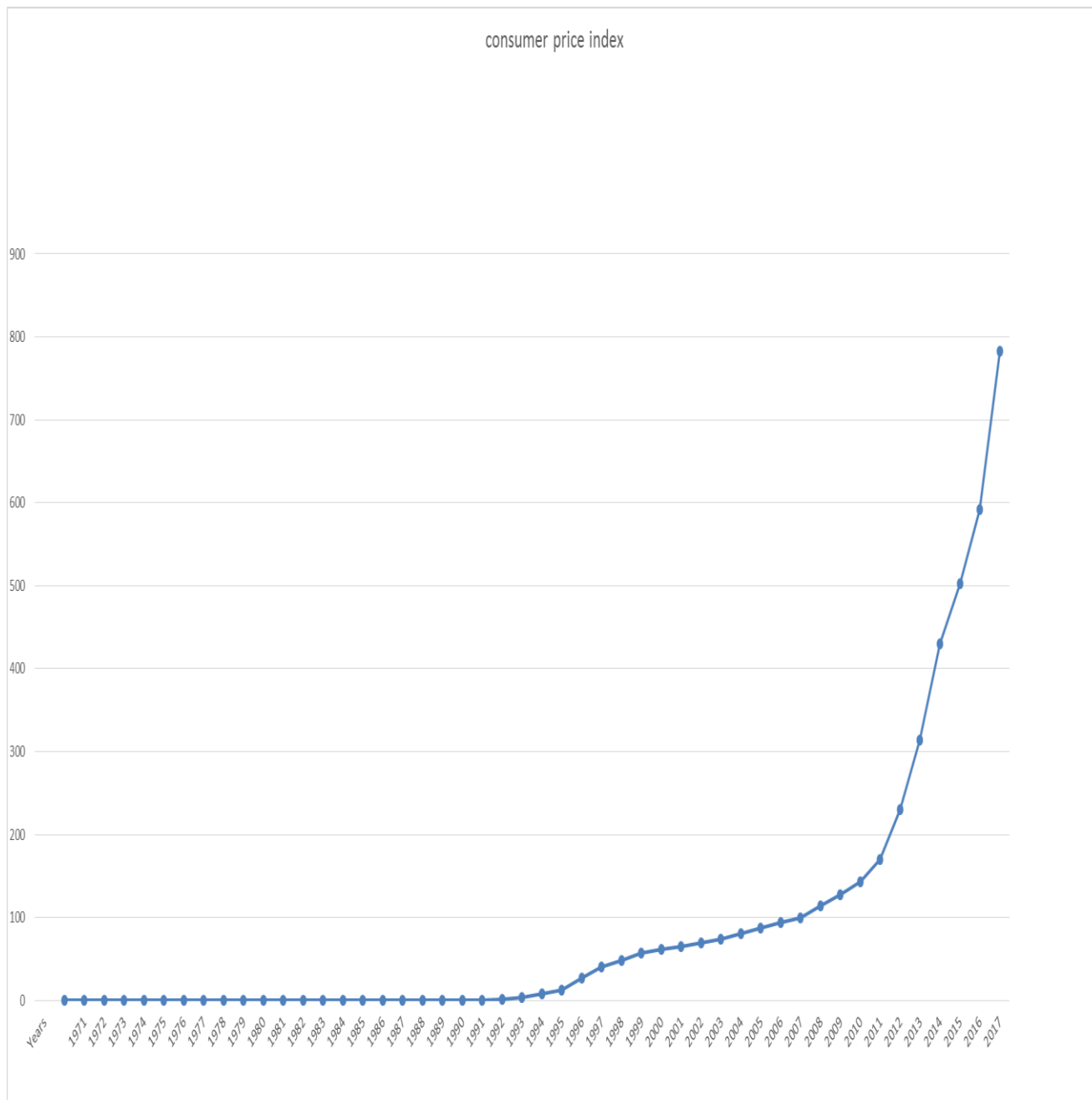


Figure 3.11: Consumer price index of Sudan. 1970 – 2017.
 Data Source: consumer price index and Inflation- Sudan Central Bureau of Statistics.
 Figure prepared by researcher.

Consumer price index by items group for the years 2007-2017 Base (2007=100) shown in table (3.5) illustrates an increase of overall index by 278. Food and drinks price index show an increase for each year during this period where the price index record reflects 185 for the year 2011 , 441 for the year 2014 , 571 for the year 2016 and 771 for the year 2017. Health services Price Index increase to 822.8 in 2017 from 107.8 in 2008. Education CPI increased to 782 in 2017 from 100 in 2008. Transport CPI in 2010 was 110 while this record jumped to 1264 in 2017. Housing CPI was 118 in 2008 and 413.3 in 2017. Communication Services CPI reflects 99 in 2008 , 110 in 2010, 324 in 2013, 504 in 2016 and 578 in 2017

Table 3.5: Consumer price index by item Group for the years 2008-2017.

		Consumer Price Index by Items Group for the years 2007-2017 Base (2007=100)											
Code	Years	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	
	Item												Weights
1	Food and Drinks	771	571	502	441	336	257	185	154	133	119	100	53
2	Tobacco	631	517	400	328	245	196	138	124	115	110	100	1
3	Clothing and footwear	952	809	672	529	354	228	153	130	118	108	100	5
4	Housing	413,3	357,9	306,7	253,9	211,7	177,2	156,3	140,8	128,1	118,0	100,0	14,2
5	Furniture&H/H Eqp.	803,7	659,7	562,8	489,1	336,1	212,0	151,9	126,1	116,4	106,7	100,0	6,9
6	Health	822,8	537,6	441,8	394,8	303,1	204,9	149,1	124,1	118,1	107,8	100,0	1,0
7	Transport	1264	826	659	562	324	194	127	110	108	103	100	8
8	Communications	578	504	368	274	193	153	116	110	106	99	100	2
9	Recreation and Culture	1154	898	721	539	368	207	127	117	110	104	100	2
10	Education	782	667	502	379	274	223	197	157	119	100	100	3
11	Hotels, Cafes and Restau	964	684	553	474	346	247	219	191	160	119	100	2
12	Others	848	656	539	477	327	212	156	133	121	108	100	3
Over All Index		783	592	503	430	314	230	170	144	127	114	100	100

Source: Sudan Central Bureau of Statistics.

3.5.2. Causes of inflation in Sudan.

Rising prices are the root of inflation, though this can be attributed to different factors. In the context of causes, inflation is classified into many types among which are Demand – Pull, Imported inflation and Trade Balance Deficit, Currency exchange rate and inflation and Money supply.

Consumption, investment and Government expenditure are the elements of aggregate demand, many Economic thinkers such as John Maynard Keynes (1883-1946) and his followers affirm the increase in aggregate demand as the source of demand-pull inflation. Demand-pull inflation is said to occur as a result of an increase in real aggregate demand at any price level (Hiller, 1997). The inflationary gap arises as long as the value of aggregate demand exceeds the value of aggregate supply (GDP), that's Demand-pull inflation occurs when the overall demand for goods and services in an economy increases more rapidly than the economy's production capacity. The larger the gap between aggregate demand and aggregate supply, the more rapid is the inflation even before reaching full employment production levels (Jalil Totonchi 2011). In the case of Sudan Economy Sudan Aggregate demand Exceeds the Economy's production capacity (GDP) immediately after the secession of the southern Sudan in 2011, unlike the situation

before that period where the GDP of the country exceeded the aggregate demand by 1% in 2010. In 2011 it self the aggregate demand exceeded the aggregate supply (GDP) by 3% as seen in figures (3.12) and (3.13) and appendix (4) , and continue increasing in the following years where the gap reach 8% in the years 2012 and 2013 and nearly 6% in the years 2014,2015 and 2016 .

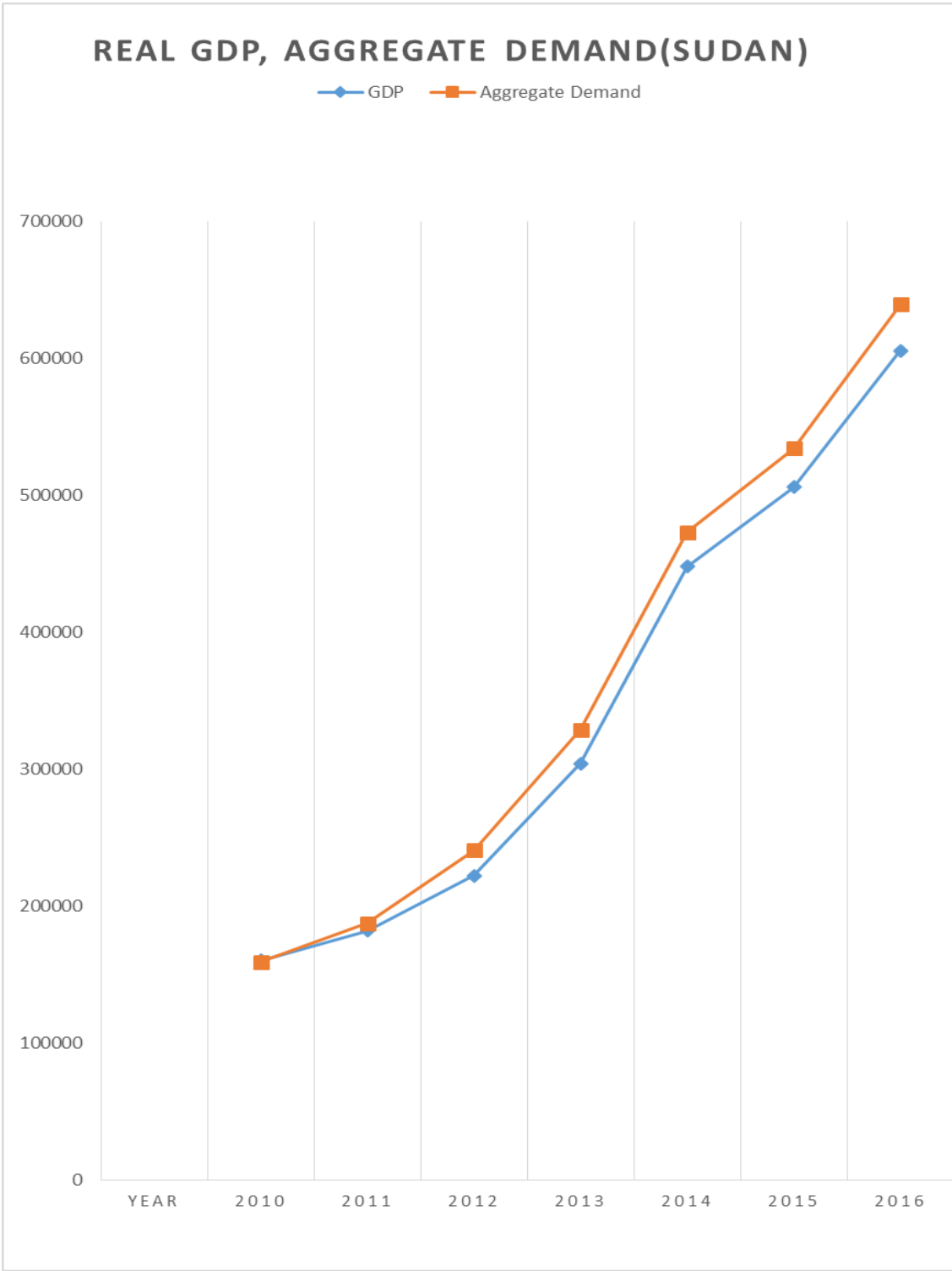


Figure 3.12: Sudan aggregate demand and GDP.

Data Source: Sudan Central Bureau of Statistics.

Figure prepared by researcher.

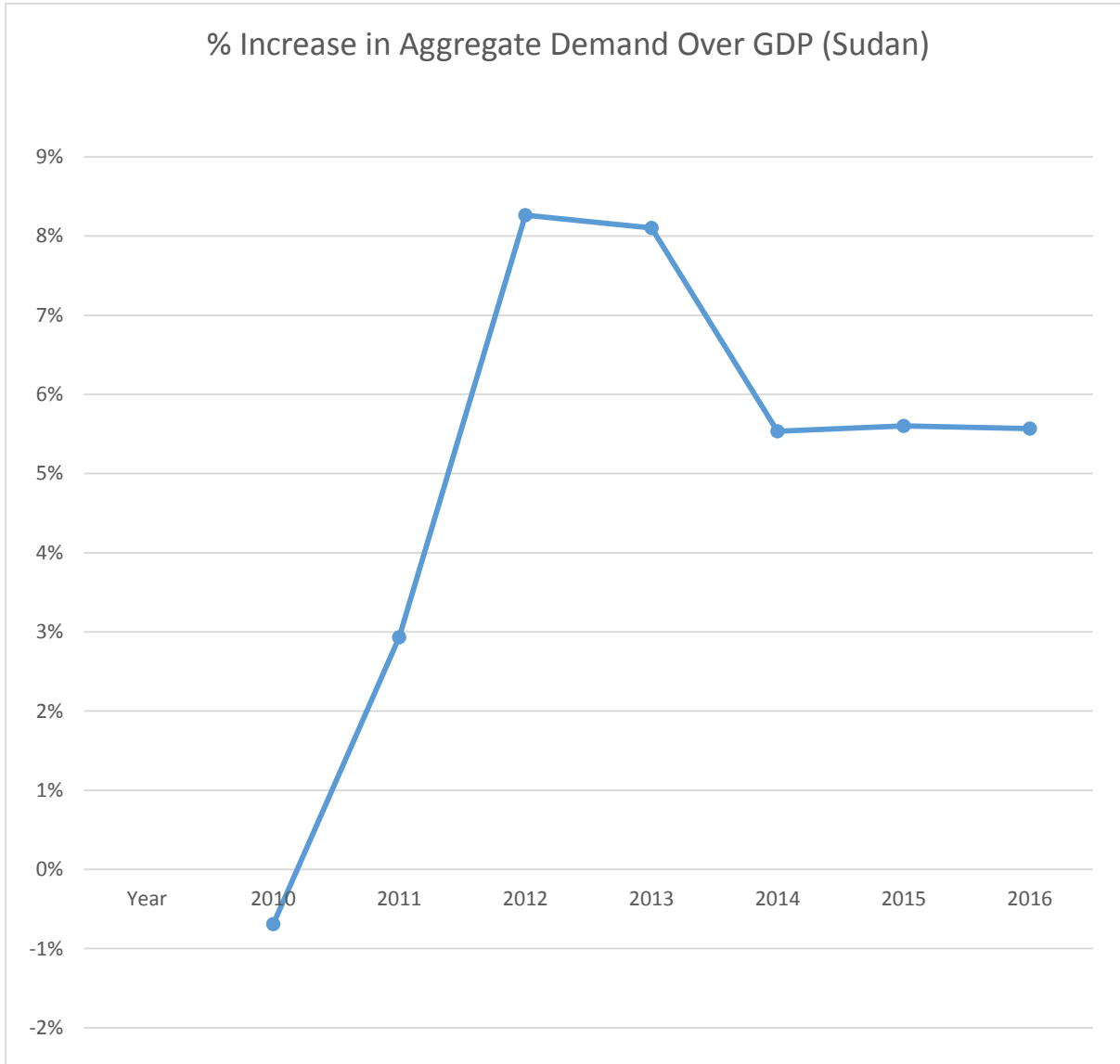


Figure 3.13: Percentage increase of aggregate demand over GDP in Sudan during the period 2000 – 2016.

Data Source: Sudan Central Bureau of Statistics.

Figure prepared by researcher.

3.6. Trade balance deficit.

An economy with increasing aggregate demand may pursue the import policy in order to respond to the excess demand, with the consideration of the inflationary effect of international trade, hence exports and imports are the causative factors for the generation of inflationary effect in an economy. Generally, an increase in imports may cause the depreciation in the rate of exchange and may cause increasing deficit in trade balance (Rizwan et al 2018).The increase in deficit of trade balance caused by rising imports can lead to higher domestic inflation level due to the impact of imported inflation on domestic price levels (M. Alawin 2017). Increase in current account deficit affects domestic inflation negatively in the long run. Imports have played a significant role in explaining inflation patterns (Corrigan, 2005). The imports can directly influence the domestic inflation through high prices of imported goods and services that are included in the price index. Consequently, the cost of production of finished goods increases because of the increase of raw materials' cost; thus, higher imports incline to escalate the inflation (Rizwan et al 2018). The major factor is the higher imports that depreciate the local currency. The international trade have a cogent impact on the inflation, thus it may cause pressure to economy due to imbalance of imports exports inflows and outflows (Dexter et al. 2005).

Sudan economy has faced rapid Trade Balance deficit immediately after 2011. According to Sudan Central Statistical Bureau, the foreign Trade Balance shows surplus of 10% in 2011. And the year after (2012) reflects a deficit of (-56), the deficit continue for the following years hence the deficit for the years 2013 and 2014 was (-52%) , 2015 (-67) , 2016 (-63%) , 2017 (-55%) and the year 2018 (-56) as shown in figure (3.14) and appendix (9).

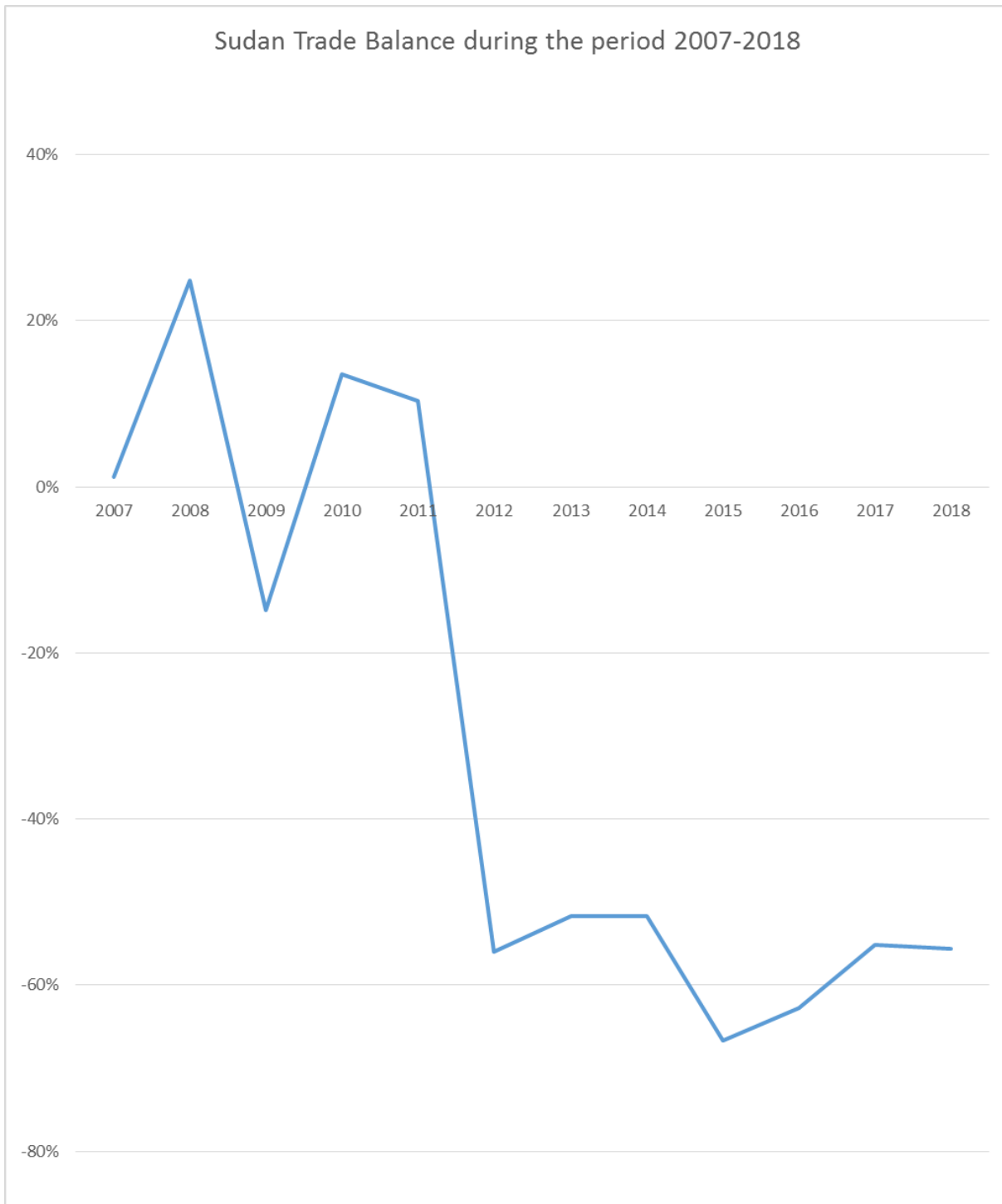


Figure 3.14: Sudan trade balance during the period 2007-2018.

Data Source: Foreign Trade Statistical Digest December 2007 to December 2018 - Central Bank of Sudan.

Figure prepared by researcher.

3.7. Currency exchange rate.

The exchange rate-inflation relationship has been studied by so many studyers and theorist due to effect of exchange rate on general prices levels in particular in emerging economics. In such economies, exchange rate fluctuations can significantly affect the general level of the prices (Dornbuch, 1976). Fluctuations in exchange rates affect domestic products and services produces locally but consist some imported inputs or services in its components, for this reason, it is possible to say that there is a very close relationship between the exchange rate and inflation. For this reason it's also highly significant to implement reasonable exchange rate policies specially in developing countries to maintain stability in national production and international competition without falling into the foreign exchange bottleneck (Sanam et al,2017). Economists mentioned many reasons for the direct and strong relation and the mechanism of how exchange rate affect inflation among whom is Montiel (Agenor, 1996) who mentioned different reasons , which are :

- Prices of imported substitutes goods and services subject to trade domestically are effected by exchange rate fluctuations.

Price of finished goods and services that contains imported input are indirectly effected with exchange rate.

Uncertainties in foreign currency prices can affect domestic price makers and

increase domestic prices.

- Increase in Exchange rate affect nominal wages through the increase of imported goods and inputs. Where increase in labor wages again increase inflation.

The currency exchange rate greatly affect the Economy of Sudan negatively as mentioned earlier the year 2018 showed a huge increase and fluctuations of exchange rate to reach 54.2 SDG against 1 Euro , whereas the rate was 8.4 SDG against 1 Euro as seen in figure (3.15) . As a result the government imposed different policies to restrict the rapid increase of the exchange rate among which allocation of foreign exchange to certain priority items, establishment of multiple exchange rates used for official and commercial transactions (i.e., the CBOS rate, the wheat rate, and the commercial bank incentive rate). A multiple currency practice and exchange restriction arising from large spreads between the CBOS rate and the parallel market exchange rate and the imposition by the of a cash margin requirement for most imports.

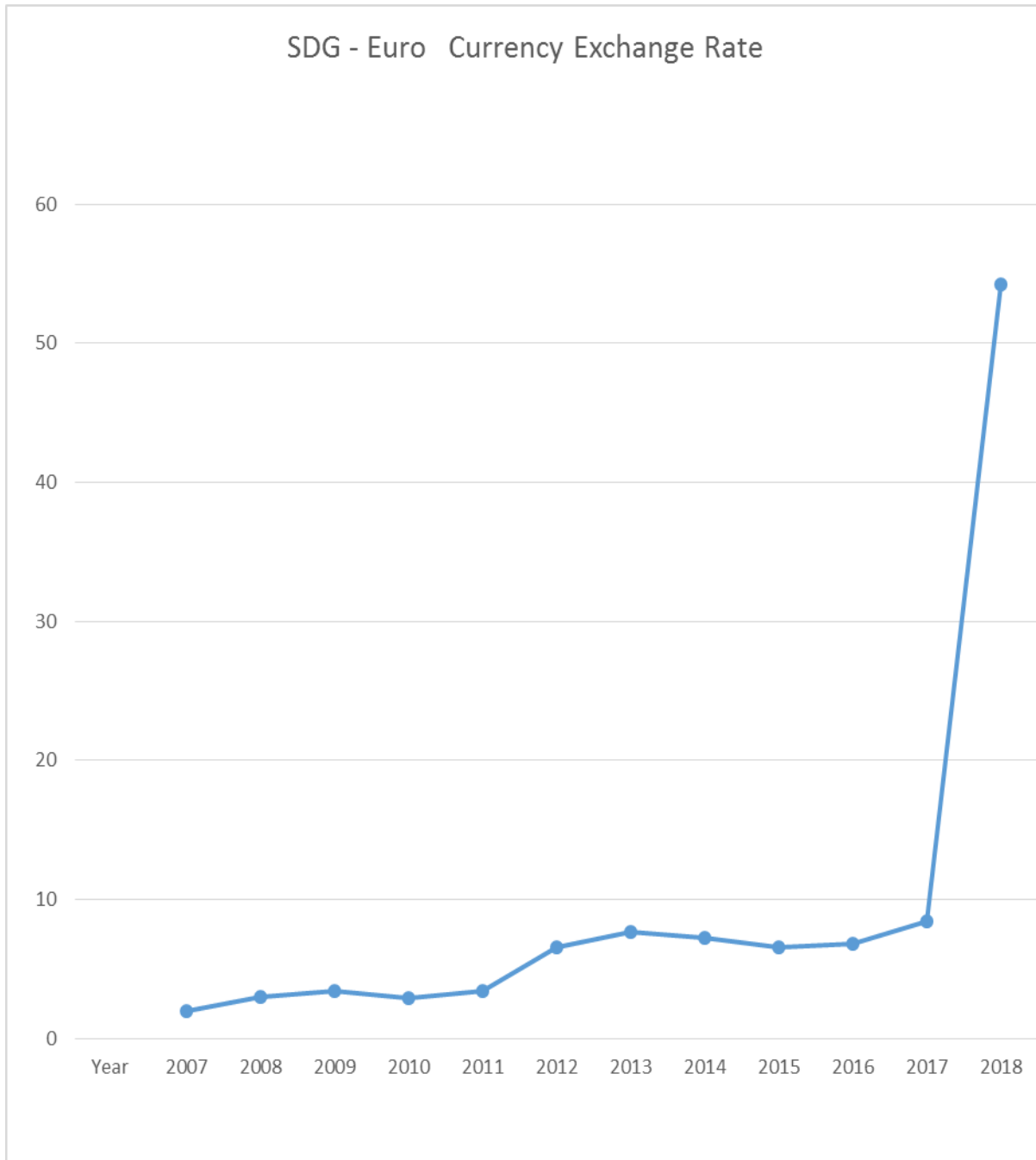


Figure 3.15: SDG /Euro currency exchange rate for the period Dec 2007 – Dec 2018.
 Data Sources: The Economic Review issues December 2007 to December 2018 – Central Bank of Sudan.
 Figure prepared by researcher.

3.8. Money supply (MS).

Expansion in the aggregate money supply has direct relation with a sustained rise in the general price levels of goods and services (Vaish 2000) , giving rise to an in-crease in the aggregate demand for goods and services which cannot be met at the current prices by the total available supply of goods and services in the economy. Many Economists viewed money supply as one of the main and direct effective factor on inflation rates (Chhibber et al 2000), and they recommend adoption of a restrictive monetary policy in which the supply of money must be constrained to grow steadily at the rate of growth rate of the economy (Kilindo 1997). That's the money supply growth rated should match real aggregate supply (GDP) growth rates. Inflation arise when money supply growth rates exceeds GDP growth rates. This is so because the increase in money supply may not be faced with increase of real economic output of goods and services, hence the percentage increase of money will buy the same goods and services, which can lead to rise in the general prices levels.

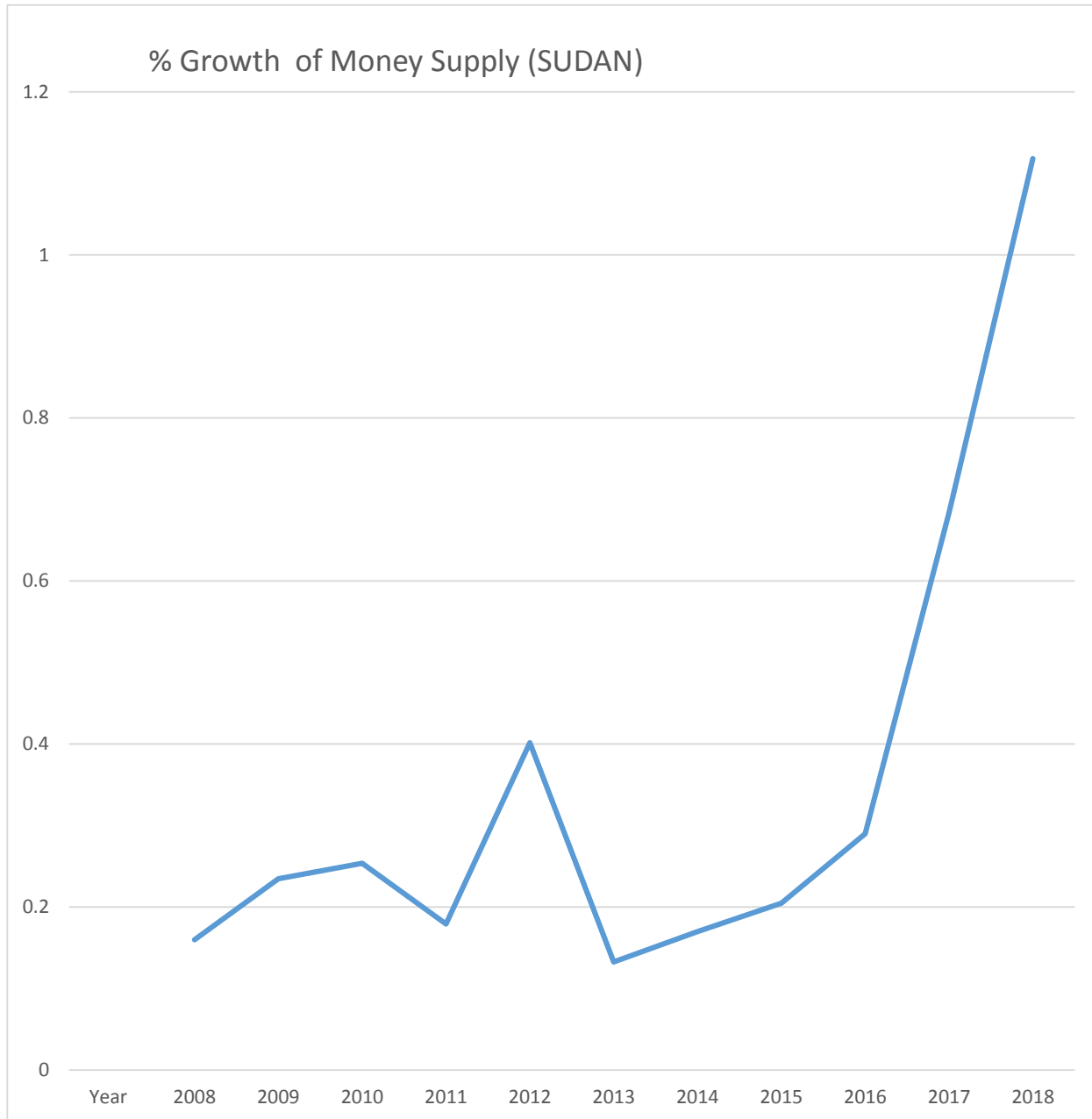


Figure 3.16: % Growth rate of money supply (Sudan).
Source Central Bank of Sudan Annual reports (Several years).
Figure prepared by researcher.

The money supply growth rate in Sudan shows yearly increase during the period 2008 - 2018 as shown in figures (3.16) and (3.17) . MS as realized increase from 18% in 2011 to more than 40% in 2018 which reflects more than 100% increase during that year, although the oil revenue decreased by 70% , and the population decreased by 20% as a result of secession of the south Sudan. The growth of MS went down in 2013 to reach 13%, and then increased in the following years where it shows increase of 17% in 2014, 20% in 2015 and 29% in 2016. The years 2017 and 2018 shows a rapid increase in money supply hence the year 2017 reflects an increase of 68% of MS showing a record of 100% increase from the previous year . While the year 2018 reflects an increase rate of 112%.

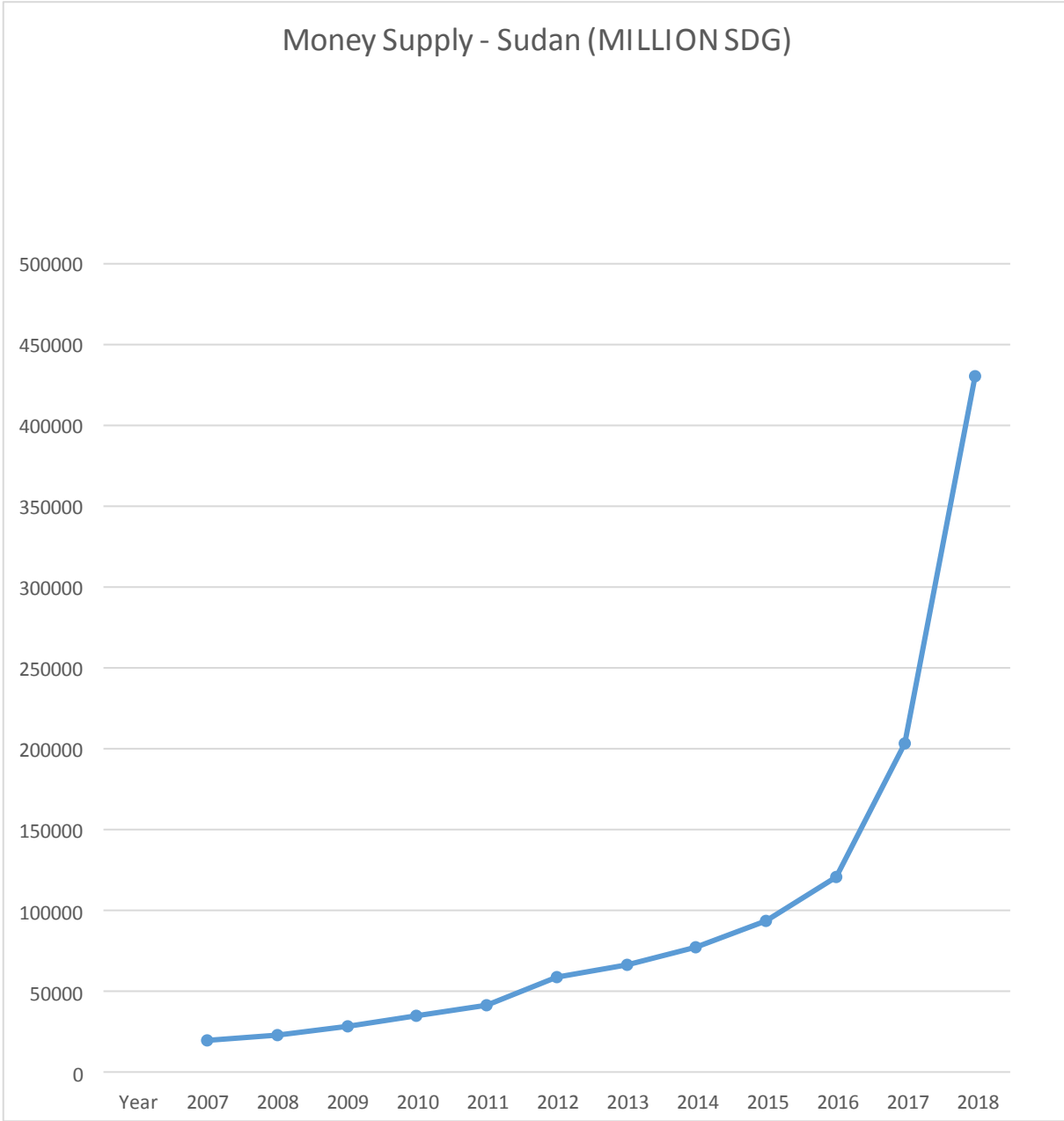


Figure 3.17: Money supply in Sudan (Million SDG).

Data Source: Central Bank of Sudan Economic and Financial Statistical Review
December 2007- December 2018.

Figure prepared by researcher.

Money supply and GDP growth rates during the period 2008 – 2016 shows fluctuated growth rates for both measures. As seen in figure (3.18) and appendix (4) growth rates of money supply were above GDP growth rates in the period 2008 – 2012, while during the years 2013 and 2014 the GDP growth rates were above money supply growth rates. In the year 2016 the money supply growth rates again were above GDP growth rates. GDP growth rate official data is not published for the years 2017 and 2018, but the money supply growth rates showed rapid growth for these years especially for the years 2017 and 2018 where it was 68% and 112% respectively.

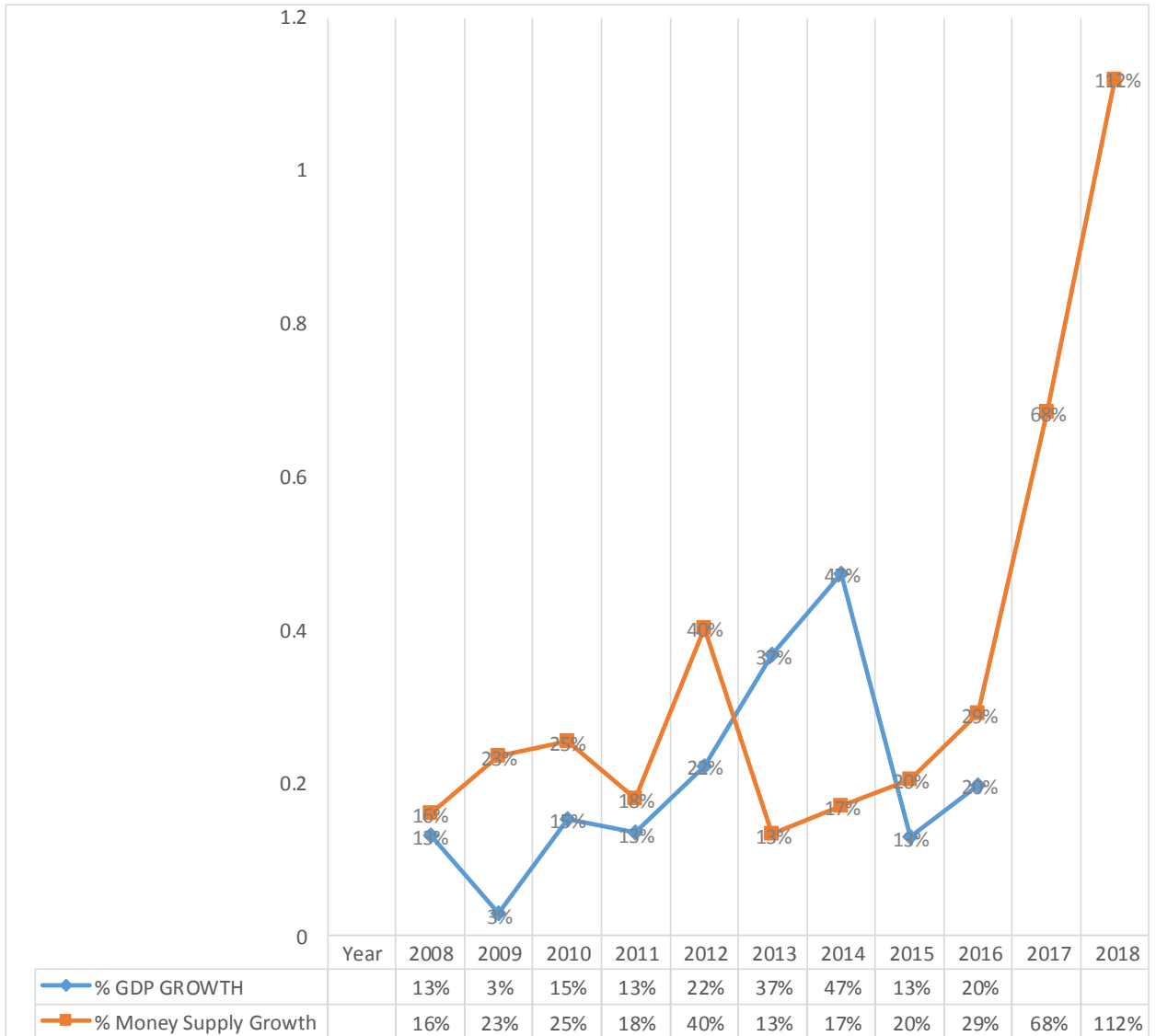


Figure 3.18: % Growth of GDP and % growth of money supply (Sudan).

Data Sources: Central bank of Sudan annual reports (Several years).

Sudan Central Bureau of Statistics.

Figures prepared by researcher.

3.9. The banking sector of Sudan.

During the period of English colonialism in Sudan, the banking system was restricted to foreign banks including: the National Bank of Egypt, Barclays Bank, the Ottoman Egypt Bank, and Credit Lyonnais. The Banking system during the pre-independent periods was run by foreign banks (Fady et al 2011) , and it was established to serve the colonization regime objectives, the currencies used in economy were The British and Egyptian currencies. After the independent in 1956 as the policy of Sudanization dominate the culture of the post independent Governments, the first Sudanese currency was issued in 1958, and the central bank of Sudan was established in 1960 (Fady et al 2011). Based on the Sudanization policy adopted by the Government of Sudan in the post-independent period, the Government has change the Banking sector formulation by issuing a decision to nationalize the entire commercial Banks in May 1970, and restrict the influence of foreign capital on sectors related to Banking, foreign trade and insurance. Banking facilities directed towards rural development (Al-Haran). In the mid of 1970s the Government change its policy towards foreign Banks, where a decision of was made for them to operate in Sudan under certain restrictions among which not serving Sudanese Citizens, allowed to facilitate imports – exports agents and Sudanese nationals working abroad, accordingly some American, Asian and Banks from Gulf

allowed to start banking operations in Sudan (Bashir and Malik 1988). At the beginning of 1990 the success of the experience of Islamic Banking by some Islamic Banks operate in Sudan encourage the Government to convert the entire Banking system of the country in to Islamic Banking and Financial mode which is characterized by interest free system (Haron 1997). This in turn attract considerable amounts of deposits in to the Banking sector. Foreign Banks enter to operate in Sudan in that period and after. The number of national and foreign banks increased from 29 in the year 1997 to 37 Banks in the year 2018 as seen in figure (3.19) which shows also the categories of Banking sector of Sudan, which contains 23 joint Banks , one Government Bank, 8 foreign banks ,2 specialized foreign banks, and 3 specialized Government banks.

According to the Banking Business (Organization) Act of 1991 (Bank of Sudan Chapter 1 Article 3), the banks are allowed to perform the following:

Banking finance, including receipt of cash, currency deposits, savings deposits and investment deposits;

- Providing letters of credit and the issuing of letters of guarantee;
- Payment of checks and collection of orders, vouchers and other papers of value;

- Providing financing to customers and operations to deal in foreign exchange;
- Any finance work as determined by the Bank of Sudan, which are not inconsistent with the rule of *Shari'ah* (Islamic Law).

In addition to this and in accordance with the previous interpretation, the Banking Business (Organization) Act of 1991 states in Article 4 that the types of businesses banks may conduct include:

- Lending.
- Issuing letters of credit or granting letters.
- Providing loans with or without guarantees.
- Promissory notes, bonds, bills of lading, rail investments, certificates of debt securities and stock certificates.
- Traveller" s checks and credit checks.
- Buying and selling foreign exchange, stocks, funds and debt securities.
- Shares of debt and bonds, guarantees and all forms of investment.
- Keeping the secretariats.

Entering into contracts for Murabahah (mark up), Musharakah (Active Partnership) Mudarbarh (Passive Partnership) and all contracts and formulas

that do not conflict with any rule of *Shari'ah* (Islamic Law) and are approved by the Bank of Sudan.

In addition, the banks are allowed to be agents of government or local authorities or any person or persons, provided the implementation of this is underwritten. Also any other actions as determined by the Central Bank of Sudan may be undertaken.

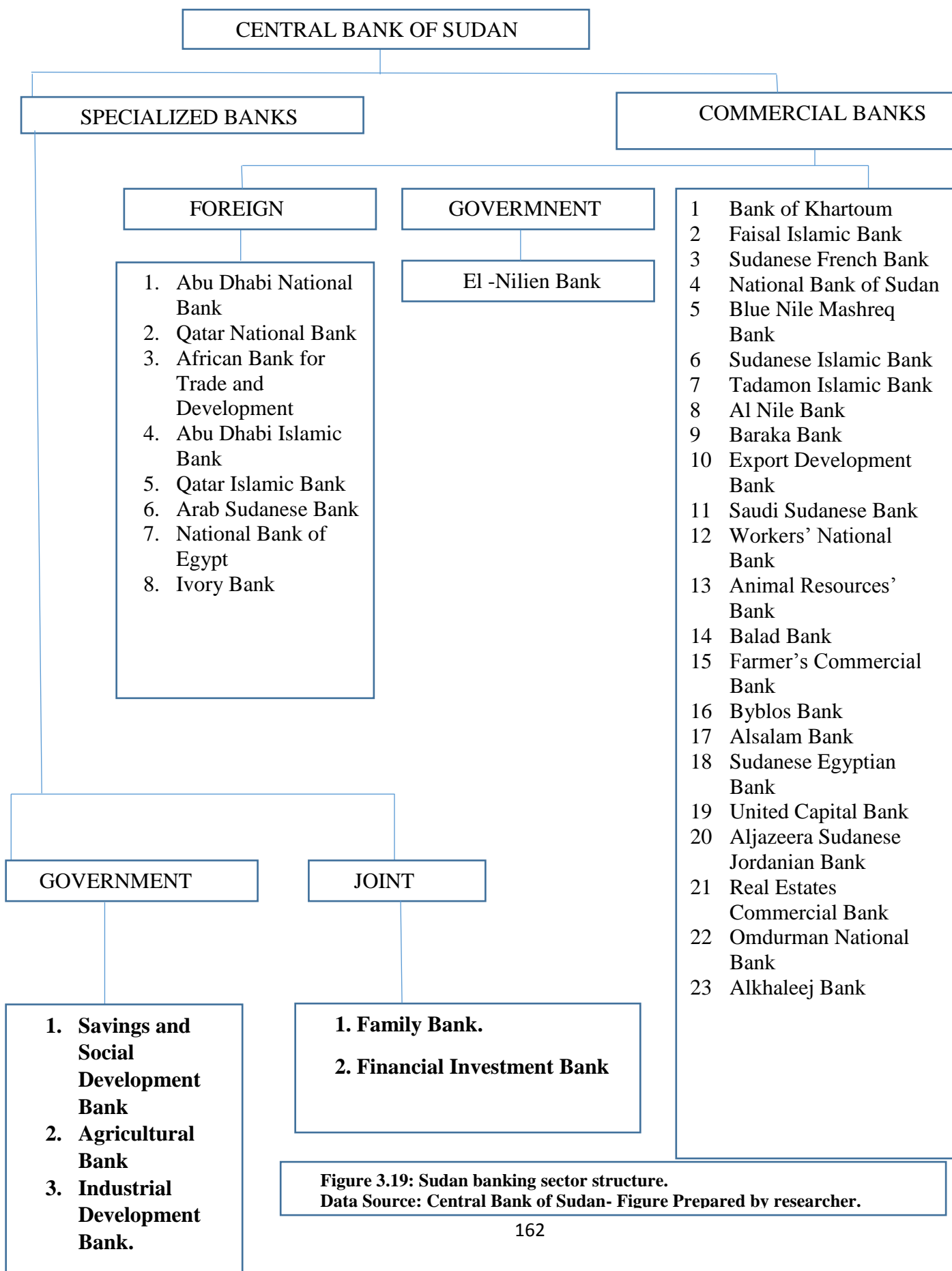


Figure 3.19: Sudan banking sector structure.
Data Source: Central Bank of Sudan- Figure Prepared by researcher.

Success of a banking sector and the bank's efficient performance based on customer attitudes, political and economic environment which has a significant direct impact on the performance of the Banking sector in general. This section is designed to elaborate the Performance of the Banking sector of Sudan in the light of the data and information about the Economic environment where Banks perform their Banking operations, as mentioned during the course of this chapter of the study. As mentioned Banks depends mainly on public deposits (Savings) in any economy, where the volume of banks deposits represent the power of Banks to present finance again to the public and government. Fluctuations in the volume of public deposits exists due to many factors which are economic sanctions, inflation, Government policies... Etc, among these factors inflation has the highest consideration in any economic growth as well as the public deposit with in the banking sector.

3.9.1. Savings, the main indicator of banks deposits volume.

The public savings of Sudan according to official record of Sudan Central Bureau of Statistics as seen in figure (3.20) and appendix (4) show unstable public savings in the period 2000 to 2016. The year 2000 shows decline in savings where it reached (-977.7 million SDG). Between the years 2001 and 2004 records reflects continuous increase from (1962.4 million SDG) in the year 2001 to (5,591.6 million SDG) in the year

20014. The year 2005 shows a decline to (478.10 million SDG). Savings continued rapid rising again where it reached (6,770.00 million SDG) in 2006. During the period 2007 to 2011 shows a sever increase on savings from (10,797.60 million SDG) in 2007 to (30,202.80 million SDG) in 2011. The year 2012 shows huge decline of public savings to reach (7,515.80 million SDG). The years 2013 to 2015 reflects fluctuations in savings where it shows (551.80 million SDG) in the year 2013, (8,756.20 million SDG) in year 2014, (613.90 million SDG) in the year 2015. 2016 was the lowest year in terms of public savings in Sudan during this period where it was (-14,412.70 million SDG).

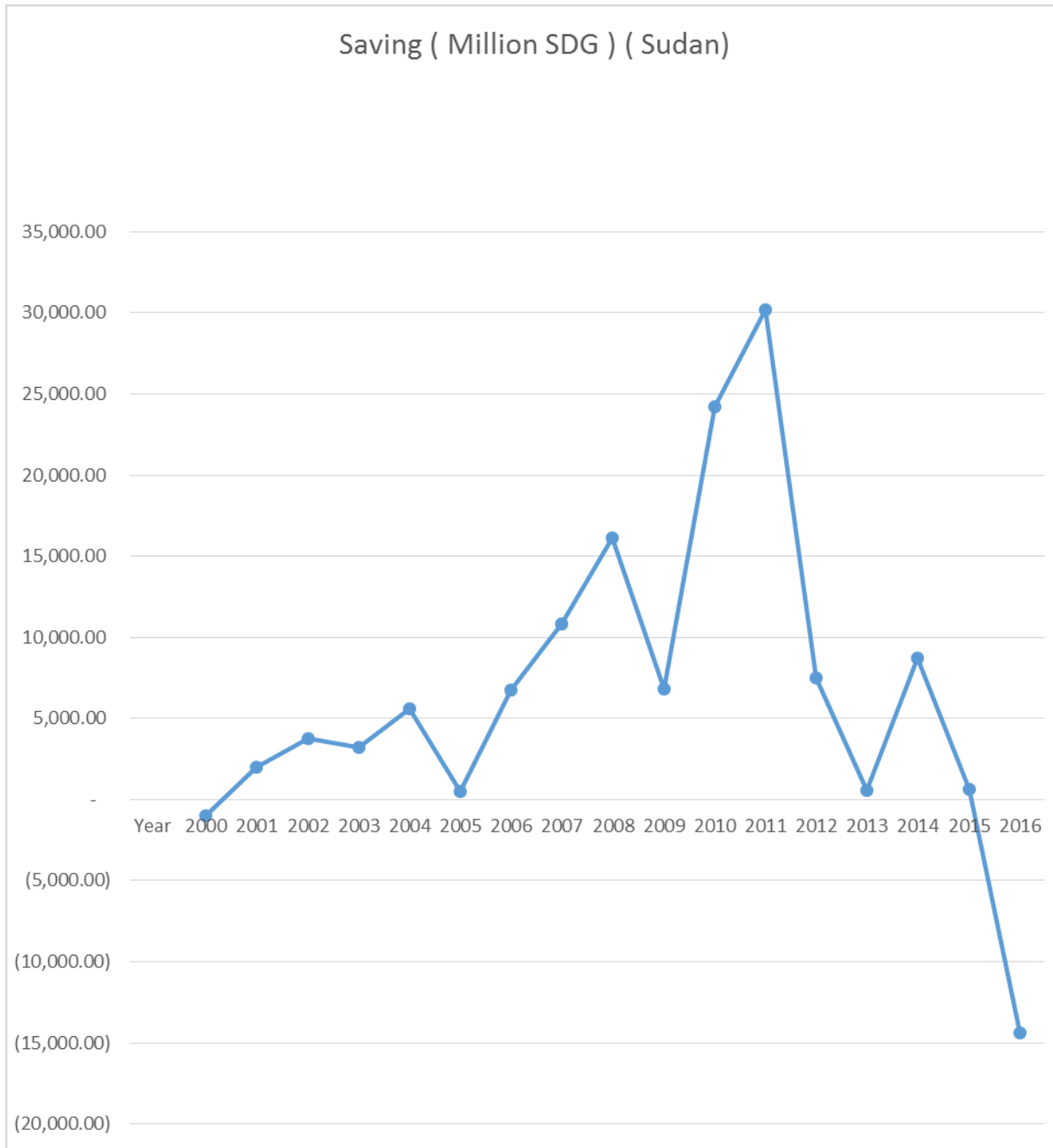


Figure 3.20: Public savings of Sudan during the period (2000 – 2016).

Data Source: Sudan Central Bureau of Statistics.

Figure prepared by researcher.

The reasons behind savings fluctuated in any economy is when Aggregate consumption and National income fluctuated. Where the National Income is defined as an economic measure of income accruing to a country from the Economic activities in a years' time (J. Steven et al 2007). The consumption function, or Keynesian consumption function, is an economic Formula that represents the functional relationship between total consumption and gross Income, the theory states that, As long as consumption exceeded income, savings diminished and vice versa. This is illustrated in figure (3.21) and appendix (4), which show the aggregate consumption, income and savings in Sudan economy during the period (2000 – 2016). Savings were increasing during the years where income exceeding consumption and decreasing during the years consumption exceeding income. the years 2000 and 2016 show negative figure of savings , where in these years aggregate consumption was above the national income , unlike the other years which shows appositive signs for aggregate savings hence the national income in these years exceeded the aggregate consumption. The years 2010 and 2011 shows the highest savings levels in this period which is (24 266.00 Million SDG) and (30202.80 SDG) respectively. The year 2012 which is the first year after the secession of the

south Sudan shown a sharp decrease in savings which was (7,515.80 Million SDG, compare to (30,202.80 SDG) form the previous year. Savings declined gradually since then until it reaches the lowest level in 2016 which was (-14,412.70 Million SDG) as illustrated in figure (3.21).

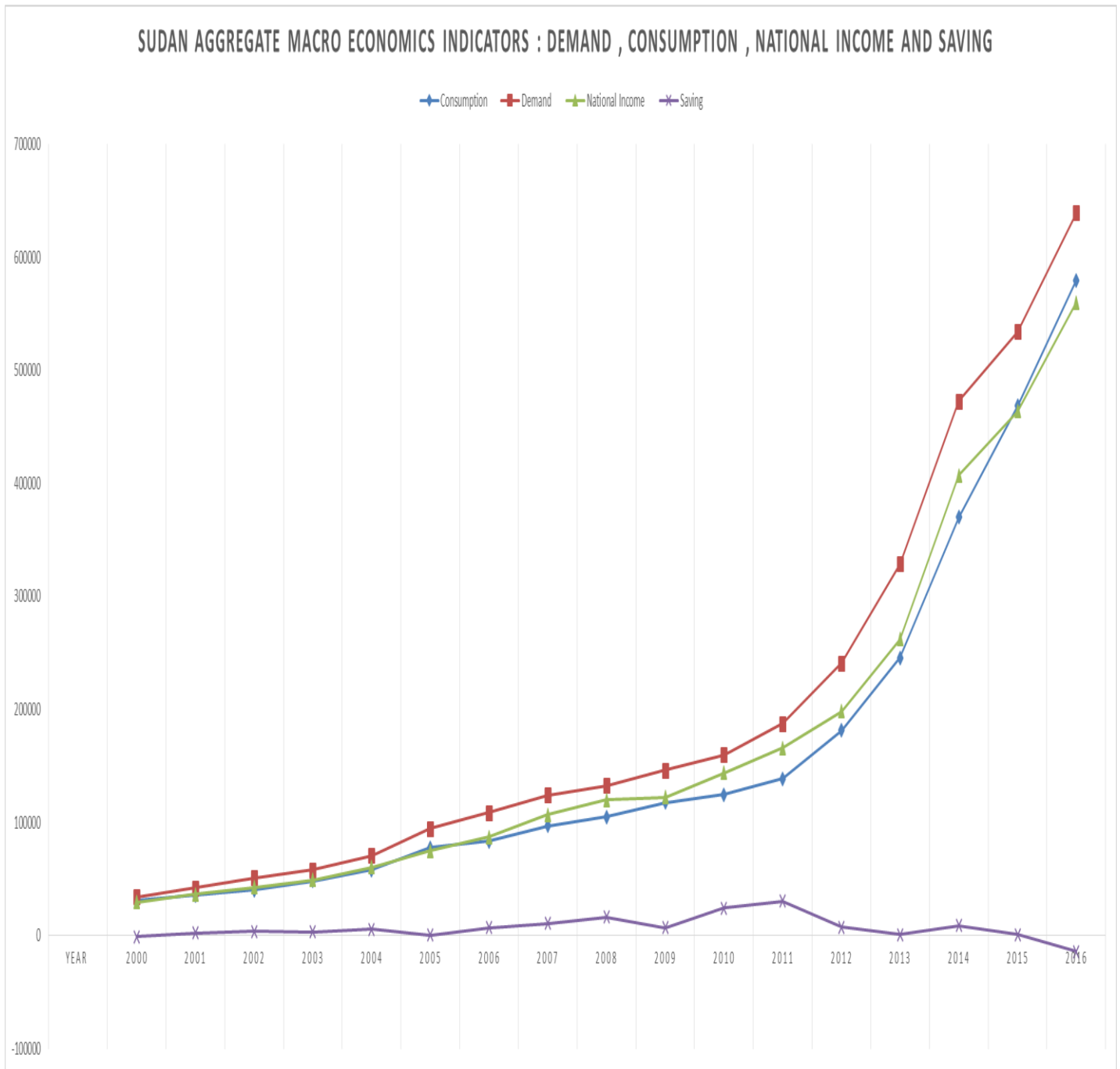


Figure 3.21: Sudan aggregate consumption, national income and savings for the Period 2000 -2016.

Data Source: Sudan Central Bureau of Statistics.

Figure prepared by researcher.

3.9.2. Banks finance to deposits ratio.

The Banks finance to deposits ratio was above 80% for the period 2007 – 2016 apart from the year 2012 which reflect a record of 75% as seen in figure (3.22) and appendix (7). The years 2017, 2018 and 2019 showed sharp decline in the ratio of total banks finance to total deposits, 74%, and 54% and in January 2019 it was 52%.

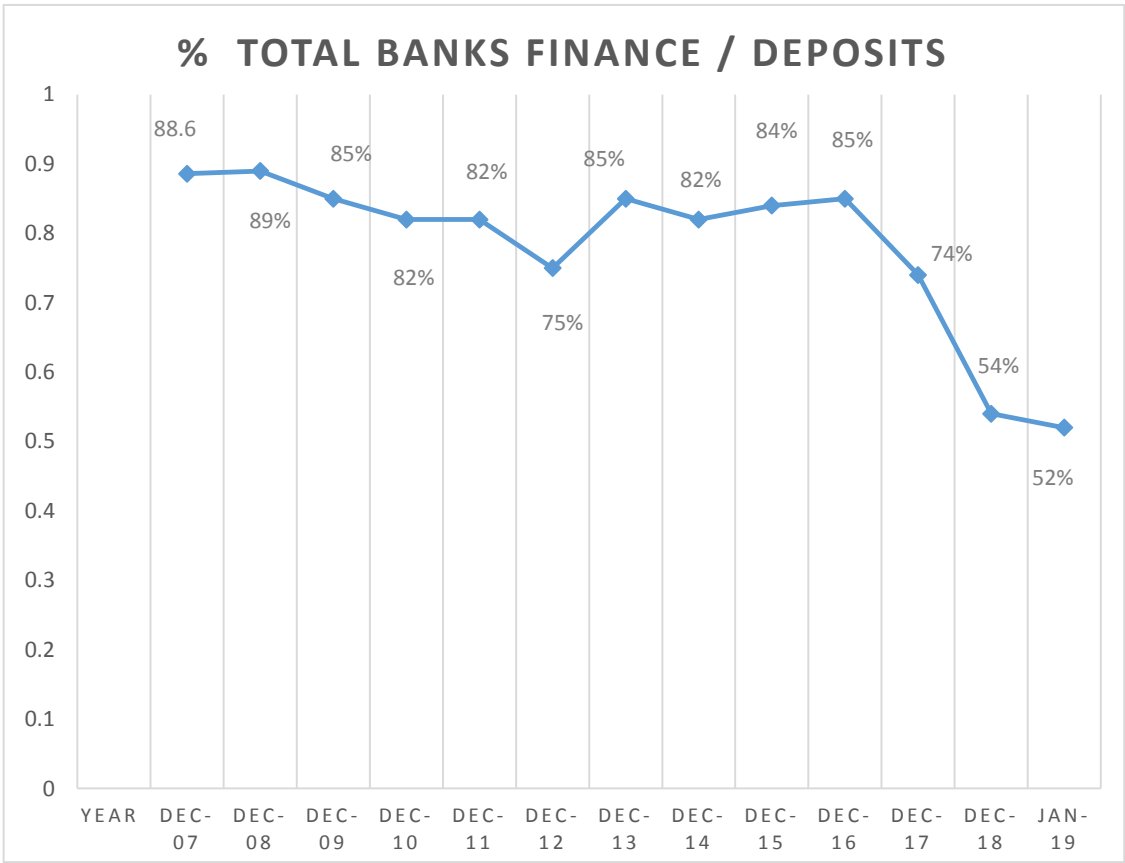


Figure 3.22: % total banks finance to deposits.

Data Source: Central Bank of Sudan. The Economic Review. Issues Dec 2007 / January 2019. Figure prepared by researcher.

3.9.3. The physical cash shortage in banking sector of Sudan in 2018 - 2019.

Sudan has faced severe economic challenges since the beginning of 2018. The elimination of wheat and flour subsidies in February 2018, an announcement by the minister of finance to raise custom duties for the year 2018, coupled with continual devaluations of the Sudanese pound and higher inflation rates. All these reasons led the public to rush to withdraw their deposits of cash from the banking system in a very short period of time which cause a severe shortage of cash in the banking system. Many cash machines in the Sudanese capital have run out of banknotes as the government scrambles to prevent economic this economic situation with austerity measures. Rising demand for cash due to inflation with a very big gap in providing bank note by the central bank and imposing strict withdrawal limits for cash, led to lack of trust in the banking system specially at the cash transactions levels, hence The central bank was not injecting enough fresh currency to cover the total demand on cash withdrawal.

3.9.4. The effect of US economic sanctions on Sudan banking system.

Since November 1997 the Government of the united states imposed economic sanctions on Sudan and freeze all Sudan Government assets in the united states or/and controlled by the United States Government around the world. The

sanctions also extend to limit Sudan's ability to transact in US Dollars. The Sanctions also states that international transfers are not allowed to process through a bank owned or controlled by the Government of Sudan. This situation led to a sharp decline in Correspondent banking lines with Sudanese banks, where Sudanese banks remained very weak in terms of international financial attendance.

3.9.5. The transitional Government of Sudan and the banking sector.

The second half of the year 2019 witness a transitional state of Sudan Government System, and where transitional regime will Govern the country for three years. The Transitional Government express its conviction of the tremendous capabilities that characterize the Sudanese economy, paving the way for dealing with its economic troubles with new vision and policies, and reform plan to address the issues of inflation and restore confidence and trust in Banking system. The Government promised to reform the economic policies aiming to take the Sudanese economy from an economy based on consumption and imports to a productive economy, and stop exporting products such as livestock and materials, to increase the added value on the economy

Chapter four

Study methodology

Introduction

The objectives of this study is to find answers to the study questions which are, What is the relationship between the five enabler criteria of the EFQM and customer result criteria? What is the relationship between the five enabler criteria of the EFQM and people result criteria? What is the relationship between the five enabler criteria of the EFQM and business result criteria?

The answer to these questions is through testing the hypothesis of a causal relationship between application of the enablers side of the EFQM model and their impact on organizational performance in terms of financial indicators, customers satisfaction and employee satisfaction which constitute the results side of the EFQM model. This chapter elaborates the study methodology applied in this study, it describes how the data was collected from different sources, the survey design that was chosen, who are the participants and how the population and sample of the study determined. The tools that used for data collection and methods for data analysis are elaborated in details.

4.1. General approach.

Study methodology is a way to systematically solve the study problem (C.R. Kothari 2004), as stated in chapter one the study problem is the need to restructure organizations in the developing countries via implementing management standards

and approaches that are being implemented in the developed countries specially members countries of World Trade Organization (WTO) where these countries can share their products and services based on the free market regulations of (WTO). Among these management approaches are the excellence models which concern with the overall satisfaction balance of stakeholders including customers of these organizations. Taking the case of the banking sector of Sudan as implementer of the European foundation of quality management model (EFQM). In this study descriptive analytical method is used with primary data collected via a questionnaire and secondary data collected from pervious literature and reports. Information sources for literature are Documents, Records, studies, books and scientific journals.

4.2. Population framework.

The Population of this study is the Banking sector of Sudan employees who are defined as the target population, which involve the group upon which information is ideally targeted, Where the survey is conducted with them, and due to the large size of the population the study cannot test every individual within the study scope, thus The study relied on survey population which involve the group under survey focus.

4.3. Sampling methods and procedures.

A sample is a subset of the population (e.g. top management staff, middle management staff, junior staff, customers ...etc). The concept of sample arises from the inability of testing all the populations units, but it must be representative of the population from which it was drawn and it must have good size to warrant statistical analysis. The main function of the sample is to allow results of studying of individuals drawn from population to derive conclusions that can be applied to the entire population.

4.3.1. Selecting a sample.

Sample members are selected on the basis of their relations and their knowledge to the purpose of the study. Sample members who were selected represent the areas of business where EFQM model could be assessed, and can be respond to the study questions. For the sample to represent the population of the study, the selection of sample depends on random sampling technique, that representing the employees of the Banks selected . The targeted group under survey focus include employees of thirty Banks out of thirty seven Banks and this represent more than 80% of the total operating Banks in Sudan.

4.3.2. Population of the study.

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 study 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.

4.3.3. Qualitative sampling.

Sample size in qualitative study may refer to numbers of individuals, but also can referred to numbers of interviews and observations conducted or numbers of events sampled. People are certainly central in all kinds of inquiry approaches, (Clive Roland Boddy, 2016) . Qualitative sample sizes should be large enough to obtain enough data to sufficiently describe the phenomenon of interest and address the study questions. The goal of qualitative study should be the attainment of saturation. Saturation occurs when adding more participants to the study does not result in additional perspectives or information. Glaser and Strauss (1967) recommend the concept of saturation for achieving an appropriate sample size in qualitative studies. Other guidelines have also been recommended. For an ethnography, Morse (1994) suggested approximately 30 – 50 participants as mentioned in the grounded theory,

while Creswell (1998) suggested only 20 – 30. For phenomenological studies, Creswell (1998) recommends 5 – 25 and Morse (1994) suggests at least six. It is also being proposed that the appropriate sample size for most study is to be more than 30 and less than 500 (Roscoe - 1975).

These recommendations can help the researcher estimate how many participants they will need, but ultimately, the required number of participants should depend on when saturation is reached.

4.3.4. Quantitative sampling.

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:

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

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 $\pm 0.05\%$.

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 $\pm 0.05\%$ could be achieved accordingly.

4.3.5. Data collection techniques.

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 study 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.

4.4. The questionnaire.

4.4.1. Questionnaire design.

The questionnaire is the medium of communication between the 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 study parameters, since answers could be in 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 Kanji, 1998) as seen in appendix (3).

The objective of the questionnaire design for this study is to provide a base for testing the hypotheses of the study mentioned in chapter one and it's combined of two parts as shown in appendix (1) which are:

- 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 criteria of the EFQM model (apart from the society result) which include Leadership, Strategy, People, Partnerships and resources, Processes, financial results, customer's results and employee's results.

4.4.2. Translation of the questionnaire.

The basic version of the questionnaire is in English language, and due to the first language of the study participants which is Arabic language, it has been translated in to Arabic Language based on the Arabic version of the EFQM publications as shown in appendix (2). The questionnaire arbitration and validation was on the bases of the content validity to examine the study hypotheses. This is done by five professionals who are practitioners of business excellence and / university teaching staff at the same field.

4.5. Secondary data.

In this study the secondary data were collected from Its original sources which are previous studies, Books , Annual reports , Financial reports which were already exist

as across sources. The purpose of collecting the secondary data is to formulate new datasets in relation to primary data.

4.6. Primary data.

For the purpose of answering this study questions by testing the hypotheses of the study, a primary data is collected through a survey for a sample from the banking sector of Sudan employees. Which represent in this study the first-hand sources of data, which add to the secondary data statistical value to serve this study objectives.

4.7. Selecting the primary data collection method.

The purpose of selecting the technique used for data collection is to allow the study questions to be answered, taking into account the characteristics of the sample selected from the population of the study. Some common data collection methods include observations, interviews, focus groups, surveys. Selecting the data collection method is designed to ensure that data collected will allow the study questions to be accurately addressed. In this study questionnaire is the appropriate method of collecting data from the targeted group of employees at the Banking sector of Sudan hence the availability and ability to interact with the questionnaire questions is

expected to be high, since this sector is adopting adopted the EFQM model for several years.

4.8. Quantitative data (The self-administered questionnaire).

Questionnaires can be administered by an interviewer or answered by the respondents themselves (self-administered). Self-administered questionnaires can be mailed or given in person to the respondents. They are feasible in a literate population if the questions are short and simple. If questions are complex or nested or if significant probing is required, interviewer administered questionnaires may be preferable (WHO - 2008). For the purpose of this study it's decided to select the self administered questionnaire (closed – end) for the following reasons:

- No interviewer bias.
- Less time spent on administration.
- Easier questioning of larger numbers of people.
- More leisurely, which may permit more careful responding.
- Perceived as more anonymous and may therefore yield more accurate data on sensitive issues.

Closed-end questions allow a limited number of answers, leaving no space for additional information to be volunteered; they require only recognition and a choice from among answer options. Advantages of closed-end questions are greater precision, uniformity, easier coding and easier analysis than open-ended questions (WHO 2008).

4.9. Data analysis techniques.

The sampling of the study depends on random sampling or probability sampling, where each individual in the population has an equal and independent chance of selection in the sample. Equal implies that the probability of selection of each element in the population is the same; that is, the choice of an element in the sample is not influenced by other considerations such as personal preference. The concept of independence means that the choice of one element is not dependent upon the choice of another element in the sampling .The main advantage of random/probability samples is its representation of the total sampling population, hence the inferences drawn from such samples can be generalized to the total sampling population (Ranjit Kumar 2011).

The quantitative data of the questionnaires as shown in appendixes (1 and 2) were collected during the months of July and August in the year 2019 , where

statistical analysis methods applied to the data collected , hence the completed questionnaires were reviewed for quality of data , errors and accuracy, then the questionnaires were coded and entered in to SPSS (Statistical Package for the Social Sciences) (version 25) and Analyze Moment of Structure AMOS software program (Version 25).

Data analysis is the most crucial part in this study where collected data were summarizes. It involves the interpretation of data gathered through the use of analytical and logical reasoning to determine patterns, relationships or trends between the application of EFQM model and positive indicators of financial results and risk mitigation in the Banking sector of Sudan, descriptive statistics techniques were used to clarify such correlation such as calculating mean, standard deviation, frequency, percentage and mode to calculate the significant differences for the variables.

4.9.1. Validity and reliability.

Reliability and validity clarify the stability and accuracy of hypotheses testing. The test is valid if it measures what it's supposed to. Reliability measure consistency of the stability or consistency of test scores. While validity simply means that a test or instrument is accurately measuring the subject topic of the study.

4.9.1.1. Validity.

The Validity of the measurement instrument is assessed based on its ability to measure what it is designed to measure. In terms of measurement procedures, another definition states that 'validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration' (Babbie writes, 1989). These definitions reflect two questions, which are; what to measure and how to measure it.

In this study the validity of the study instrument of measurement which is a quantitative questionnaire to test the study four hypotheses. Which is supposed to measure the impact on financial indicators, Market share, Strategic objectives, Risk mitigation, in relation to the application of Business Excellence model at the Banking sector of Sudan. The questionnaire explained opinions of different levels of selected correspondents on more than fifty issues related to the hypotheses of the study which reflects the reality of the EFQM business model application in the Banking sector of Sudan.

4.9.1.2. Reliability.

Reliability focuses on the ability of an instrument to produce consistent measurements. When collecting the same set of data more than once using the same

instrument and get the same or similar results under the same or similar conditions, an instrument is considered to be reliable. Therefore, reliability is the degree of accuracy or precision in the measurements made by a study instrument. The lower the degree of 'error' in an instrument, the higher the reliability (Ranjit Kumar -2011). The ability of the questionnaire design to test the four hypotheses of the study is validated and assessed by three specialized Professors in the fields of total quality management. The sample size selected based on Thompson formula for sample sizing, this formula provides a level of confidence of 95% with a Margin of Error about $\pm 0.05\%$ as mentioned earlier in this chapter. The random/probability samples techniques used in collecting the primary data is considered to represent the total sampling population. Based on the study instrument used in collecting and measuring the data drawn from the sample size of the population is considered to be consistent measurements to produce the same measure over time if other factors remained the same.

4.9.1.2.1. The pilot study for reliability assessment.

Reliability is one of the basic psychometric requirements of scale validity. Reliability is concerned with the ability of an instrument to produce similar results, time and again under the assumption that the group of respondents and prevailing conditions remain the same. It reflects the degree to which an instrument is free from

random error and consistently measures the underlying construct with reasonable accuracy (Churchill, 1979; Leedy and Ormrod, 2001; Yang et al., 2007; Hair et al., 2008). Internal consistency is an important aspect of reliability. It describes the extent to which the different scale items of a same construct correlate with one another. A higher degree of internal consistency, not only proves the convergence of scale items towards the common definition of underlying construct but it also affirms the claim that amount of variance captured by a scale is significantly higher to the amount of error variances i.e. random error in a scale. Random error is assessed by squaring the inter-item correlation and subtracting the same from 1.00. As the estimate of reliability increases, the fraction of a test score that can be attributed to random error decreases.

Cronbach alpha is one of the most popular methods for assessing internal consistency (Churchill, 1979; Peter, 1981). Closer the Cronbach's alpha to 1, higher the internal consistency. In general, the reliabilities less than 0.70 indicates a poor estimate of observed variance i.e. amount of error variance in the test score is relatively higher to the observed variance. In context of the present study, reliability of the various constructs has been assessed through Cronbach's alpha (Cronbach et al., 1955). The Pilot study to test all variables of the study, is examined on the same environment where the real study is done. Thirty questionnaires were distributed for three Banks ten each at the head quarter staff level. The Result of the pilot study is as follows:

Scale: All variables.

Table 4.1. Case Processing Summary purposely for the variable Leadership as EFQM enabler criterion.

		N	%
Cases	Valid	26	96.3
	Excluded ^a	1	3.7
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.2. Reliability Statistics for the variable Leadership as EFQM enabler criterion.

Cronbach's Alpha	N of Items
.842	7

Source: prepared by researcher from data (2019).

Table 4.3. Item Statistics for the variable Leadership as EFQM enabler criterion.

	Mean	Std. Deviation	N
Leadership1	4.19	.567	26
Leadership2	4.15	.543	26
Leadership3	4.00	.566	26
Leadership4	3.81	.634	26
Leadership5	3.85	.732	26
Leadership6	3.92	.560	26
Leadership7	3.92	.796	26

Source: prepared by researcher from data (2019).

Table 4.4. Item-Total Statistics for the variable Leadership as EFQM enabler criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leadership1	23.65	8.475	.405	.846
Leadership2	23.69	8.142	.548	.828
Leadership3	23.85	7.975	.576	.824
Leadership4	24.04	7.078	.788	.790
Leadership5	24.00	7.040	.659	.810
Leadership6	23.92	7.914	.605	.820
Leadership7	23.92	6.874	.629	.818

Source: prepared by researcher from data (2019).

Table 4.5. Scale Statistics for the variable Leadership as EFQM enabler criterion.

Mean	Variance	Std. Deviation	N of Items
27.85	10.135	3.184	7

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.6. Case Processing Summary purposely for the variable Strategy as EFQM enabler criterion.

		N	%
Cases	Valid	27	100.0
	Excluded ^a	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.7. Reliability statistics for the variable strategy as EFQM enabler criterion.

Cronbach's Alpha	N of Items
.859	7

Source: prepared by researcher from data (2019).

Table 4.8. Item statistics for the variable strategy as EFQM enabler criterion.

	Mean	Std. Deviation	N
Strategy1	4.22	.641	27
Strategy2	4.11	.577	27
Strategy3	4.11	.641	27
Strategy4	4.00	.679	27
Strategy5	3.93	.675	27
Strategy6	4.22	.577	27
Strategy7	4.15	.602	27

Source: prepared by researcher from data (2019).

Table 4.9. Item-Total statistics for the variable strategy as EFQM enabler criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Strategy1	24.52	7.721	.668	.834
Strategy2	24.63	7.704	.771	.821
Strategy3	24.63	7.858	.624	.840
Strategy4	24.74	7.430	.706	.828
Strategy5	24.81	7.849	.582	.847
Strategy6	24.52	8.490	.500	.856
Strategy7	24.59	8.251	.548	.850

Source: prepared by researcher from data (2019).

Table 4.10. Scale statistics for the variable strategy as EFQM enabler criterion.

Mean	Variance	Std. Deviation	N of Items
28.74	10.507	3.241	7

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.11. Case processing summary purposely for the variable employees as EFQM enabler criterion.

		N	%
Cases	Valid	27	100.0
	Excluded ^a	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.12. Reliability statistics for the variable Eemployees as EFQM enabler criterion.

Cronbach's Alpha	N of Items
.866	5

Source: prepared by researcher from data (2019).

Table 4.13. Item statistics for the variable employees as EFQM enabler criterion.

	Mean	Std. Deviation	N
Employees1	3.89	.751	27
Employees2	4.07	.675	27
Employees3	3.85	.770	27
Employees4	3.78	.847	27
Employees5	3.85	.907	27

Source: prepared by researcher from data (2019).

Table 4.14. Item-Total statistics for the variable employees as EFQM enabler criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Employees1	15.56	7.103	.647	.847
Employees2	15.37	7.396	.655	.847
Employees3	15.59	6.943	.671	.841
Employees4	15.67	6.615	.671	.842
Employees5	15.59	5.866	.812	.804

Source: prepared by researcher from data (2019).

Table 4.15. Scale statistics for the variable employees as EFQM enabler criterion.

Mean	Variance	Std. Deviation	N of Items
19.44	10.256	3.203	5

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.16. Case Processing summary purposely for the variable partnerships as EFQM enabler criterion.

		N	%
Cases	Valid	26	96.3
	Excluded ^a	1	3.7
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.17. Reliability statistics for the variable partnerships as EFQM enabler criterion.

Cronbach's Alpha	N of Items
.778	7

Source: prepared by researcher from data (2019).

Table 4.18. Item statistics for the variable partnerships as EFQM enabler criterion.

	Mean	Std. Deviation	N
Partnership1	4.12	.653	26
Partnership2	3.92	.688	26
Partnership3	4.00	.566	26
Partnership4	3.92	.560	26
Partnership5	3.77	.514	26
Partnership6	4.08	.560	26
Partnership7	4.04	.528	26

Source: prepared by researcher from data (2019).

Table 4.19. Item-Total statistics for the variable partnerships as EFQM enabler criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Partnership1	23.73	5.325	.473	.757
Partnership2	23.92	4.874	.601	.728
Partnership3	23.85	5.815	.381	.773
Partnership4	23.92	6.234	.224	.800
Partnership5	24.08	5.674	.505	.750
Partnership6	23.77	4.905	.789	.692
Partnership7	23.81	5.442	.591	.734

Source: prepared by researcher from data (2019).

Table 4.20. Scale statistics for the variable partnerships as EFQM enabler criterion.

Mean	Variance	Std. Deviation	N of Items
27.85	7.175	2.679	7

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.21. Case Processing summary purposely for the variable processes as EFQM enabler criterion.

		N	%
Cases	Valid	27	100.0
	Excluded ^a	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.22. Reliability statistics for the variable processes as EFQM enabler criterion.

Cronbach's Alpha	N of Items
.804	5

Source: prepared by researcher from data (2019).

Table 4.23. Item statistics for the variable processes as EFQM enabler criterion.

	Mean	Std. Deviation	N
Processes1	4.04	.759	27
Processes2	3.78	.847	27
Processes3	4.04	.587	27
Processes4	4.00	.620	27
Processes5	3.85	.602	27

Source: prepared by researcher from data (2019).

Table 4.24. Item-Total statistics for the variable processes as EFQM enabler criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Processes1	15.67	4.308	.570	.773
Processes2	15.93	4.302	.472	.817
Processes3	15.67	4.462	.755	.724
Processes4	15.70	4.524	.671	.744
Processes5	15.85	4.823	.565	.774

Source: prepared by researcher from data (2019).

Table 4.25. Scale statistics for the variable processes as EFQM enabler criterion.

Mean	Variance	Std. Deviation	N of Items
19.70	6.678	2.584	5

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.26. Case Processing summary purposely for the variable employees perception (People results) as EFQM results criterion.

		N	%
Cases	Valid	26	96.3
	Excluded ^a	1	3.7
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.27. Reliability statistics for the variable employees perception (People results) as EFQM results criterion.

Cronbach's Alpha	N of Items
.931	10

Source: prepared by researcher from data (2019).

Table 4.28. Item statistics for the variable employees perceptions (People results) as EFQM result criterion.

	Mean	Std. Deviation	N
Impressions1	3.58	.902	26
Impressions2	3.88	.816	26
Impressions3	3.88	.864	26
Impressions4	3.85	.834	26
Impressions5	3.96	.662	26
Impressions6	3.92	.688	26
Impressions7	3.54	.948	26
Impressions8	3.38	.941	26
Impressions9	3.77	.863	26
Impressions10	3.50	.812	26

Source: prepared by researcher from data (2019).

Table 4.29. Item-Total statistics for the variable employees perceptions (People results) as EFQM result criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Impressions1	33.69	34.382	.776	.922
Impressions2	33.38	35.686	.723	.925
Impressions3	33.38	34.966	.753	.923
Impressions4	33.42	36.334	.634	.929
Impressions5	33.31	37.822	.632	.929
Impressions6	33.35	36.315	.797	.922
Impressions7	33.73	34.445	.725	.925
Impressions8	33.88	35.146	.661	.929
Impressions9	33.50	34.340	.823	.919
Impressions10	33.77	34.825	.826	.919

Source: prepared by researcher from data (2019).

Table 4.30. Scale statistics for the variable employees perception (People results) as EFQM results criterion.

Mean	Variance	Std. Deviation	N of Items
37.27	43.405	6.588	10

Source: prepared by researcher from data (2019).

Reliability.

Scale: All variables.

Table 4.31. Case processing summary purposely for the variable customers results as EFQM results criterion.

		N	%
Cases	Valid	27	100.0
	Excluded ^a	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.32. Reliability Statistics.

Cronbach's Alpha	N of Items
.909	10

Table 4.33. Item statistics for the variable customers results as EFQM result criterion.

	Mean	Std. Deviation	N
Customer_results1	4.19	.736	27
Customer_results2	4.19	.834	27
Customer_results3	3.96	.706	27
Customer_results4	4.26	.656	27
Customer_results5	4.22	.424	27
Customer_results6	4.07	.550	27
Customer_results7	4.19	.557	27
Customer_results8	4.26	.594	27
Customer_results9	4.04	.649	27
Customer_results10	4.07	.616	27

Source: prepared by researcher from data (2019).

Table 4.34. Item-Total statistics for the variable customers results as EFQM result criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Customer_results1	37.26	18.123	.623	.903
Customer_results2	37.26	17.199	.675	.902
Customer_results3	37.48	17.875	.702	.898
Customer_results4	37.19	17.618	.820	.890
Customer_results5	37.22	19.718	.709	.901
Customer_results6	37.37	19.011	.678	.900
Customer_results7	37.26	19.276	.608	.903
Customer_results8	37.19	18.387	.750	.895
Customer_results9	37.41	18.712	.611	.903
Customer_results10	37.37	18.704	.654	.901

Source: prepared by researcher from data (2019).

Table 4.35. Scale statistics for the variable customers results as EFQM results criterion.

Mean	Variance	Std. Deviation	N of Items
41.44	22.564	4.750	10

Source: prepared by researcher from data (2019).

Reliability.

Scale: all variables.

Table 4.36. Case Processing summary purposely for the variable financial results as EFQM results criterion.

		N	%
Cases	Valid	27	100.0
	Excluded ^a	0	.0
	Total	27	100.0

a. Listwise deletion based on all variables in the procedure.

Source: prepared by researcher from data (2019).

Table 4.37. Reliability statistics for the variable financial results as EFQM results criterion.

Cronbach's Alpha	N of Items
.840	6

Source: prepared by researcher from data (2019).

Table 4.38. Item statistics for the variable financial indicators as EFQM result criterion.

	Mean	Std. Deviation	N
Financial_indicators1	4.19	.622	27
Financial_indicators2	3.67	.555	27
Financial_indicators3	4.00	.620	27
Financial_indicators4	4.04	.587	27
Financial_indicators5	4.07	.550	27
Financial_indicators6	3.93	.616	27

Source: prepared by researcher from data (2019).

Table 4.39. Item-Total statistics for the variable financial indicators as EFQM result criterion.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Financial_indicators1	19.70	4.986	.594	.819
Financial_indicators2	20.22	5.487	.474	.840
Financial_indicators3	19.89	5.256	.487	.841
Financial_indicators4	19.85	4.977	.650	.808
Financial_indicators5	19.81	4.926	.737	.792
Financial_indicators6	19.96	4.575	.787	.778

Source: prepared by researcher from data (2019).

Table 4.40. Scale statistics for the variable financial results as EFQM results criterion.

Mean	Variance	Std. Deviation	N of Items
23.89	7.026	2.651	6

Source: prepared by researcher from data (2019).

4.10. Cronbach's alpha for all the constructs.

The value of cronbach's alpha for all the constructs are above the threshold limit of 0.70. As seen in table (4.41).

Table 4.41. Reliability Statistics for all variables.

	Construct	No. of Items	Cronbach's Alpha
1	Leadership	7	.842
2	Strategy	7	.859
3	Employee	5	.866
4	Partnership	7	.778
5	Processes	5	.804
6	Employees Perceptions	10	.931
7	Customer result	10	.909
8	Financial indicator	6	.840

Source: prepared by researcher from data (2019).

Chapter five

Analysis and empirical findings

5.1. Chapter overview.

This chapter presents the findings of the data analysis and it is presented in three sections. The first section presents the process followed for measurement and validation of various constructs. Started by describe the descriptive statistics of the sample data then respondent's demographic information, section two The measurement and validation process of constructs, section three the results of the path analysis and hypotheses testing.

5.2. Descriptive statistics.

As far as measurement and validation of study instrument is concerned, before evaluating the psychometric properties of various constructs, it become necessary to describe and understand the descriptive statistics of the sample data. Descriptive statistics examines the accuracy of the data entry process; measures the variability of responses and reveals the spread of data points across the sides of the distribution. The understanding of descriptive statistics helps in the interpretation and generalization of study result.

First making data cleaning that deals with detecting and removing errors and inconsistencies from data in order to improve the quality of data. And dealing with Missing data that is common and always expected in the process of collecting and entering data due to lack of concentration and/or the misunderstanding among

respondents, and missing information or other invalid data during the entry of data.

Missing data can cause several problems.

The most apparent problem is that there simply won't be enough data points to run the analysis and particularly in structural equation model (SEM). and dealing with Unengaged responses that means some responses giving same answer for all the questionnaire it seems to be random answers, in this case use standard deviation to find out any unengaged response this means that any standard deviation of responses less than 0.5 when Likert's five-point scale is used just deleted. Therefore, removed (113) invalid questionnaires and (62) not received form a response finally dealing outliers It's very important to check outliers in the dataset.

Outliers can influence the results of analysis. If there is a really high sample size, the need for removing the outliers is wanted. If the analysis running with a smaller dataset, you may want to be less liberal about deleting records However, outliers will influence smaller datasets more than largest ones. However, in this dataset outliers were checked outliers but not making any change because it is seemed logic. There were no any outliers on dataset everything in dataset is logic.

And also skewness & kurtosis observed fairly normal distribution for our indicator of latent factor, and for all other variables (e.g. Gender, age , Education) in terms of

skewness , However , observed mild kurtosis for our variable these kurtosis values ranged benign to 3. While this does violate strict rules of normality,it is within more relaxed rules suggested by (Sposito, 1983) who recommend 3.3 as the upper threshold for normality. The assessment of descriptive statistics (Table 5.1) reveals that all the variables fall within the predefined the important values.

Table 5.1 Descriptive Statistics.

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender	1.17	.465	4.150	.130	25.833	.260
Age	3.04	1.228	-.020-	.130	-.879-	.260
Education	3.45	.850	.414	.130	2.417	.260
Dealing	3.69	1.366	-.426-	.130	-1.098-	.260
Job	5.09	.917	-.355-	.130	-.539-	.260
Leaders in your Bank develop the mission, vision, values and ethics.	4.13	.707	-.636-	.130	.892	.260
Leaders in your Bank monitor, review and drive the improvement of the organization’s management system and performance.	4.06	.732	-.883-	.130	1.559	.260
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	3.90	.771	-.498-	.130	.110	.260

Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	3.89	.769	-.575-	.130	.683	.260
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	3.85	.839	-.649-	.130	.627	.260
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	3.88	.816	-.729-	.130	.962	.260
Leaders in your bank represent models to follow and work to ensure the future success of the institution.	4.10	2.795	16.320	.130	292.263	.260
Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.	4.11	.690	-.516-	.130	.420	.260
Strategy of your bank is based on understanding internal performance and capabilities.	4.05	.704	-.707-	.130	1.332	.260
Strategy of your bank Determine the potential impact of new technologies.	3.97	.717	-.474-	.130	.328	.260

In your bank Strategy and supporting policies are developed, reviewed and updated.	3.90	.815	-.615-	.130	.432	.260
In your bank Strategy and supporting policies are communicated, implemented and monitored.	3.93	.778	-.419-	.130	-.123-	.260
When developing a strategy, your bank ensures that financial and technical resources are available.	4.09	.718	-.645-	.130	.917	.260
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.	4.04	.755	-.547-	.130	.153	.260
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	3.67	.928	-.469-	.130	-.226-	.260
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	3.85	.868	-.822-	.130	.832	.260
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	3.78	.881	-.547-	.130	-.060-	.260

Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	3.70	.841	-.432-	.130	.112	.260
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	3.81	.788	-.603-	.130	.569	.260
Your Bank managed Partners and suppliers relations for sustainable Benefit in line with the organization's strategies and values on the bases of trust, respect and mutual transparency.	4.10	.661	-.525-	.130	1.185	.260
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	3.99	.674	-.434-	.130	.529	.260
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.	3.99	.652	-.302-	.130	.310	.260
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.	3.91	.729	-.700-	.130	1.298	.260

Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.	3.84	.730	-.370-	.130	.336	.260
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.	4.00	.723	-.597-	.130	.843	.260
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	4.00	.711	-.627-	.130	1.042	.260
Processes in Your Bank are designed and managed to optimize stakeholder value by managing the end to end processes.	4.07	.745	-.872-	.130	1.613	.260
Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.	3.89	.805	-.821-	.130	1.243	.260
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	3.87	.879	-.895-	.130	1.005	.260

Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	3.83	.810	-.521-	.130	.141	.260
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	3.83	.808	-.508-	.130	.296	.260
The management of your bank considered the ideas and proposals of the employees when making decisions.	3.59	1.021	-.463-	.130	-.332-	.260
The management of your bank is keen to solve and address the obstacles facing employees.	3.87	.883	-.888-	.130	.956	.260
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	3.80	1.009	-.852-	.130	.428	.260
Your bank promotes a culture of appreciation for individuals and teams.	3.76	.866	-.599-	.130	.192	.260
Your bank works to ensure a healthy and balanced work environment.	3.89	.820	-.805-	.130	1.240	.260
Your bank works to ensure mutual care between employees and the institution.	3.89	.778	-.578-	.130	.622	.260

Your bank is supporting staff mobility systems that take into account employee stability.	3.68	.972	-.519-	.130	-.160-	.260
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	3.70	.992	-.666-	.130	.079	.260
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	3.83	.832	-.502-	.130	-.004-	.260
Your bank aligns employee's personal goals with the team and the organization's goals.	3.70	.853	-.484-	.130	.225	.260
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	4.17	.676	-.612-	.130	1.085	.260
Your bank shall provide its services in the periods stated therein.	4.11	.736	-.962-	.130	2.212	.260
Your bank staff provide the banking services at the required speed as per your customers' expectations.	4.11	.722	-.765-	.130	1.221	.260
Your bank staff are always ready to help their customers.	4.23	.689	-.706-	.130	.696	.260
The behavior of your bank employees support customer's confidence.	4.25	.660	-.687-	.130	1.271	.260
Customers feel secure in their dealings with your Bank.	4.25	.663	-.506-	.130	.040	.260

Your Bank has convenient operating hours for all its customers.	4.11	.752	-.789-	.130	1.216	.260
Your Bank has employees who give the required attention to their customers.	4.26	.674	-.753-	.130	1.316	.260
Your Bank employees recognize the specific needs of their customers.	4.16	.667	-.488-	.130	.392	.260
Customers of your bank have loyalty to it, due to the high level of services provided.	4.09	.741	-.651-	.130	.697	.260
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	4.10	.688	-.555-	.130	.928	.260
Your bank adopt financial governance, designed for all appropriate levels in your organization.	3.86	.770	-.554-	.130	.834	.260
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	3.91	.728	-.628-	.130	.899	.260
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	4.04	.708	-.640-	.130	1.080	.260

Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	3.93	.741	-.610-	.130	.986	.260
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	3.90	.788	-.701-	.130	.799	.260
Valid N (listwise)						

**All items were measured on a five-point Likert type scale.*

Source: prepared by researcher from data (2019).

5.3. Response rate.

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 one by one to respondents and in studies used a self–administrated survey (Sekaran, 2003). Those who didn’t responded to fill the questionnaire some were mentioned that they were not authorized to fill the questionnaires while others were not transparent in their justifications. Table (5.2) shows the summary of questionnaire response rate.

Table: 5.2 Response rate of questionnaire.

Total distributed questionnaires	526
Questionnaires not received	62
Total questionnaires received from respondents	464
Invalid questionnaires	113
Valid questionnaires received from respondents	351
Overall response rate	76%
Useable response rate	88%

Source: prepared by researcher from data (2019).

Profile of the responded firms and respondents.

Based on the descriptive statistics using the frequency analysis this part investigates the respondents' profiles as shown in table (5.3).

Table 5.3 Respondents demographic characteristics.

		Frequency	Percent
Gender	Male	301	85.8
	Female	50	14.2

	Total	351	100.0
Age	less than 27	45	12.8
	28 to 35	71	20.2
	36 to 45	111	31.6
	46 to 55	73	20.8
	Over than 55	51	14.5
	Total	351	100.0
Education	High Secondary School	10	2.8
	Intermediate Diploma	12	3.4
	Bachelor Degree	181	51.6
	Master's Degree	121	34.5
	Doctorate Degree	23	6.6
	Others	4	1.1
	Total	351	100.0
	less than 1 year	25	7.1

Dealing	1 - 5 years	75	21.4
	6 - 10 years	45	12.8
	11 - 15 years	70	19.9
	over 15	136	38.7
	Total	351	100.0
Job	Deputy General Manager	2	0.6
	Assistant General Manager	6	1.7
	Head of Directorate	97	27.6
	Head of Department	106	30.2
	Employee	134	38.2
	Others	6	1.7
	Total	351	100.0

Source: prepared by researcher from data (2019).

5.4. Goodness of measures.

This section, reports the results of validity and reliability tests as a means to assess the goodness of measure in this study constructs (Sekaran, 2003). The study used

exploratory factor analysis (EFA) and (CFA) confirmatory factor analysis. The following are the detailed information of each

A discussion on importance of exploratory factor analysis.

Through exploratory factor analysis Henson and Robertson (2006) state that it is possible to retain inherent characteristics (i.e. individual variability and covariances) of an initial or original data set. They also say that it is possible to eliminate any ‘noises’ arising from either sampling or measurement errors that include existence of any unwarranted information. Thus, exploratory factor analysis can also be viewed as an instrument intended for consideration of those latent variables that are significant in explaining variations. It is useful when looking at any interrelationships between variables hence offering support in development of new theories (Henson and Roberts, 2006, Matsunaga, 2010). This researcher performs exploratory factor analysis in SPSS to yield a ‘clean’ pattern matrix. This involved factor extractions as well as generating key outputs, including; Kaiser-Meyer-Olkin (KMO) measure, Communalities, Total Variance Explained (TVE), Goodness-of-fit Test, Pattern Matrix and the Correlation Matrix. This process of generating a ‘clean’ pattern matrix involves going through several iterations until there were no cross-loading between scale items; which is central to determine discriminant validity.

5.4.1. Exploratory factor analysis for the level of EFQM business excellence model.

Using Maximum Likelihood, the summary of results was showed in Table (5.4) and the SPSS output attached in appendix B. As shown in Table (5.4) all the remaining items has more than recommended value of at least 0.45 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of 0.60), and Bartlett's test of sphericity is significant ($p < .01$). Thus, the items are appropriate for factor analysis.

Table 5.4 : KMO and Bartlett's measure of sample adequacy.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.941
Bartlett's Test of Sphericity	Approx. Chi-Square	4846.800
	Df	300
	Sig.	.000

Source: prepared by researcher from data (2019).

Table depicts a good result for KMO and Bartlett's test of 0.94 which is significant (0.00). This result shows that the sample size is adequate for structural equation modelling (Gaskin, 2012, Kenny and McCoach, 2003).

The communalities in Table (5.5) are equally important in the determination of sample adequacy. They represent the proportion of variance of each variable that are explained by the factors. Therefore, based on condition those variables with high values under communalities are well represented in the common factor space, while variables with low values are not well represented. Thus, to support sample adequacy none of the communalities must be less than 0.30 (Gaskin, 2012). Table (5.5) shows that extractions are above minimum value of 0.30.

Table 5.5: Communalities for determination of sample adequacy.

Leadership	Extraction
Leaders in your Bank develop the mission, vision, values and ethics.	.654
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	.714
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	.697

Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	.680
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	.637
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	.670
Strategy	
Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.	.715
Strategy of your bank is based on understanding internal performance and capabilities.	.669
When developing a strategy, your bank ensures that financial and technical resources are available.	.684
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.	.691
People	
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	.658
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	.656

Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	.755
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	.804
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	.715
Partnerships and resources	
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	.545
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.	.542
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.	.571
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.	.562
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.	.648
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	.635
Processes	

Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.	.634
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	.770
Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	.739
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	.637

Source: prepared by researcher from data (2019).

Total variance explained confirms sample adequacy as shown in Table (5.6) where variance of 63.82 per cent is explained after several iterations to determine a clean pattern matrix shown in Table (5.8) , (Gaskin, 2012). The fact that more variance is explained as shown in the ‘Cumulative % Variance’ column means that the extraction achieved from the data is good.

Table 5.6: Total variance explained for determination of sample adequacy.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.178	44.711	44.711	11.178	44.711	44.711	7.986
2	1.652	6.610	51.321	1.652	6.610	51.321	8.663
3	1.384	5.537	56.857	1.384	5.537	56.857	7.086
4	1.310	5.239	62.096	1.310	5.239	62.096	6.965
5	1.157	4.627	66.723	1.157	4.627	66.723	7.077
6	.737	2.947	69.670				
7	.685	2.741	72.411				
8	.672	2.686	75.097				
9	.621	2.483	77.581				
10	.553	2.210	79.791				
11	.476	1.904	81.696				
12	.464	1.855	83.551				
13	.459	1.836	85.387				
14	.439	1.757	87.144				
15	.409	1.636	88.780				
16	.373	1.494	90.274				
17	.355	1.421	91.695				

18	.320	1.280	92.975				
19	.299	1.194	94.169				
20	.289	1.157	95.326				
21	.278	1.112	96.439				
22	.266	1.063	97.502				
23	.242	.970	98.472				
24	.201	.804	99.276				
25	.181	.724	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Source: prepared by researcher from data (2019).

The determination of reliability and dimensionality for substantive sample.

The entire set of 3 latent variables has Cronbach’s alpha values above 0.70 Table (5.17). This means they are internally consistent. In Table (5.17), under ‘Cumulative %’ column scale items are unidimensional, meaning that scale items are moving in the same direction.

In the wake of exploratory factor analysis the goodness-of-fit test Table (5.7) confirms that it is significant which is attributable to a large sample size (Gaskin, 2012).

Table 5.7: Goodness-of-fit test for adequacy.

Goodness-of-fit test		
Chi-square	Df	Sig.
4711	659	.00

Source: prepared by researcher from data (2019).

5.5. The tests for convergent validity post-measurement validation.

The test for convergent validity seeks to establish whether scale items load highly on their factors in the pattern matrix (Gaskin, 2012). A pattern matrix is the main link between factor analysis in SPSS and confirmatory factor analysis in AMOS.

Table 5.8: The pattern matrix to establish convergent and discriminant validity.

	Component				
	1	2	3	4	5
Leaders in your Bank develop the mission, vision, values and ethics.	.849				
Leaders in your Bank monitor, review and drive the improvement of the organization’s management system and performance.	.871				
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	.765				
Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	.730				
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	.566				
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	.660				

Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.					.836
Strategy of your bank is based on understanding internal performance and capabilities.					.670
When developing a strategy, your bank ensures that financial and technical resources are available.					.805
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.					.709
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.		.711			
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision		.733			
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.		.852			
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.		.901			

Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.		.860		
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.			.604	
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.			.735	
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.			.787	
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.			.738	
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.			.757	
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.			.616	

Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.				.719	
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.				.897	
Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.				.866	
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency				.721	

Source: prepared by researcher from data (2019).

5.6. Discriminant validity.

The reason for performing discriminant validity test is to establish that measures that are not in any way related are in real life are also not related in this study (Gaskin, 2012, Kenny, 2013). The intention for this is to be in harmony with theory. This is

normally used to check for cross loadings from the pattern matrix (Gaskin, 2012); it is a procedure that is conducted in SPSS through the inspection of that pattern matrix. This can be checked in data output tables; that are the ‘pattern matrix’ and ‘factor correlation matrix’. Whilst on the ‘factor correlation matrix’ it is important to check for any correlations between factors that are greater than 0.70 (Gaskin, 2012).

Table 5.9: Discriminant validity.

Component	1	2	3	4	5
1	1.000	.621	.490	.535	.541
2	.621	1.000	.553	.571	.590
3	.490	.553	1.000	.501	.500
4	.535	.571	.501	1.000	.478
5	.541	.590	.500	.478	1.000

The factor correlation matrix shows no alarming correlations – the highest is 0.588 is less than 0.70 (Gaskin, 2012, Kenny et al., 2014).

Source: prepared by researcher from data (2019).

5.7. Exploratory factor analysis for organizational performance.

Using Maximum Likelihood., the summary of results was showed in Table (5.10) and the SPSS output attached in appendix B. As shown in Table (5.10) below all the remaining items has more than recommended value of at least 0.45 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of

0.60), and Bartlett’s test of sphericity is significant ($p < .01$). Thus, the items are appropriate for factor analysis.

Table 5.10 : KMO and Bartlett's measure of sample adequacy for organizational performance.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	5693.104
	Df	300
	Sig.	.000

Source: prepared by researcher from data (2019).

Table depicts a good result for KMO and Bartlett’s test of 0.94 which is significant (0.00). This result shows that the sample size is adequate for structural equation modelling (Gaskin, 2012, Kenny and McCoach, 2003).

The communalities in Table (5.11) are equally important in the determination of sample adequacy. They represent the proportion of variance of each variable that are explained by the factors. Therefore, based on condition those variables with high values under communalities are well represented in the common factor space, while variables with low values are not well represented. Thus, to support sample adequacy none of the communalities must be less than 0.30 (Gaskin, 2012). Table (5.11) shows that extractions are above minimum value of 0.30.

Table 5.11: Communalities for determination of sample adequacy to organizational performance.

	Extraction
The management of your bank considered the ideas and proposals of the employees when making decisions.	.553
The management of your bank is keen to solve and address the obstacles facing employees.	.664
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	.664
Your bank promotes a culture of appreciation for individuals and teams.	.677
Your bank works to ensure a healthy and balanced work environment.	.663
Your bank works to ensure mutual care between employees and the institution.	.644
Your bank is supporting staff mobility systems that take into account employee stability.	.609
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	.575
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	.744
Your bank aligns employee's personal goals with the team and the organization's goals.	.740

When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	.492
Your bank staff provide the banking services at the required speed as per your customers' expectations.	.593
Your bank staff are always ready to help their customers.	.653
The behavior of your bank employees support customer's confidence.	.677
Customers feel secure in their dealings with your Bank.	.699
Your Bank has convenient operating hours for all its customers.	.461
Your Bank has employees who give the required attention to their customers.	.659
Your Bank employees recognize the specific needs of their customers.	.619
Customers of your bank have loyalty to it, due to the high level of services provided.	.547
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	.604
Your bank adopt financial governance, designed for all appropriate levels in your organization.	.628
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	.589

Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	.634
Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	.732
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	.672

Source: prepared by researcher from data (2019).

Total variance explained table confirms sample adequacy as shown in Table (5.12) where variance of 69.35 per cent is explained after several iterations to determine a clean pattern matrix shown in Table (5.13) , (Gaskin, 2012). The fact that more variance is explained as shown in the ‘Cumulative % Variance’ column means that the extraction achieved from the data is good.

Table 5.12 : Total variance explained for determination of sample adequacy to organizational performance.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.576	46.305	46.305	11.576	46.305	46.305	9.608
2	2.797	11.188	57.493	2.797	11.188	57.493	8.420
3	1.415	5.660	63.152	1.415	5.660	63.152	8.616
4	1.104	4.415	67.567				
5	.779	3.116	70.684				
6	.652	2.608	73.291				
7	.623	2.490	75.782				
8	.562	2.248	78.030				
9	.533	2.130	80.160				
10	.507	2.029	82.189				
11	.446	1.785	83.974				
12	.421	1.686	85.660				
13	.394	1.576	87.236				
14	.374	1.494	88.731				
15	.357	1.430	90.160				
16	.332	1.326	91.487				
17	.309	1.236	92.723				
18	.305	1.221	93.944				

19	.268	1.071	95.015				
20	.256	1.024	96.039				
21	.234	.938	96.977				
22	.220	.880	97.857				
23	.200	.802	98.658				
24	.183	.734	99.392				
25	.152	.608	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Source: prepared by researcher from data (2019).

The determination of reliability and dimensionality for substantive sample.

The entire set of 3 latent variables has Cronbach’s alpha values above 0.70 except activation equal .68 Table (5.19). This means they are internally consistent. In Table (5.19) , under ‘Cumulative %’ column scale items are unidimensional, meaning that scale items are moving in the same direction.

In the wake of exploratory factor analysis, the goodness-of-fit test Table (5.25) confirms that it is significant which is attributable to a large sample size (Gaskin, 2012).

5.8. The tests for convergent validity post-measurement validation.

The test for convergent validity seeks to establish whether scale items load highly on their factors in the pattern matrix (Gaskin, 2012). A pattern matrix is the main link between factor analysis in SPSS and confirmatory factor analysis in AMOS.

Table 5.13: The pattern matrix to establish convergent and discriminant validity for EFQM Result criteria Elements.

	Component		
	1	2	3
The management of your bank considered the ideas and proposals of the employees when making decisions.	.838		
The management of your bank is keen to solve and address the obstacles facing employees.	.883		
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	.765		
Your bank promotes a culture of appreciation for individuals and teams.	.778		
Your bank works to ensure a healthy and balanced work environment.	.745		
Your bank works to ensure mutual care between employees and the institution.	.734		

Your bank is supporting staff mobility systems that take into account employee stability.	.726		
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	.713		
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	.853		
Your bank aligns employee's personal goals with the team and the organization's goals.	.834		
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.		.549	
Your bank staff provide the banking services at the required speed as per your customers' expectations.		.708	
Your bank staff are always ready to help their customers.		.783	
The behavior of your bank employees support customer's confidence.		.854	
Customers feel secure in their dealings with your Bank.		.916	
Your Bank has convenient operating hours for all its customers.		.524	
Your Bank has employees who give the required attention to their customers.		.846	
Your Bank employees recognize the specific needs of their customers.		.791	

Customers of your bank have loyalty to it, due to the high level of services provided.		.666	
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility			.739
Your bank adopt financial governance, designed for all appropriate levels in your organization.			.770
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.			.812
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.			.726
Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.			.818
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.			.762

Source: prepared by researcher from data analysis (2019).

Discriminant validity.

The reason for performing discriminant validity test is to establish that measures that are not in any way related are in real life are also not related in this study (Gaskin, 2012, Kenny, 2013). The intention for this is to be in harmony with theory. This is normally used to check for cross loadings from the pattern matrix (Gaskin, 2012); it is a procedure that is conducted in SPSS through the inspection of that pattern matrix. This can be checked in data output tables; that are the ‘pattern matrix’ and ‘factor correlation matrix’. Whilst on the ‘factor correlation matrix’ it is important to check for any correlations between factors that are greater than 0.70 (Gaskin, 2012).

Table 5.14: The factor correlation matrix for discriminant validity test to EFQM Result criteria Elements.

Component	1	2	3
1	1.000	.500	.643
2	.500	1.000	.580
3	.643	.580	1.000

Source: prepared by researcher from data (2019).

Confirmatory Factor Analysis (CFA).

Once exploratory factor analysis is complete (which yields a ‘clean’ pattern matrix) the next logical step for this study is to undertake confirmatory factor analysis. Confirmatory factor analysis makes it possible to develop a measurement model that is explicit using the factor structure underlying the data (Matsunaga, 2010, Russell et

al., 2011). This study also utilizes AMOS software package to test for model fit for each latent variable and the entire data set to develop a complete measurement model before moving into structural equation modelling. This is a precursor to the design of the questionnaires.

The measurement model (i.e. confirmatory model) can be developed in AMOS using two approaches. The first approach is manual orientated (Gaskin, 2012). This involves the study applying tools on the interface in AMOS. The second approach (adopted in this study) uses a plug-in called a 'Pattern Matrix Model Builder' (Gaskin, 2012). The procedure involves copying the pattern matrices generated in SPSS (during exploratory factor analysis) and pasting it into the 'Pattern Matrix Model Builder' in AMOS software package. This creates a measurement model diagram. This is then followed by selection of parameters of choice estimates and then running the model. The process of checking for model fit is done after running the measurement model (Kline, 2005, Gaskin, 2012). The model validation process undertaken by this studier involved use of the correlation and regression weights from the generated output from the measurement model into the 'Validity Master Tab' in the 'Stats Tools Package'. This process is important and this studier it to establish if there was any validity concerns.

5.9. Measurement and validation.

Measurement is a process through which an abstract concept is quantified, classified and interpreted (Carmines and Zeller, 1979; Hinkin and Schriesheim, 1989). It can be defined as a scientific process of assigning some numbers to some of the attributes of an abstract concept (Cronbach, 1955; Nunnally, 1978; Cherryholmes, 1988; Sireci, 1998). The focus of the measurement is on the crucial relationship between the empirically grounded indicators and the underlying unobservable concept (Schmidt *et al.*, 1985 ; Cherryholmes, 1988; Schriesheim *et al.*, 1993). The very basic idea of measurement is to obtain a true score for an event or phenomena.

Validation is a process which evaluates the degree to which a measure succeeds in measuring what it intends to measure (Campbell and Fiske, 1959; Schriesheim *et al.*, 1991). It is a process of evaluating the extent to which observed empirical indicators represent the underlying theoretical construct i.e. extent to which the observed score reflected through empirical indicators give the true reflection of theoretical perspective. Although the purpose of validation is to minimize the difference between the observed score of an object and its true score, but it has been usually seen that every instrument contains some degree of error i.e. the observed score differs from the true score. Bagozzi *et al.* (1991) have affirmed the above argument by quoting that “a measure often reflects not only a theoretical concept of

interest but also measurement error”. Measurement error is the extent to which an instrument captures some extraneous construct rather than capturing the true meaning of the underlying construct. The extent of measurement error, contained by an instrument, has often been assessed by looking at the degree of the random error and systematic error (Fiske, 1982; Bagozzi et al., 1991).

In the context of present study, following criteria (Table 4.4) has been adopted for the measurement and validation of various constructs

Table 5.15 Criteria.

S. No.	Parameter	Criteria
1	Normed Chi-square (ratio of Chi-square to degrees of freedom)	Less than 3
2	Goodness-of-Fit Index (GFI)	At least .90
3	Adjusted Goodness-of-Fit Index (AGFI)	At least .90
4	Normed Fit Index (NFI)	At least .90
5	Comparative Fit Index (CFI)	At least .90
6	Root Mean Square Residual (RMR)	Less than .10
7	Root Mean Square Error of Approximation (RMSEA)	Less than .08
8	Standardized Residuals	Less than 2.5
9	Standardized factor loadings (SFL)	At least .50
10	Average Variance Extracted (AVE)	At least .50
11	Composite Reliability (CR)	At least .70

Source: prepared by researcher from data (2019).

5.10. Measurement and validation the level of business excellence

To assess the degree of correspondence between the manifest variables and latent construct of experiential marketing uni-dimensional CFA model (Figure 5.1) has been conceptualized and tested for its psychometric properties. Table (5.17) show CFA result.

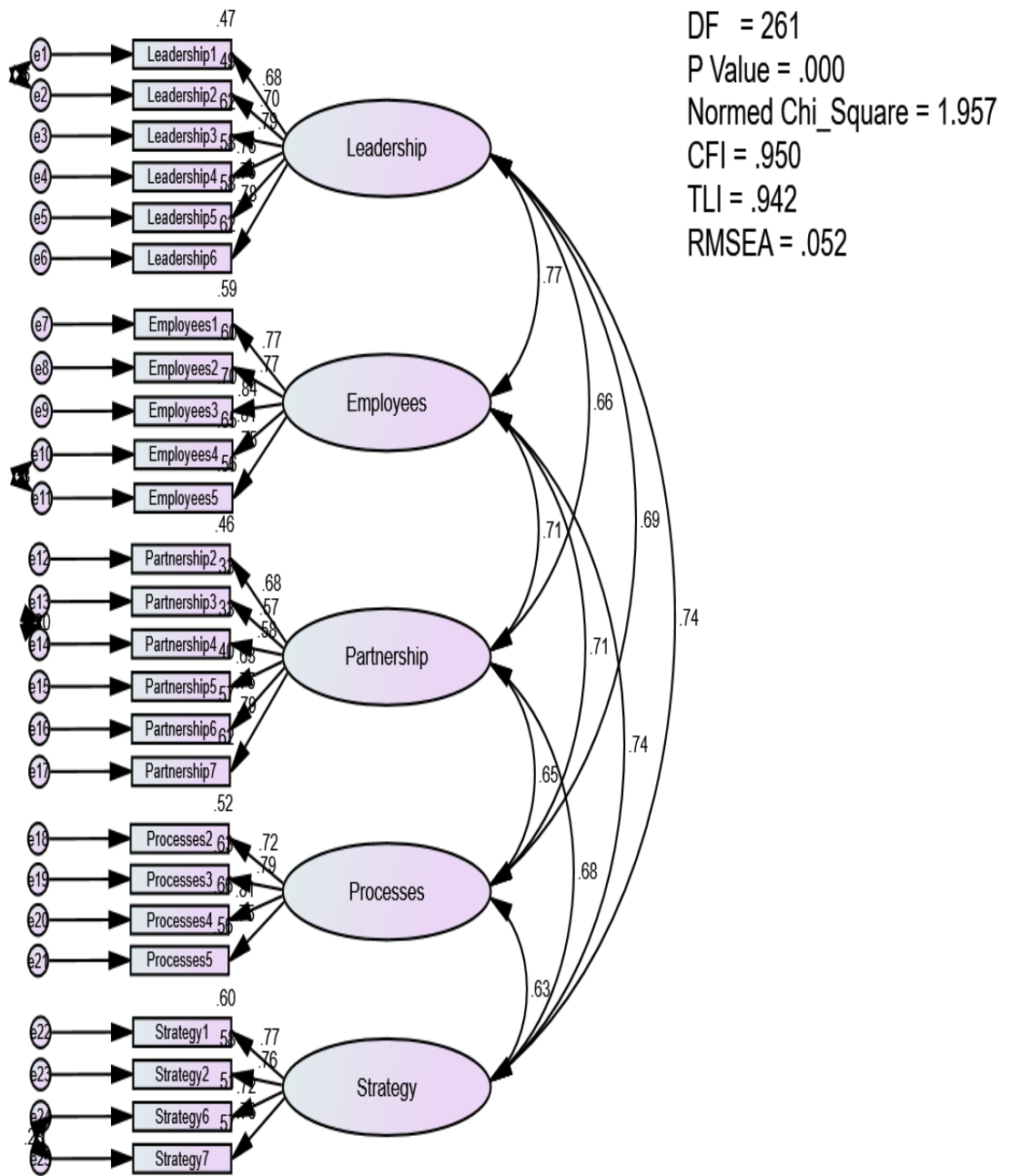


Figure 5.1 CFA Model for EFQM model for enablers criteria.

Source: prepared by researcher from data (2019).

The structural model of Confirmatory Factor Analysis (CFA) reveals the same measures that can be calculated to determine goodness of fit show in Table (5.16) the result of the unidimensional CFA to entrepreneurship and component of theory of planned behavior

Table 5.16 Model Fit Indices of EFQM model for enablers criteria.

Measure	Estimate	Threshold	Interpretation
CMIN	510.793	--	--
DF	261	--	--
CMIN/DF	1.957	Between 1 and 3	Excellent
CFI	0.950	>0.95	Acceptable
SRMR	0.041	<0.08	Excellent
RMSEA	0.052	<0.06	Excellent
PClose	0.281	>0.05	Excellent

Source: prepared by researcher from data (2019).

The convergent validity of the construct of EFQM model for enablers criteria has been assessed through standardized factor loadings, AVE and CR. Table (5.17) reveals that standardized factor loadings for all items were above the suggested cut-off of 0.50 (Hatcher, 1994), with a minimum of 0.65, and were all significant at 1%

level of significance. The AVE meets the criterion of .50. High score of CR (i.e.0.7) confirms the internal consistency of the scale items.

Table 5.17 Psychometric Properties of EFQM model for enablers criteria.

	CR	AVE	MSV	MaxR(H)					
Processes	0.852	0.591	0.483	0.856	0.769				
Leadership	0.887	0.568	0.555	0.889	0.684	0.754			
Employees	0.897	0.636	0.555	0.901	0.695	0.745	0.798		
Partnership	0.834	0.458	0.497	0.845	0.645	0.654	0.705	0.677	
Strategy	0.850	0.586	0.531	0.851	0.635	0.729	0.715	0.675	0.765

*Significance of Correlations: † p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001*

Source: prepared by researcher from data (2019).

5.11. Measurement and validation of EFQM result criteria elements.

To assess the degree of correspondence between the manifest variables and latent construct of experiential marketing uni-dimensional CFA model Figure (5.2) has been conceptualized and tested for its psychometric properties. Table (5.19) show CFA result.

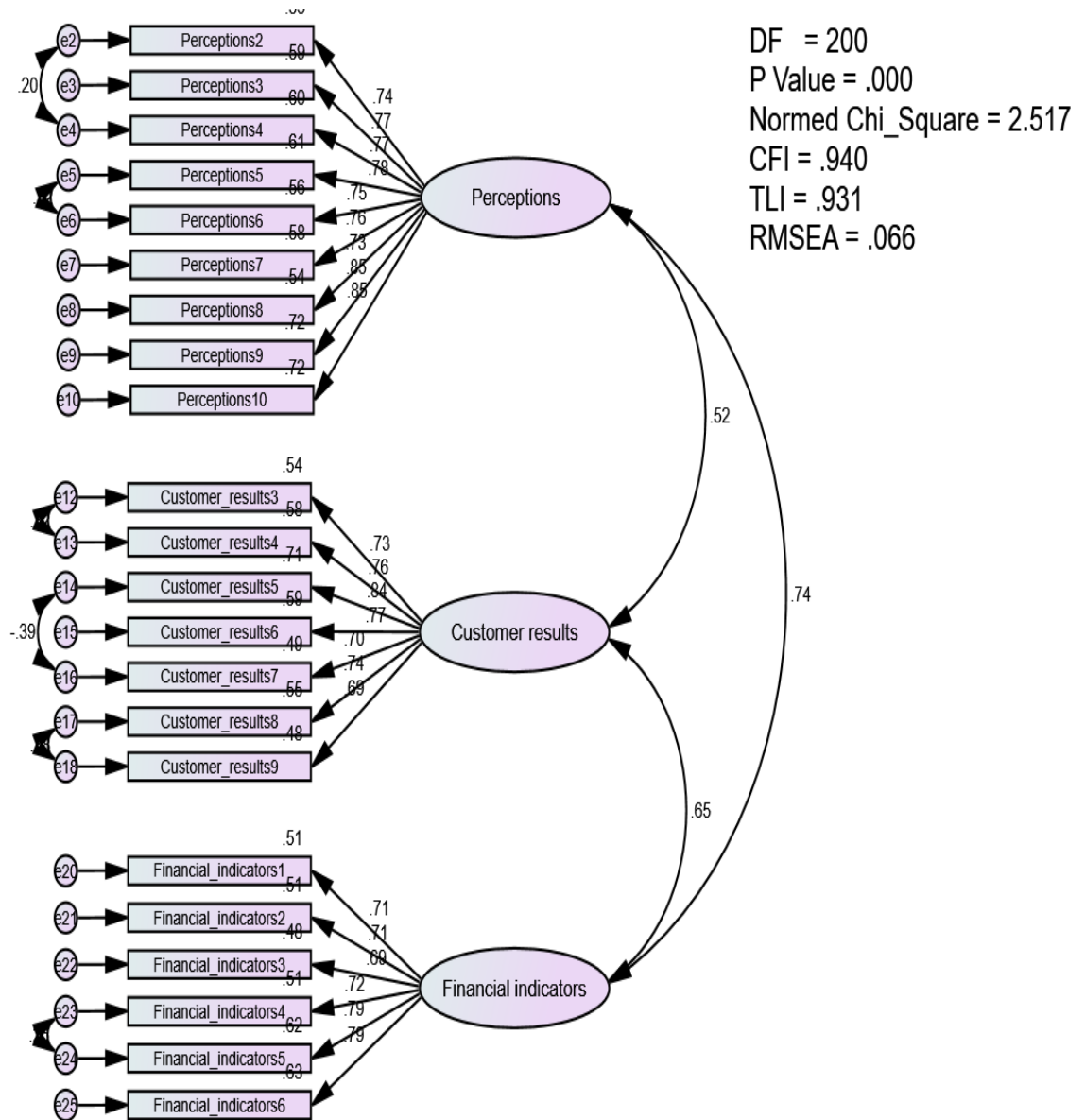


Figure 5.2 CFA Model for EFQM model for results criteria.
 Source: prepared by researcher from data (2019).

The structural model of Confirmatory Factor Analysis (CFA) reveals the same measures that can be calculated to determine goodness of fit show in Table (5.18) The result of the unidimensional CFA to entrepreneurship and component of theory of planned behavior

Table 5.18 Model Fit indices of EFQM model for results criteria.

Measure	Estimate	Threshold	Interpretation
CMIN	503.409	--	--
DF	200	--	--
CMIN/DF	2.517	Between 1 and 3	Excellent
CFI	0.940	>0.95	Acceptable
SRMR	0.053	<0.08	Excellent
RMSEA	0.066	<0.06	Acceptable
PClose	0.000	>0.05	Terrible

Source: prepared by researcher from data (2019).

The convergent validity of the construct of EFQM model for Results criteria has been assessed through standardized factor loadings, AVE and CR. Table (5.19) reveals that standardized factor loadings for all items were above the suggested cut-off of 0.50 (Hatcher, 1994), with a minimum of 0.65, and were all significant at 1% level of significance. The AVE meets the criterion of .50. High score of CR (i.e.0.7) confirms the internal consistency of the scale items.

Table 5.19 Psychometric properties of EFQM model for results criteria.

	CR	AVE	MSV	MaxR(H)	Perceptions	Customer results	Financial indicators
Perceptions	0.934	0.613	0.534	0.937	0.783		
Customer results	0.902	0.568	0.417	0.905	0.530***	0.754	
Financial indicators	0.880	0.552	0.534	0.887	0.731***	0.646***	0.743

*Significance of Correlations: † p < 0.100 * p < 0.050 ** p < 0.010 *** p < 0.001*

Source: prepared by researcher from data (2019).

5.12. Modified of study framework and hypotheses.

From the result of the factor analysis, the whole previous conceptual framework had been changed. Accordingly, the earlier hypotheses related to some variables will be changed. And also, some previous partial hypotheses will be removed according to the factor analysis extraction. The bellow parts are exploring the change and removing in hypotheses according to factor analysis results.

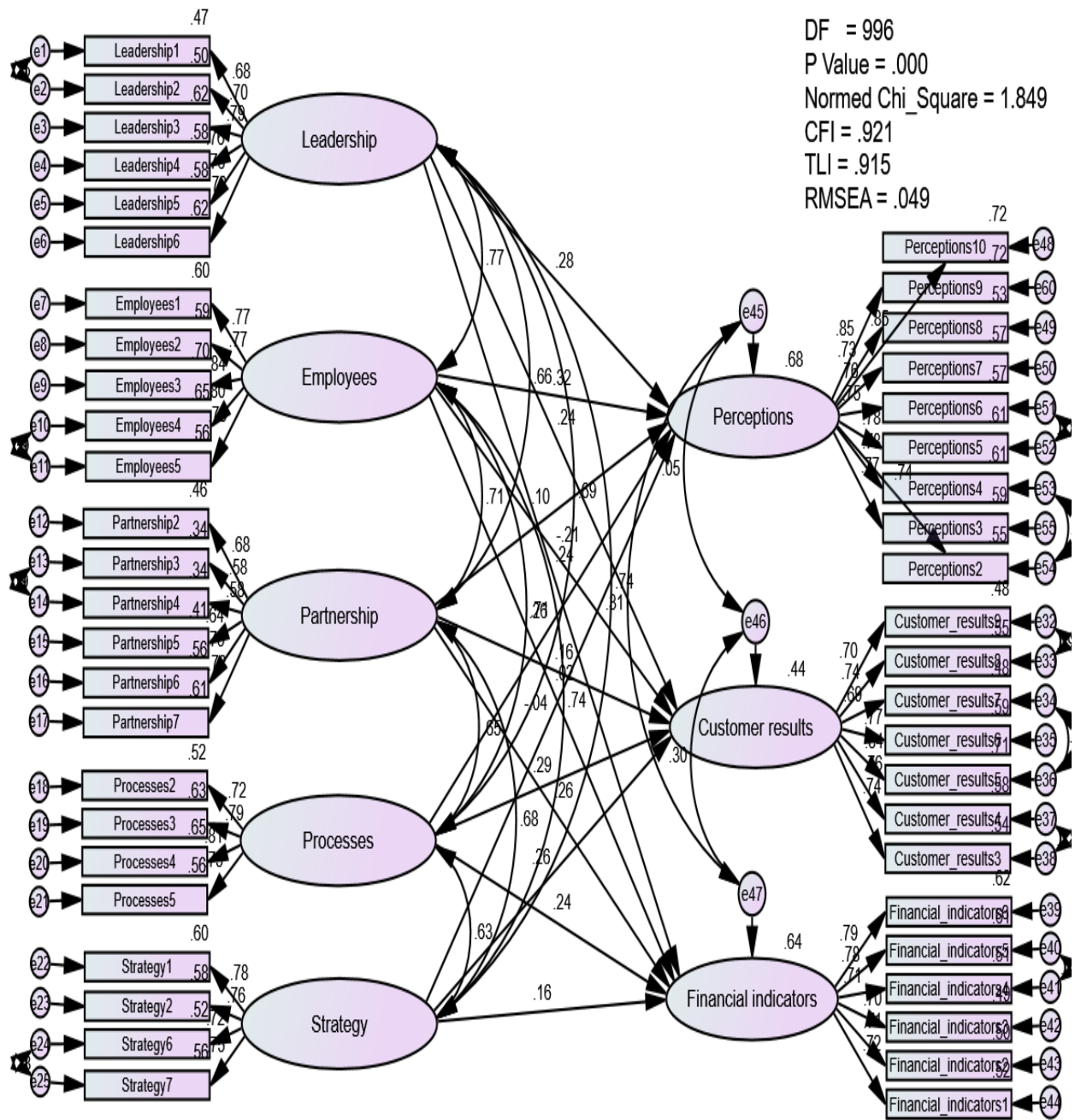


Figure 5.3 The modified conceptual framework.
Source: prepared by researcher from data (2019).

Based on the modified theoretical framework, the hypotheses related to all dimensions need to be restated. The restated hypotheses reflect the addition of new variables and the eliminated ones related to the constructs.

5.13. Descriptive statistics of variables.

In this section descriptive statistics such as mean and standard deviation was used to describe the characteristics of surveyed to all variables (Independent, dependent, and mediators) under study. Table (5.20) shows the means and standard deviations.

Table 5.20 Descriptive Statistics to all variables.

	Mean	Std. Deviation
Leaders in your Bank develop the mission, vision, values and ethics.	4.13	.707
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	4.06	.732
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	3.90	.771
Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	3.89	.769

Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	3.85	.839
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	3.88	.816
Leaders in your bank represent models to follow and work to ensure the future success of the institution.	4.10	2.795
Leadership	3.97	1.061
Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.	4.11	.690
Strategy of your bank is based on understanding internal performance and capabilities.	4.05	.704
Strategy of your bank Determine the potential impact of new technologies.	3.97	.717
In your bank Strategy and supporting policies are developed, reviewed and updated.	3.90	.815
In your bank Strategy and supporting policies are communicated, implemented and monitored.	3.93	.778
When developing a strategy, your bank ensures that financial and technical resources are available.	4.09	.718
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.	4.04	.755
Strategy	4.01	.739

Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	3.67	.928
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	3.85	.868
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	3.78	.881
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	3.70	.841
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	3.81	.788
People	3.76	.861
Your Bank managed Partners and suppliers relations for sustainable Benefit in line with the organization's strategies and values on the bases of trust, respect and mutual transparency.	4.10	.661
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	3.99	.674
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.	3.99	.652

Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.	3.91	.729
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.	3.84	.730
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.	4.00	.723
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	4.00	.711
Partnerships & Resources	3.97	.697
Processes in Your Bank are designed and managed to optimize stakeholder value by managing the end to end processes.	4.07	.745
Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.	3.89	.805
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	3.87	.879
Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	3.83	.810

Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	3.83	.808
Processes, Products & Services	3.89	.809
The management of your bank considered the ideas and proposals of the employees when making decisions.	3.59	1.021
The management of your bank is keen to solve and address the obstacles facing employees.	3.87	.883
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	3.80	1.009
Your bank promotes a culture of appreciation for individuals and teams.	3.76	.866
Your bank works to ensure a healthy and balanced work environment.	3.89	.820
Your bank works to ensure mutual care between employees and the institution.	3.89	.778
Your bank is supporting staff mobility systems that take into account employee stability.	3.68	.972
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	3.70	.992
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	3.83	.832

Your bank aligns employee's personal goals with the team and the organization's goals.	3.70	.853
Employees Perceptions	4.17	.698
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	4.17	.676
Your bank shall provide its services in the periods stated therein.	4.11	.736
Your bank staff provide the banking services at the required speed as per your customers' expectations.	4.11	.722
Your bank staff are always ready to help their customers.	4.23	.689
The behavior of your bank employees support customer's confidence.	4.25	.660
Customers feel secure in their dealings with your Bank.	4.25	.663
Your Bank has convenient operating hours for all its customers.	4.11	.752
Your Bank has employees who give the required attention to their customers.	4.26	.674
Your Bank employees recognize the specific needs of their customers.	4.16	.667
Customers of your bank have loyalty to it, due to the high level of services provided.	4.09	.741
Customers		
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	4.10	.688

Your bank adopt financial governance, designed for all appropriate levels in your organization.	3.86	.770
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	3.91	.728
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	4.04	.708
Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	3.93	.741
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	3.90	.788
Financial Indicators	3.96	.737

Note: All variables used a 5-point likert scale (1= strongly disagree, 7= strongly agree)

Source: prepared by researcher from data (2019)

Table (5.20) shows the means and standard deviations of all variables in framework: of Evaluating the level of business excellence in the banking sector in Sudan The table reveals that the Employees Perceptions has the grater mean equal 4.17 and

standard deviation equal .698. However, the less variable value is People equal 3.76 and standard deviation .861.

5.14. Correlation analysis.

Table (5.21) presents the results of the intercorrelation among the variables. The correlation analysis was conducted to see the initial picture of the interrelationships among the variables under the study. Therefore, the importance of conducting correlation analysis is to identify any potential problems associated with multicollinearity (Sekaran, 2000). Table (5.21) represents the correlation matrix for the constructs operationalized in this study. These bivariate correlations allow for preliminary inspection and information regarding hypothesized relationships. In addition to that, correlation matrix gives information regarding test for the presence of multicollinearity. The table shows that no correlations near 1.0 (or approaching 0.8 or 0.9) were detected, which indicate that multicollinearity is not a significant problem in this particular data set.

Table 5.21. Person's correlation coefficient for all variables.

			Estimate
Leadership	<-->	Employees	0.746
Leadership	<-->	Partnership	0.654
Leadership	<-->	Processes	0.685
Leadership	<-->	Strategy	0.730
Employees	<-->	Partnership	0.705
Employees	<-->	Processes	0.697
Employees	<-->	Strategy	0.716
Partnership	<-->	Processes	0.647
Partnership	<-->	Strategy	0.674
Processes	<-->	Strategy	0.635
Leadership	<-->	Perceptions	0.741
Leadership	<-->	Customer results	0.584
Leadership	<-->	Financial indicators	0.702
Employees	<-->	Perceptions	0.749

Employees	<-->	Customer results	0.475
Employees	<-->	Financial indicators	0.663
Partnership	<-->	Perceptions	0.656
Partnership	<-->	Customer results	0.534
Partnership	<-->	Financial indicators	0.686
Processes	<-->	Perceptions	0.729
Processes	<-->	Customer results	0.571
Processes	<-->	Financial indicators	0.677
Strategy	<-->	Perceptions	0.634
Strategy	<-->	Customer results	0.573
Strategy	<-->	Financial indicators	0.660
Perceptions	<-->	Customer results	0.531
Perceptions	<-->	Financial indicators	0.731
Customer results	<-->	Financial indicators	0.647

Source: prepared by researcher from data (2019)

The table shows that no correlations near 1.0 (or approaching 0.8 or 0.9) were detected, which indicate that multicollinearity is not a significant problem in this particular data set. The highest correlations between Employees and Perceptions equal. 0.749**.

5.15. Model fit and hypotheses testing.

The fit index statistic tests the consistency between the predicted and observed data matrix by the equation (Keith, T,2006). One of the differences that exist between the SEM technique and regression method is that the former one does not have any single statistical test applicable for evaluation of model predictions “strength” (Hair, J.F., et al,1988). In this regard, Kline (Kline, R.B,1988) believed that there are “dozens of fit indexes described in SEM literature, more than any single model-fitting program reports”. However, according to Hair, Black (Hair, J.F., et al,1988) and Garson (Garson, et al 2007), the chi-square fit index, also known as chi-square discrepancy test, is considered as the most fundamental and common overall fit measure. Thus, in a good model fit the value of chi-square should not be very significant, i.e., $p > 0.05$ (Hair, J.F., et al,1988). However, one problem usually experienced through this test relates to the rejection probability of the model having direct interaction with the sample size. Moreover, the sensitivity level of chi-square fit index is very high,

especially, towards the multivariate normality assumption violations (Garson, et al 2007).

Many indexes have been introduced and developed to avert or reduce the problems related to the chi-square fit index. Some of the indexes included in the absolute fit indexes are as follows:

a) **"Normal Chi-Square Fit Index" (CMIN/DF):**

Normal chi-square fit index, χ^2/df , serves to adjust the testing of chi-square according to the sample size (Byrne, B.M 2007). A number of studyers take 5 as an adequate fit value, while more conservative studyers believe that chi-square values larger than 2 or 3 are not acceptable (Garson, et al 2007).

b) **"Goodness-of-Fit Index"[30]:**

GFI is utilized for gauging the discrepancy level between the estimated or predicted covariance and resulted or observed ones (Jöreskog, K.G,1993).

$$GFI = 1 - [\max[(\chi^2 - df)/n, 0] / \max[(\chi_{null}^2 - df_{null})/n, 0]]$$

The allowable range for GFI is between 0 and 1, where 1 indicates a perfect fit, which demonstrates that measures equal to or larger than 0.90 signify a 'good' fit (Garson, et al 2007).

a) **Adjusted Goodness-of-Fit Index"(AGFI) (Jöreskog, K.G.,1993):**

AGFI is utilized for adjustment of the GFI relating the complexity of the model.

$$AGFI = 1 - [(1 - GFI) dn_{null} / d]$$

The measuring of AGFI is between 0 and 1, in which 1 or over 1 (AGFI>1.0) signifies a perfect fit, nevertheless, it cannot be bounded below 0, i.e., (AGFI<0). As in the case of GFI, AGFI values equal to or bigger than 0.90 signify a 'good' fit (Garson, et al 2007).

b) "Root Mean Square Residual" (RMR):

RMR shows the mean squared amount's square root, which distinguishes the sample variances and covariances from the corresponding predicted variances and covariances (Hu, L. and P.M. Bentler,1995). The assessment relies on an assumption that considers the model to be correct. The smaller the RMR, the more optimal the fit is [Garson, et al 2007].

c) "Root Mean Square Error of Approximation" (RMSEA) (Steiger, J.H 1990):

RMSEA is employed to gauge the approximation error in the population.

$$RMSEA = [(\chi^2 - df) / (n - 1)df]^{1/2}$$

In cases where the RMSEA value is small, the approximation is believed to be optimal. An approximately 0.05 or smaller value of RMSEA means a more

appropriate and closer model fit in connection with the degrees of freedom. Nevertheless, between 0.05 and 0.08 displays the most preferable status and the more optimal fit results (Browne, M.W. and R. Cudeck 1970).

In addition, the following indexes are also included in the incremental fit measures:

a) "Normed Fit Index or Bentler Bonett Index" (NFI):

Normed Fit Index or Bentler Bonett Index or NFI is applicable to contrast and compare the fit of a suggested model against a null model (Bentler, P.M. and D.G. Bonett,1980).

$$NFI = [\chi^2/df(Null Model) \chi^2//df(Proposed Model) / [\chi^2/df(Null Model) - 1]$$

This index defines all the observed variables as uncorrelated. The values of NFI range between 0 and 1, where 0.90 signifies an optimal fit (Garson, et al 2007).

a) "Tucker Lewis Index or Non-Normed Fit Index" (TLI or NNFI):

The TLI or NNFI index is used to gauge parsimony, which is applicable through the evaluation and assessment of the degrees of freedom of the suggested model to the degrees of freedom of the null model (Bentler, P.M. and D.G. Bonett,1980) .

$$NFI = [\chi^2/df(Null Model) \chi^2//df(Proposed Model) / [\chi^2/df(Null Model) - 1]$$

However, it is not certain whether TLI can vary from 0 to 1. A fit of model is required to possess a TLI that is larger than 0.90 (Bentler, P.M. and D.G. Bonett,1980, Tucker, L.R. and C. Lewis 1970).

b) "Comparative Fit Index" (CFI) (Bentler, P.M.,1998):

CFI is not only less affected by the sample size, but also based on comparison of the hypothesized model to the null model (Kline ,1998).

$$CFI = 1 - [\max[(\chi^2 - df), 0] \max[(\chi_{null}^2 - df_{null}), 0]]$$

The values of CFI range between 0 and 1. However, its values need to be a minimum of 0.90 to be usable for a model fit (Garson, et al 2007).

5.16. Relationship between evaluating the level of business excellence (Multi-dimensional) on employees perceptions.

To assess the impact of evaluating the level of business excellence on Employees Perceptions, structural equation modeling has been employed and a measurement model of these constructs has been assessed. Figure (5.4) reveals that reflective indicators have been used for the measurement of latent constructs and non-causal relationship has been studied among different constructs, by drawing path.

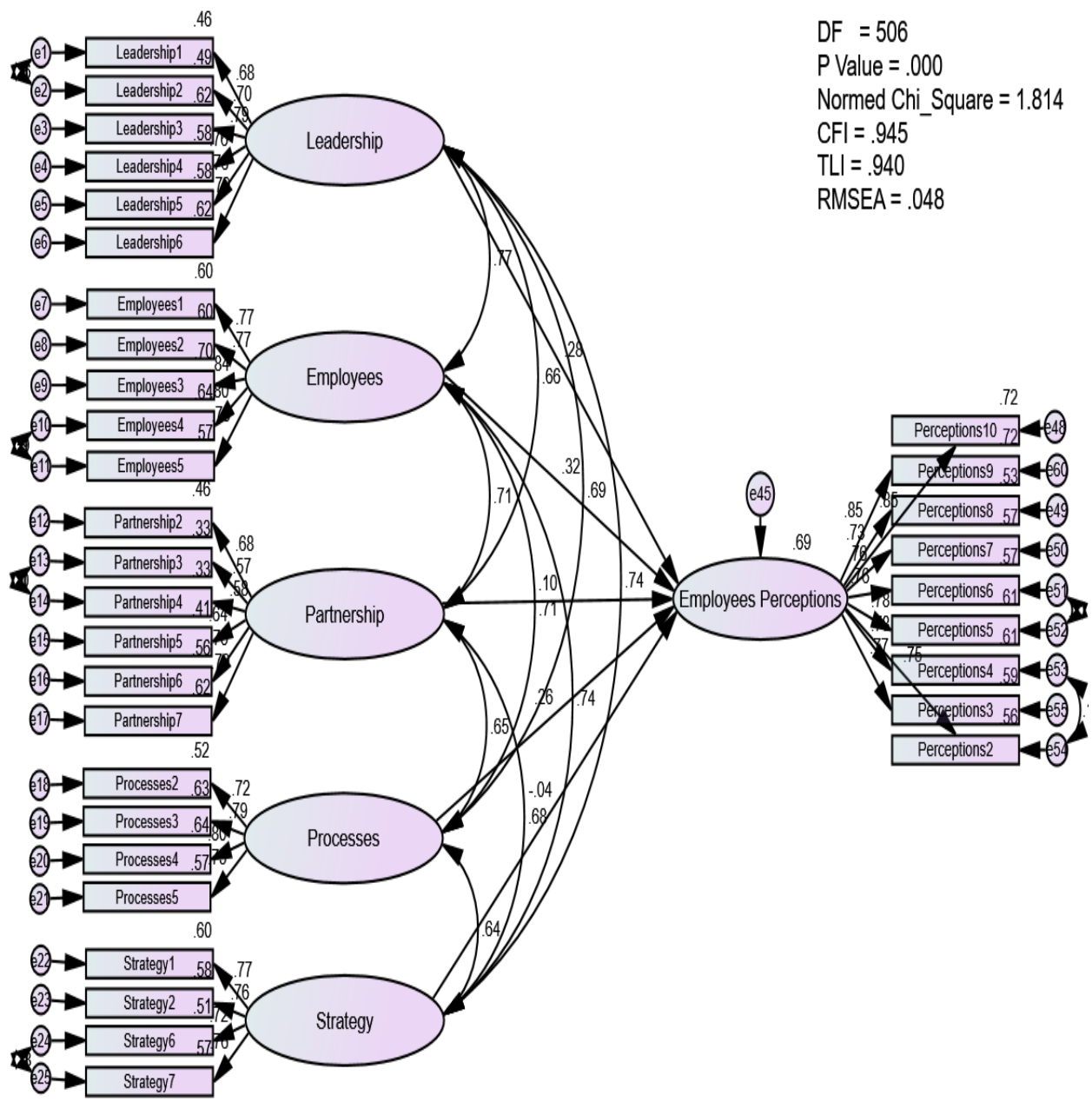


Figure 5.4: Structural model estimation for EFQM model for enabler criteria on employee perceptions (peoples results).
Source: prepared by researcher from data (2019).

The structural model reveals the same value of model fit shown in Table (5.22) , all the model fit indices for the structural model were not only significant but remain same as in the measurement model. The low index of R square (i.e. 0.69) justifies the underlying theoretical model.

The probability of getting a critical ratio as large as 3.519 in absolute value is less than 0.001. In other words, the regression weight for Leadership in the prediction of Perceptions is significantly different from zero at the 0.001 level

The probability of getting a critical ratio as large as 3.766 in absolute value is less than 0.001. In other words, the regression weight for Employees in the prediction of Perceptions is significantly different from zero at the 0.001 level

The probability of getting a critical ratio as large as 1.442 in absolute value is .149. In other words, the regression weight for Partnership in the prediction of Perceptions is not significantly different from zero at the 0.05 level

The probability of getting a critical ratio as large as 3.817 in absolute value is less than 0.001. In other words, the regression weight for Processes in the prediction of Perceptions is significantly different from zero at the 0.001 level

The probability of getting a critical ratio as large as 0.519 in absolute value is .604. In other words, the regression weight for Strategy in the prediction of Perceptions is not significantly different from zero at the 0.05 level

All details are shown in the Table (5.22). The full AOMS output is displayed in Appendix C.

Table 5.22 Model Fit indices and path Coefficients of evaluating the level of EFQM model for enabler criteria on employee perceptions (peoples results).

Measure	Estimate	Threshold	Interpretation
CMIN	917.959	--	--
DF	506	--	--
CMIN/DF	1.814	Between 1 and 3	Excellent
CFI	0.945	>0.95	Acceptable
SRMR	0.040	<0.08	Excellent
RMSEA	0.048	<0.06	Excellent
PClose	0.717	>0.05	Excellent

			Estimate	S.E.	C.R.	P	Result
Perceptions	<---	Leadership	0.387	0.11	3.519	***	Support
Perceptions	<---	Employees	0.295	0.078	3.766	***	Support

Perceptions	<---	Partnership	0.14	0.097	1.442	0.149	Not Support
Perceptions	<---	Processes	0.297	0.078	3.817	***	Support
Perceptions	<---	Strategy	-0.049	0.095	-0.519	0.604	Not Support

*** Significant at .05 level ,NS Not Significant.

Source: prepared by researcher from data (2019).

5.17. Relationship between evaluating the level of business excellence (Multi-dimensional) on customer results.

To assess the impact of evaluating the level of business excellence on Customer results, structural equation modeling has been employed and a measurement model of these constructs has been assessed. Figure (5.5) reveals that reflective indicators have been used for the measurement of latent constructs and non-causal relationship has been studied among different constructs, by drawing path.

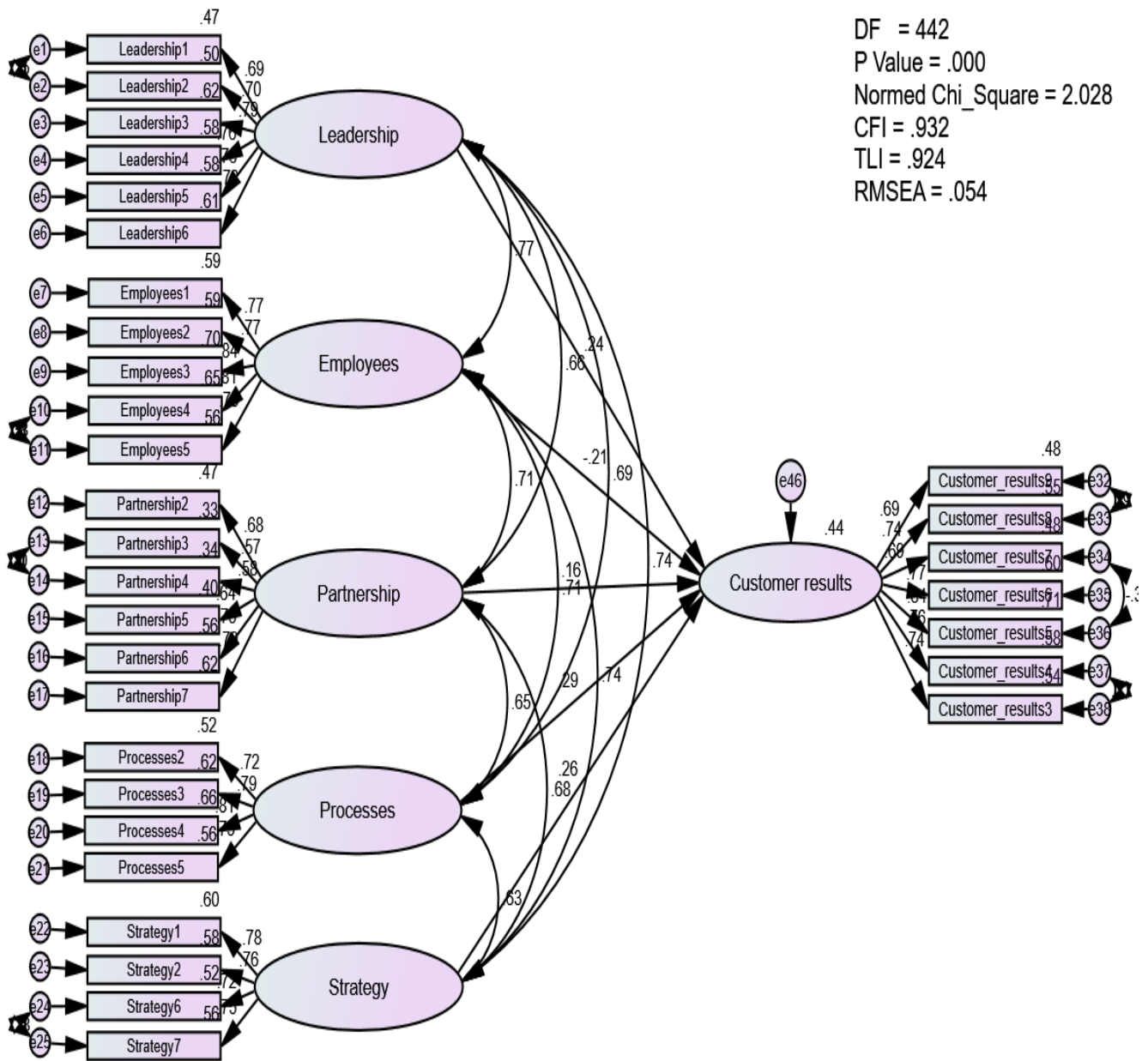


Figure 5.5 Structural model estimation for EFQM model for enabler criteria on Customer results.

Source: prepared by researcher from data (2019).

The structural model reveals the same value of model fit shown in Table (5.23) , all the model fit indices for the structural model were not only significant but remain same as in the measurement model. The low index of R square (i.e. 0.44) justifies the underlying theoretical model.

The probability of getting a critical ratio as large as 2.33 in absolute value is .020. In other words, the regression weight for Leadership in the prediction of Customer results is significantly different from zero at the 0.05 level

The probability of getting a critical ratio as large as 1.98 in absolute value is .048. In other words, the regression weight for Employees in the prediction of Customer results is significantly different from zero at the 0.05 level

The probability of getting a critical ratio as large as 1.853 in absolute value is .064. In other words, the regression weight for Partnership in the prediction of Customer results is not significantly different from zero at the 0.05 level

The probability of getting a critical ratio as large as 3.312 in absolute value is less than 0.001. In other words, the regression weight for Processes in the prediction of Customer results is significantly different from zero at the 0.001 level

The probability of getting a critical ratio as large as 2.61 in absolute value is .009. In other words, the regression weight for Strategy in the prediction of Customer results is significantly different from zero at the 0.01 level

All details are shown in the Table (5.23). The full AOMS output is displayed in Appendix BA1.

Table 5.23 Model fit indices and path coefficients of evaluating the EFQM model for enabler criteria on customer results.

Measure	Estimate	Threshold	Interpretation
CMIN	896.326	--	--
DF	442	--	--
CMIN/DF	2.028	Between 1 and 3	Excellent
CFI	0.932	>0.95	Acceptable
SRMR	0.049	<0.08	Excellent
RMSEA	0.054	<0.06	Excellent
PClose	0.088	>0.05	Excellent

			Estimate	S.E.	C.R.	P	Result
Customer results	<---	Leadership	0.259	0.111	2.33	0.020	Support
Customer results	<---	Employees	-0.159	0.080	-1.98	0.048	Support

Customer results	<---	Partnership	0.187	0.101	1.853	0.064	Not Support
Customer results	<---	Processes	0.265	0.080	3.312	***	Support
Customer results	<---	Strategy	0.261	0.100	2.610	0.009	Support

*** Significant at .05 level ,NS Not Significant.

Source: prepared by researcher from data (2019).

5.18. Relationship between evaluating the level of business excellence (Multi-dimensional) on financial indicators.

To assess the impact of evaluating the level of business excellence on financial indicators, structural equation modeling has been employed and a measurement model of these constructs has been assessed. Figure (5.6) reveals that reflective indicators have been used for the measurement of latent constructs and non-causal relationship has been studied among different constructs, by drawing path.

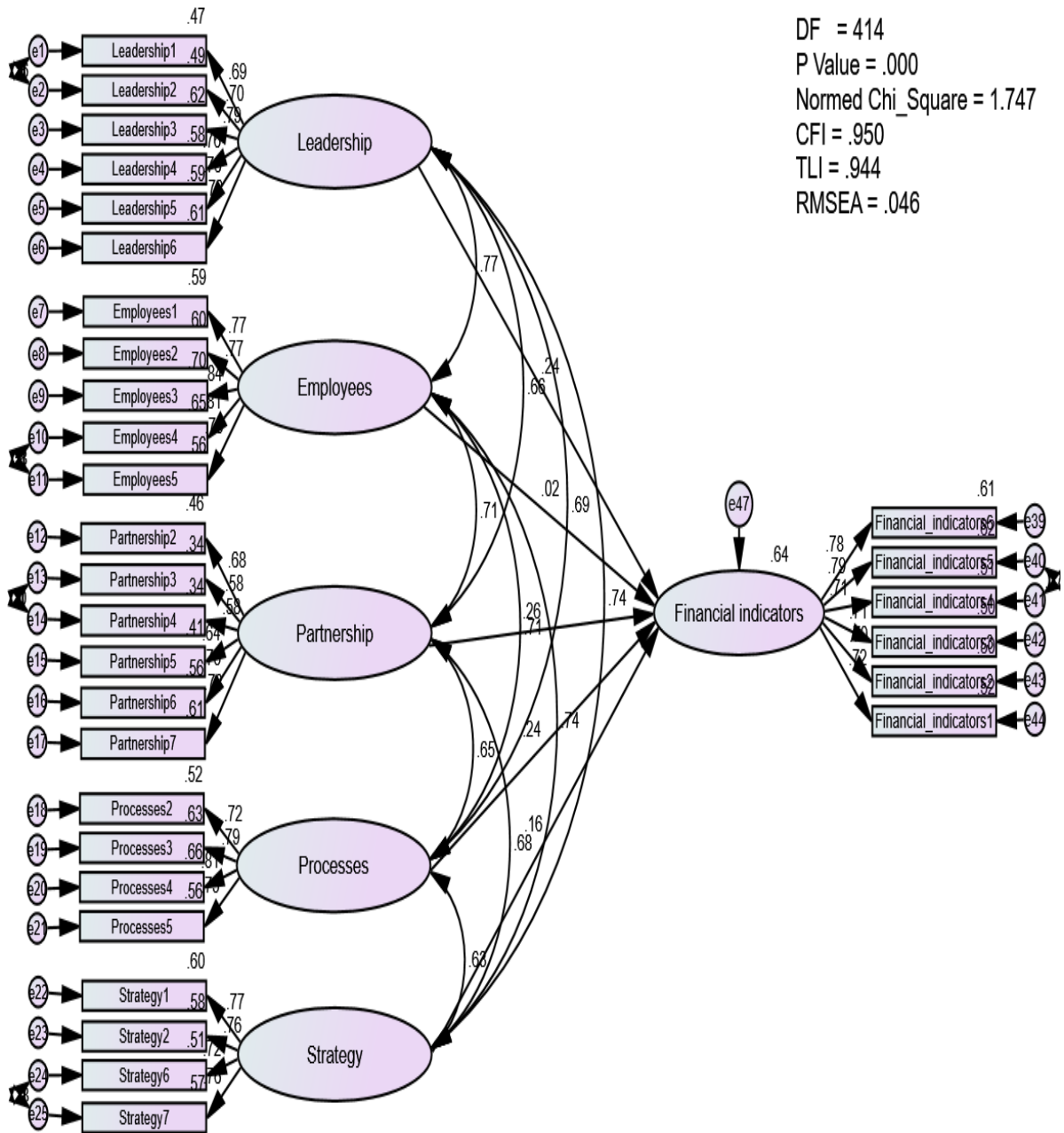


Figure 5.6 Structural model estimation for EFQM model for enabler criteria on financial indicators.

Source: prepared by researcher from data (2019).

The structural model reveals the same value of model fit shown in table (5.24) , all the model fit indices for the structural model were not only significant but remain same as in the measurement model. The low index of R square (i.e. 0.69) justifies the underlying theoretical model.

The probability of getting a critical ratio as large as 2.67 in absolute value is .008. In other words, the regression weight for Leadership in the prediction of Financial indicators is significantly different from zero at the 0.01 level

The probability of getting a critical ratio as large as 0.261 in absolute value is .794. In other words, the regression weight for Employees in the prediction of Financial indicators is not significantly different from zero at the 0.05 level

The probability of getting a critical ratio as large as 3.272 in absolute value is .001. In other words, the regression weight for Partnership in the prediction of Financial indicators is significantly different from zero at the 0.001 level

The probability of getting a critical ratio as large as 3.139 in absolute value is .002. In other words, the regression weight for Processes in the prediction of Financial indicators is significantly different from zero at the 0.01 level

The probability of getting a critical ratio as large as 1.84 in absolute value is .066. In other words, the regression weight for Strategy in the prediction of financial indicators is not significantly different from zero at the 0.05 level.

All details are shown in the Table (5.24). The full AOMS output is displayed in Appendix C.

Table 5.24 Model fit indices and path coefficients of evaluating the level of EFQM model for enabler criteria on financial indicators.

Measure	Estimate	Threshold	Interpretation
CMIN	723.386	--	--
DF	414	--	--
CMIN/DF	1.747	Between 1 and 3	Excellent
CFI	0.950	>0.95	Acceptable
SRMR	0.040	<0.08	Excellent
RMSEA	0.046	<0.06	Excellent
PClose	0.867	>0.05	Excellent

			Estimate	S.E.	C.R.	P	Result
Financial indicators	<---	Leadership	0.244	0.092	2.670	0.008	Support

Financial indicators	<---	Employees	0.017	0.065	0.261	0.794	Not Support
Financial indicators	<---	Partnership	0.279	0.085	3.272	0.001	Support
Financial indicators	<---	Processes	0.206	0.066	3.139	0.002	Support
Financial indicators	<---	Strategy	0.150	0.082	1.840	0.066	Not Support

*** Significant at .05 level, NS Not Significant.

Source: prepared by researcher from data (2019).

Table 5.25: Goodness-of-fit test for adequacy to EFQM results criteria elements.

Goodness-of-fit test		
Chi-square	Df	Sig.
31482	849	.00

Source: prepared by researcher from data (2019).

5.19. Summary of the chapter.

This chapter considered the process of data analysis followed by measurement and validation of various constructs. Started by describe the descriptive statistics of the sample data then respondent's demographic information, the measurement and validation process of constructs, the results of the path analysis and hypotheses testing.

Chapter six

Summary, discussion, conclusions and recommendations

6.1 Summary of hypotheses testing and results.

Leadership.

1. Leadership in banking sector in Sudan does support the Employees' Results (Employees' Perception) of this sector. This is so because the P Value is less than (0.05), which means Leadership as enabler is positively influencing the Employees' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
 2. Leadership in banking sector in Sudan does support the customers' results of this sector. This is so because the P Value is less than (0.05), which means Leadership as enabler is positively influencing the customers' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
 3. Leadership in banking sector in Sudan does support the financial results of this sector. This is so because the P Value is less than (0.05), which means Leadership as enabler is positively influencing the financial results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
- Strategy.

4. Strategy in banking sector in Sudan doesn't support the Employees' Results (Employees' Perception) of this sector. This is so because the P Value is greater than (0.05), which means Strategy as enabler isn't positively influencing the Employees' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
5. Strategy in banking sector in Sudan does support the customers' results of this sector. This is so because the P Value is less than (0.05), which means Strategy as enabler is positively influencing the customers' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
6. Strategy in banking sector in Sudan doesn't support the financial results of this sector. This is so because the P Value is greater than (0.05), which means Strategy as enabler isn't positively influencing the financial results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

Employees.

7. Employees in banking sector in Sudan does support the Employees' Results (Employees' Perception) of this sector. This is so because the P Value is less than (0.05), which means Employees as enabler is positively influencing the

Employees' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

8. Employees enablers element in banking sector in Sudan does support the customers' results of this sector. This is so because the P Value is less than (0.05), which means Employees as enabler is positively influencing the customers' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.
9. Employees in banking sector in Sudan doesn't support the financial results of this sector. This is so because the P Value is greater than (0.05), which means Employees as enabler isn't positively influencing the financial results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

Partnerships and resources.

10. Partnerships and resources in banking sector in Sudan doesn't support the Employees' Results (Employees' Perception) of this sector. This is so because the P Value is greater than (0.05), which means Partnerships and resources as enabler isn't positively influencing the Employees' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

11. Partnerships and resources in banking sector in Sudan doesn't support the customers' results of this sector. This is so because the P Value is greater than (0.05), which means Partnerships and resources as enabler isn't positively influencing the customers' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

12. Partnerships and resources in banking sector in Sudan does support the financial results of this sector. This is so because the P Value is less than (0.05), which means Partnerships and resources as enabler is positively influencing the financial results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

Processes.

13. Processes in banking sector in Sudan does support the Employees' Results (Employees' Perception) of this sector. This is so because the P Value is less than (0.05), which means Processes as enabler is positively influencing the Employees' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

14. Processes in banking sector in Sudan does support the customers' results of this sector. This is so because the P Value is less than (0.05), which means Processes

as enabler is positively influencing the customers' results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

15. Processes in banking sector in Sudan does support the financial results of this sector. This is so because the P Value is less than (0.05), which means Processes is positively influencing the financial results when the EFQM model being applied in the Banking Sector in Sudan during the period 2012 – 2018.

6.2. Study model empirical hypotheses results.

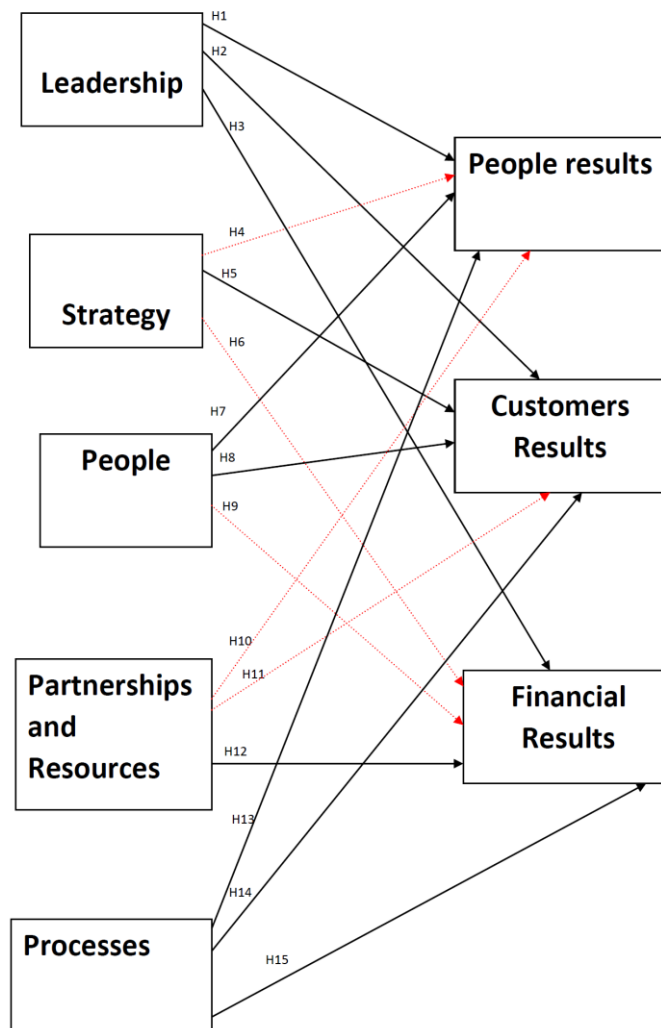


Figure 6.1: Empirical results of the study model hypotheses testing
Source: Source: prepared by researcher from results (2019).

6.3. Discussion

This study analyzed the casual relation between the five enablers criteria side (leadership, Strategy , People “ Employees “, Partnerships and resources , Processes) of the EFQM model and the results criteria (Customers , Employees Perception , Financial) with in the application of the model in the Banking sector of Sudan for the purpose of reaching to an evaluation of the business Excellence management in this sector, with high consideration of the operating Banking sector in Sudan business environment, especially during the period 2000 to 2019, hence the secession of the south Sudan in 2011 represent a shock to macro-economic environment of Sudan The effect of Enablers on Results criteria in the EFQM in this context, has been empirically tested with in fifteen hypothetical statements represent the hypotheses of this study and they are being extracted from the three study questions which are: What is the relationship between the five enabler criteria of the EFQM (Leadership, Strategy, People, Partnerships and resources, Processes) and customer result criteria? What is the relationship between the five enabler criteria of the EFQM (Leadership, Strategy, People, Partnerships and resources, Processes) and people result criteria? What is the relationship between the five enabler criteria of the EFQM (Leadership, Strategy, People, Partnerships and resources, Processes) and business

result criteria? The fifteen hypotheses formulated as part of the natural structure of the EFQM casual relation. Hence each enabler criterion hypothetically has an effect on all results criteria (Customers, Employees, Financial, and Society).

The influence of the enablers criterion on results has been tested accordingly (apart from the society results). Each enabler criterion is being tested upon its influence on each of the three results which lead to fifteen hypothetical statements which are, H1: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on Employees Satisfaction. H2: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on customers satisfaction. H3: leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times, have positive significant impact on business financial results. H4: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on Employees Satisfaction. H5: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on customers Satisfaction. H6: Achieving Mission and Vision by developing a stakeholder focused strategy have positive significant impact on business financial results. H7: Appreciation of Employees and create a culture that allows the mutually

beneficial achievement of organizational and personal goals have positive significant impact on Employees Satisfaction. H8: Appreciation of Employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals have positive significant impact on customers satisfaction . H9: Appreciation of Employees and create a culture that allows the mutually beneficial achievement of organizational and personal goals have positive significant impact on business financial results. H10: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes have positive significant impact on Employees Satisfaction. H11: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes have positive significant impact on customer's satisfaction . H12: Effective planning and management of external partnerships, suppliers and internal resources to support strategy, policies and the effective operation of processes have positive significant impact on business financial results.H13: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on Employees Satisfaction.H14: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive

significant impact on customers satisfaction . H15: Design, manage and improve processes, products and services to generate increasing value for all stakeholders of the organization have positive significant impact on business financial results. The EFQM is being chosen as an empirical framework for this study because the Government of Sudan is adopting it since 2004 as frame for organizational development for Governmental and non-Governmental institutions in Sudan. As well as the announcement of the Central Bank of Sudan and the Banks association of an Award for institutional Excellence performance for all Banks operating in Sudan Based on the evaluation of the levels of implementation of the EFQM criteria for each Bank. This study examined the level of implementation of the EFQM criteria for the whole Banking sector in Sudan. The literature reviews reflect many studies and studies examined the effect of TQM on organizational performance in many Sudanese institutions, But we didn't find any similar previous study for examining or evaluating the Business excellence in Banking sector of Sudan based on the EFQM model criteria that's why we discussed some Theories Used to Explain the Relationships Between Variables of the EFQM Model. Within the discussion of the Study findings and results Seminars there were many questions raised on the validity of the EFQM model as Business Excellence based model. This has been discussed with the context of the EFQM Eight principles and Radar logic as well as the other

dimensions of the EFQM model as illustrated in the literature review chapter of this study, which shows the EFQM as Self-Assessment approach, Strategic tool, means of providing a Holistic and broader perspective of the business, a tool for Performance Management, Benchmarking Tool, framework for integrating other quality and management initiatives and tools, means of motivating staff to get involved in Quality Improvement activities and means of gaining a Quality Award.

The literature reviews covers in some details the variables of the study which are the eight criteria of the EFQM used in this study, the five enablers criteria represent the Independent variables (Leadership, Strategy, People, Partnerships and Resources, Processes) and the results criteria (Customers, Employees, Financial) represent the dependent variables. The causality relation between independent dependent criteria of the EFQM model constitute the scope of the study hypotheses development and the model elements relations directions. The study model empirical environment rely on the analysis of the operating business environment of the Banking sector. The objective of studying the Banking sector business operating environment is to elaborate the elements that might affect the implementation of the EFQM model with in the sector units. The analysis shows difficult economic conditions that the Banking sector units are working with, this has been elaborated in chapter three of this study.

The macro-economic indicators of Sudan shows highly fluctuated business environment during the period 2000 to 2019 the GDP in 2009 shows the lowest growth rate while the highest rate record was in in 2014. The sustained growth rates of GDP for the period 2000-2008 were achieved within a context of stable macroeconomic policies and relatively controlled and carefully guided inflationary pressures. The government was able to stabilize prices and sharply reduce inflation from a record high of 130.6% in 1996 to a single digit by the end of the 1990s, where oil and related sectors have been driving GDP growth. The GDP of Sudan shows a sever reduction between the years 2014 to 2019. The secession of South of Sudan in 2011 resulted in declining Real GDP by - 2.8% in 2011 down from 3.5 % in 2010. This slowdown in growth is attributable to the loss of oil revenues. GDP further grow to .5% in 2012 and then to 4.4% in 2013 and decline again in 2014 to reach 2.7% and then grow again in 2015 to reach 4.9% and then 4.7% in 2016 and 4.28 in 2017 . The year 2018 shows a sharp decline on Sudan GDP where the growth rate declined to -2.32% showing decline rate of 7% from the from the previous year. The National income increase by 237% in the period 2011 to 2016 while the aggregate consumption exceeded the National Income in the years after 2015, the thing which indicate inflation in the prices of goods and services in the economy. This means the public savings has been affected negatively in the periods after the year 2015. Where

aggregate demand hasn't been reached since the year 2000. The contribution of agriculture, forestry and fishing to Sudan's as a percentage of value added GDP was on the average of 40% on the years 2000, 2001 and 2002. The years between 2006 and 2011 show a sharp decrease of the contribution of the agricultural sector on GDP which was between 25% and 23% and this is due to concentration and attention on the oil sector and neglecting other sectors. Employment in the agricultural sector is decreasing due to different reasons among which are climate change, wars, migration to urban areas, tribal conflicts, low level of technology and agricultural extension, low levels of civil services in rural areas, economic fluctuation. The indicator of employment in agriculture as a percentage of total employment shows a 15% decrease between 1991 and 2018. The years 2011 and 2012 show a severe deterioration of the added value of the industrial sector of Sudan to GDP that's from 26.2% in 2011 to 3.3% in 2012 and 2.1% in 2015, this is obviously due to oil export revenues stopping as a result of the secession of the south. The comparison between the contribution of the agricultural and industrial sector as a percentage of GDP reflects an imbalance of the industrial sector contribution especially after the year 2011. Sudan's balance of trade shows a negative record between the period 2012 and 2019, as a result of imbalance between imports and exports, hence the trade balance was showing positive indicators before the year 2011. The imports exports gap increased

during the period 2012 to 2019 that's the value of imports is growing while exports values is decreasing. Sudan Economy has faced rapid Trade Balance deficit immediately after 2011. The foreign Trade Balance shows surplus of 10% in 2011. And the year after (2012) reflects a deficit of (-56), the deficit continue for the following years hence the deficit for the years 2013 and 2014 was (-52%) , 2015 (-67) , 2016 (-63%) , 2017 (-55%) and the year 2018 (-56). Higher Exchange rates for foreign currencies exists due to higher demand for currency to cover the higher prices of imports. The official exchange rate of Euro increased by seven hundred times against the Sudanese pound during three years 2016, 2017 and 2018, According to the Central Bank of Sudan official exchange rate, this resulted in a sharp increase in the inflation rates to reach 56% between the years 2015 and 2017. By the year 2018 the inflation rates increased to reach 73% According to the Central Bank of Sudan records. Inflation Rates by Item Group shows sharp increase in all goods and services produces in the economy, the consumer price index shows an overall increase by 278 points during the period 2007 - 2017. Money supply increase from 18% in 2011 to more than 40% which reflects more than 100% increase during that year, although the oil revenue decreased by 70% , and the population decreased by 20% as a result of secession of the south Sudan. Growth rates of money supply were

above GDP growth rates in the period 2008 – 2012, while during the years 2013 and 2014 the GDP growth rates were above money supply growth rates.

Success of a banking sector and the bank's efficient performance based on customer attitudes, political and economic environment which has a significant direct impact on the performance of the Banking sector in general. Banks depends mainly on public deposits (Savings) in any economy, where the volume of banks deposits represent the power of Banks to present finance again to the public and government. Fluctuations in the volume of public deposits in Sudan exists due to many factors among which economic sanctions, inflation, Government policies... Etc. Inflation has the highest consideration in any economic growth as well as the public deposit with in the banking sector. The year 2012 shows huge decline of public savings to reach (7,515.80 million SDG). The years 2013 to 2015 reflects fluctuations in savings where it shows (551.80 million SDG) in the year 2013, (8,756.20 million SDG) in year 2014, (613.90 million SDG) in the year 2015. 2016 was the lowest year in terms of public savings in Sudan during this period where it was (- 14,412.70 million SDG). Banks finance to deposits ratio was above 80% for the period 2007 – 2016 apart from the year 2012 which reflect a record of 75%. The years 2017, 2018 and 2019 showed sharp decline in the ratio of total banks finance to total deposits, 74%, and 54%, and in January 2019 it was 52%.

The elimination of wheat and flour subsidies in February 2018, an announcement by the minister of finance to raise custom duties for the year 2018, coupled with continual devaluations of the Sudanese pound and higher inflation rates. All these reasons led the public to rush to withdraw their deposits of cash from the banking system in a very short period of time which cause a severe shortage of cash in the banking system. Rising demand for cash due to inflation with a very big gap in providing bank note by the central bank and imposing strict withdrawal limits for cash, led to lack of trust in the banking system specially at the cash transactions levels, hence The central bank was not injecting enough fresh currency to cover the total demand on cash withdrawal.

Other political factors also affect the Banking sector of Sudan in a negative way among which is United States of America sanctions on Sudan since 1997, which include freeze all Sudan Government assets in the united states or/and controlled by the United States Government around the world. The sanctions also extend to limit Sudan's ability to transact in US Dollars. The Sanctions also states that international transfers are not allowed to process through a bank owned or controlled by the Government of Sudan. This situation led to a sharp decline in Correspondent banking lines with Sudanese banks, where Sudanese banks remained very weak in terms of international financial attendance.

The second half of the year 2019 witness a transitional state of Sudan Government System, and where transitional regime will govern the country for three years. The Transitional Government express its conviction of the tremendous capabilities that characterize the Sudanese economy, paving the way for dealing with its economic troubles with new vision and policies, and reform plan to address the issues of inflation and restore confidence and trust in Banking system. The Government promised to reform the economic policies aiming to take the Sudanese economy from an economy based on consumption and imports to a productive economy, and stop exporting products such as livestock and materials, to increase the added value on the economy.

The distribution of the questionnaire to collect the primary data was in the months of July and August on the year 2019, this time constitute the highest challenges for the Banking sector of Sudan due to the severe economic and political conditions mentioned in this discussion. The collected questioners were refined many times in ordered to reflect accurate finding.

Examining the EFQM model casual relation between the enablers and results criteria in such critical economic and political conditions produced different results unlike the general assumption of the EFQM raised in the literature reviews, which reflects an influence of all enablers criteria on results criteria. As the summary of results shows

different effect of enablers criteria on results. Where leadership and processes reflect full support of the assumption of the study, while Strategy, people, partnerships and resources shows partial support of the assumptions. The findings of the study could be viewed from the results criteria side, where Employees results being influenced by leadership, But not influenced by strategy partnership and resources this is could be due to unstable planning for available resources during this period of the economy of Sudan, that's why the findings shows no influence on employees results by Strategy, partnerships and resources. Customers results influenced by Leadership , Strategy , People and processes , but not been influenced by partnerships and resources this might be due to the diminishing of Banks capital due to inflation , which limit geographical spread of bank branches . The financial results influenced by Leadership, Partnerships and resources and processes, but not influenced by strategy and People, this might be due to lack of strategy objectives achievement with in such economic and political deterioration conditions. The findings of the study also shows different levels of concerns by Banks management to the enablers criteria, that's leadership and processes shows more attention and concern than strategy , People (Employees), Partnership and Resources.

The results of the analysis match conceptually others studyers' results such as the study findings of Dow and others (1999) hence their studies reach to many

conclusions among which is obtaining different results when linking them to the practice of Total Quality Management. Other studies by Dijkstra (1997), Naylor (1999), Esquildsen and others (2001) reach to the same area of results which shows that, in order to reach excellence it is not sufficient to interrelate or concentrate on certain criteria (Isolated areas) in the excellence model. Considering the EFQM model as one unit and establishing apposite casual relation between all enablers and all results allow organizations to fully benefit at the implementation level of the model as concluded by the studies of Eskildsen and Dahlgaard (2000) and Reiner (2002) that's when describing the causal structure of the model, Companies should not concentrate on certain part of the model specially at the enablers level, they should pay attention to all the enablers elements, and look at the model with holistic view. The concept of full utilization of the EFQM also discussed by McGee (1993), Sjoblom (1995) and Dale (1997) they explained that the power of influencing the results side by enablers side came from the equilibrium pattern of empowering the enablers elements, by viewing the enablers as integrated parts that complement each other's.

6.4. Conclusions.

In order to fully understand the sequence of this study results, we have to have a look to the Banking sector of Sudan operating environment, which could be illustrated through the country macroeconomic indicators. This has been reflected earlier in this study by demonstrating the Economic indicators of Sudan during the last two decades, with emphasis on the period prior and after the secession of the south Sudan. The years before the south Secession in 2011 were showing growth rates at the levels of GDP, and lower inflation rates, with stable aggregate demand and national income. The Government of Sudan wasn't expecting the Secession of the southern part of the country.

The shock that took place when the Secession of the Southern Sudan happened without proper recovery plans to the economy of the northern part of the country, as a result the Banking sector face sever difficulties since then , where the operating environment of the sector has been negatively affected. The Government lost 30% of its revenues due to 80% loss of oil exports .The value of the Sudanese Pound against foreign currencies has deteriorated drastically, while the trade balance deficit has widened, and at the same time inflation rates rise

steadily. Accordingly The Sudan Economy has deteriorated during the period 2011-2019 in terms of exchange rates; trade balance; inflation; government revenue; GDP; National Income; Public Savings and recently the cash shortage cries. The US Economic Sanctions on Sudan that continue for more than twenty years which impact negatively the business and Economic environment of the country in many aspects, specially the international trade relations of Sudan (Imports , Exports, Banks correspondents relations , International Banking services, Technology , etc.),This situation has formulated a shock to the Economy of Sudan, as well as the Banking sector as the major player in any economy, hence the main concept of banks business rely on the fact that “ Banks are mediator of finance” that's accumulation of funds in Banking sector depends mainly on the volume of public deposits and the volume of public deposits depends on the volume of public savings which create the volume of funds ready to finance business and developmental activities in the Economy. Public Deposits which is the Main factor for Banks to be a life and exist is directly highly negatively affected during the period 2011-2019. During this period the Central Bank of Sudan as a regulatory body of the Banking sector issue and continue issuing hundreds of decisions to control and manage this situation. As a result Banks leaders assumed to handle such critical situation by managing the

available resources as much as they can. This assumption came with in the results of the statistical analysis of this study, where enablers' management as resource side lead to different results. And since this study is explaining the casual relation between the enablers side of the EFQM model and the results Side of the model, by assuming the positive influence of enablers (Leadership, Strategy, Employees, partnerships and resources and processes) on the results (Customers, Employees and financial) where this causal relation constitute the hypotheses of this study . The study results doesn't fully support the hypotheses of the study. Where the statistical results of ten hypotheses support the assumptions of the study, while five hypotheses don' support the assumptions of the study. The enabler criteria Leadership positively influence the three Results Elements. Strategy as enabler positively influence customers' results, but not influencing positively Employees and financial results. Employees as enabler positively influence employees' results and customers' results, but not influencing positively the financial results. Partnerships and resources as enabler doesn't positively influencing employees and customers results, but positively influencing the financial results. Processes as enabler does positively influence employees' results, Customers results and financial results. As a result there are five hypotheses out of fifteen aren't in line with the assumptions of the study. That's the study assumed all enablers elements

as independent variables are positively influencing the results elements as dependent variables, as clearly explained in the study model. The empirical results doesn't support five of these hypotheses, which are in the areas of Strategy, Employees and partnerships and resources, while Leadership and Processes are fully support the hypotheses of the study. The rationale behind The EFQM Excellence model is the causal relationship between the model elements, this relationship must be reflected in the model as a causal relationship between the enabler and the result criteria. Otherwise the model wouldn't be effective as an approach for TQM. The optimal utilization of the EFQM model came from balance empowerment of the enablers elements of the model.

The implementation experience of the EFQM in the Banking sector of Sudan came in a critical Economic circumstances which affect the balance attention to the enablers' criteria of the model and this led to imbalance results at the results elements level of the model. Although the experience of the EFQM model implementation is still developing in the Banking sector of Sudan, Its fruitful results is there.

6.5. Limitation of the study and opportunities for future study.

This study conducted in the Banking sector of Sudan and this constitute the limitation of the study. Opportunities for further study in the application of

excellence models could be seen in other sectors whether inside Sudan or in other countries. Examining the application of the EFQM model casual relations of its enablers and results elements in different environments constitute logical extension of this study. The casual relation between the Enablers side elements of the EFQM model and the society results in Banking sector of Sudan Is not being considered by this study, which constitute an opportunity for future study.

6.6. Recommendations of the study.

- Strategies of Banks in Sudan should promote employees satisfaction results objectives.
- Strategies of Banks in Sudan should give more concentration on financial results.
- Banks in Sudan should link the human resources development objectives with the financial results objectives.
- Partnerships and resources in Sudanese Banks as enablers criterion should be linked with customers results.
- Partnerships and resources enabling objectives in Sudanese banks should be linked with employees results objectives.
- The Banking sector in Sudan should be given wider opportunities for EFQM model implementation by adopting national award for Balance implementation of the model.
- Proper implementation of the model could be achieved by Comprehensive training of the Banking sector staff on EFQM model theories and practice.

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Appendixes.

1. The questionnaire.



Dear Respondent,

Peace, mercy and blessings of God,
I am pleased to provide you with this letter the questionnaire for the scientific subject of the study which I am preparing under the title: (Evaluating the level of business excellence in the banking sector in Sudan)

In view of the importance of your opinion, from the knowledge and practice in the area of banking excellence, I request to answer all the paragraphs of the questionnaire. The information we received from you will be strictly confidential, and it will be used for scientific research purposes only. The answers will be translated into numerical indicators for the analysis. I hope that the questionnaire will receive your kind attention and contribute to the success of the study.

Sincerely,

Researcher: Mohamed Eltahir Eltayeb Eltahir

Mobile phone : 0907668313

E mail : m_eltahir71@hotmail.com

1) Personal Data:

A) Gender: Male: Female:

B) Age Category:

Less than 27	28 to 35	36 to 45	46 to 55	Over 55

C) Academic degree:

High Secondary School

Intermediate Diploma

Bachelor Degree

Master's Degree

Doctorate Degree

Others (Specify)

Specialization

D) Length of service with my current bank:

Less than 1 year	1 – 5 years	6 – 10 years	11 – 15 years	Over 15

E) My job rank is:

General Manager

Deputy General Manager

Assistant General Manager

Head of Directorate

Head of Department

Employee

Others (Specify)

The following statements describe the impact of organizational performance of Sudanese Banking sector units according to the criteria of Leadership, Strategy, People, Partnerships & Resources, Processes, Employees perceptions, Customers results and financial indicators taking the Bank you are working with as a model.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Leadership					
1. Leaders in your Bank develop the mission, vision, values and ethics.					
2. Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.					
3. Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.					
4. Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.					
5. Leaders in your Bank reinforce a culture of excellence, involvement, empowerment, accountability and improvement among the employees.					
6. Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.					
7. Leaders in your bank represent models to follow and work to ensure the future success of the institution.					
Strategy					
1. Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.					
2. Strategy of your bank is based on understanding internal performance and capabilities.					
3. Strategy of your bank Determine the potential impact of new technologies.					
4. In your bank Strategy and supporting policies are developed, reviewed and updated.					
5. In your bank Strategy and supporting policies are communicated, implemented and monitored.					
6. When developing a strategy, your bank ensures that financial and technical resources are available.					
7. When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.					

People					
1. Your Bank adopt employee's Innovations systems with fairness and equal opportunities.					
2. Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision					
3. Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.					
4. Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.					
5. Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.					
Partnerships & Resources					
1. Your Bank managed Partners and suppliers relations for sustainable Benefit in line with the organization's strategies and values on the bases of trust, respect and mutual transparency.					
2. Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.					
3. Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.					
4. Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.					
5. Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.					
6. Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.					
7. Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.					
Processes, Products & Services					
1. Processes in Your Bank are designed and managed to optimize stakeholder value by managing the end to end processes.					
2. Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.					
3. Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.					

4. Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.					
5. Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency					
Employees Perceptions					
1. The management of your bank considered the ideas and proposals of the employees when making decisions.					
2. The management of your bank is keen to solve and address the obstacles facing employees.					
3. The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.					
4. Your bank promotes a culture of appreciation for individuals and teams.					
5. Your bank works to ensure a healthy and balanced work environment.					
6. Your bank works to ensure mutual care between employees and the institution.					
7. Your bank is supporting staff mobility systems that take into account employee stability.					
8. In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.					
9. Your bank continuously seeks to improve communication and collaboration effectiveness among employees.					
10. Your bank aligns employee's personal goals with the team and the organization's goals.					
Customers Results					
1. When there is a problem with your customers, your bank employees are genuinely interested in resolving it.					
1. Your bank shall provide its services in the periods stated therein.					
2. Your bank staff provide the banking services at the required speed as per your customers' expectations.					
3. Your bank staff are always ready to help their customers.					
4. The behavior of your bank employees support customer's confidence.					
5. Customers feel secure in their dealings with your Bank.					
6. Your Bank has convenient operating hours for all its customers.					
7. Your Bank has employees who give the required attention to their customers.					
8. Your Bank employees recognize the specific needs of their customers.					

9. Customers of your bank have loyalty to it, due to the high level of services provided.					
Financial Indicators					
1. Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility					
2. Your bank adopt financial governance, designed for all appropriate levels in your organization.					
3. Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.					
4. Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.					
5. Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.					
6. The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment, achievement of profits on the other hand.					

Source: prepared by researcher (2019).

2. Translation of the questionnaire to Arabic language.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



جامعة السودان للعلوم والتكنولوجيا
كلية الدراسات العليا

السُّلام عليكم ورحمة الله وبركاته،

يسرني أن أرفق لكم مع هذه الرسالة استمارة الاستبانة الخاصة بالمادة العلمية للدراسة التي أقوم بإعدادها تحت عنوان:
(تقويم مستوي تميز الأعمال في القطاع المصرفي في السودان)

ونظراً لما يُمثله رأيكم من أهمية، من واقع الإلمام والمُمارسة في مجال العمل المصرفي المتميز، أملُ التفضلُ بالإجابة عن جميع فقرات الاستبانة. وُحيطكم علماً بأن كافة المعلومات الواردة منكم سَتُعامل بالسرية التامة، وهي لغايات البحث العلمي فقط؛ وسوف يتم تحويل الإجابات إلى مؤشرات رقمية تُستخدم في التحليل. أرجو أن تُحظى الاستبانة بعنايتكم الكريمة بما يُساهم في نجاح الدراسة.

مع خالص الشكر والتقدير،،

الباحث : محمد الطاهر الطيب الطاهر
تلفون : ٠٩٠٧٦٦٨٣١٣
البريد الإلكتروني : m_eltahir71@yahoo.com

البيانات الشخصية:

(أ) النوع: ذكر أنثى:

(ب) الفئة العمرية:

أقل من ٢٧	٢٨-٣٥	٣٦-٤٥	٤٦-٥٥	أكثر من ٥٥

(ج) المستوى الأكاديمي:

- الشهادة الثانوية
- دبلوم وسيط
- درجة البكالوريوس
- درجة الماجستير
- درجة الدكتوراه
- أخرى (حدّد).....
- التخصص

(د) مدة الخدمة مع المصرف الحالي:

أقل من سنة	١ - ٥ سنوات	٦ - ١٠ سنوات	١١ - ١٥ سنة	أكثر من ١٥ سنة

(هـ) الوظيفة:

- مدير عام
- نائب مدير عام
- مساعد مدير عام
- مدير إدارة/ فرع
- رئيس قسم
- موظف
- أخرى (حدّد)

العبارات التالية تصف أثر الأداء المؤسسي لمؤسسات القطاع المصرفي السوداني مُمثلاً في المؤسسة التي تعمل بها وذلك وفق معايير : القيادة ، الإستراتيجية ، العاملين ، الشراكات والموارد ، العمليات ، انطباعات العاملين ، نتائج العملاء ، المؤشرات المالية.

لاوافق بشدة	لاوافق	محايد	أوافق	أوافق بشدة	العبرة
القيادة					
					١. يقوم القادة في مصرفكم بوضع وتطوير الرويا والرسالة والقيم والمبادئ.
					٢. يقوم القادة في مصرفكم بمتابعة ومراجعة وتوجيه التحسينات الخاصة بالنظام الإداري والأداء المؤسسي .
					٣. يعمل القادة في مصرفكم على تحقيق أعلى مستويات الثقة للمعنيين من خلال تبني الآليات الفاعلة الرامية لتفهم السيناريوهات المستقبلية.
					٤. القادة في مصرفكم يدرسون ويستجيبون للتوقعات المختلفة لأصحاب المصلحة مع المؤسسة، ويعززون ثقافة الثقة والشفافية فيما بينهم والمؤسسة.
					٥. القادة في مصرفكم يدعمون ثقافة التميز بين العاملين في المؤسسة من خلال شحذ الهمم والسعي لخلق ثقافة الإشارك والتمكين والتحسين والمساءلة .
					٦. القادة في مصرفكم يعملون على ضمان مرونة المؤسسة والإدارة الفاعلة لعمليات التغيير.
					٧. القادة في مصرفكم يمثلون نماذج يحتذى بها ويعملون على ضمان نجاح مستقبل المؤسسة.
الإستراتيجية					
					١. تعتمد إستراتيجية مصرفكم على فهم احتياجات وتوقعات كل أصحاب المصلحة وكذلك البيئة الخارجية للمؤسسة .
					٢. تعتمد إستراتيجية مصرفكم على فهم الأداء والقدرات الداخلية للمؤسسة.
					٣. تحدد إستراتيجية مصرفكم التأثير المحتمل للتكنولوجيات الجديدة على المؤسسة.
					٤. في مصرفكم يتم تطوير الإستراتيجية والسياسات الداعمة ومراجعتها وتحديثها دورياً.
					٥. في مصرفكم الإستراتيجية والسياسات الداعمة لها تعلن للمعنيين وتنفذ وتراقب.
					٦. يعمل مصرفكم عند وضع الإستراتيجية على ضمان توفر الموارد المالية والمادية والتقنية.
					٧. يعمل مصرفكم عند وضع الإستراتيجية على ضمان وضع اهداف واضحة تبني على فهم الأسواق والفرص المتاحة.
العاملين					
					١. يعتمد مصرفكم أنظمة لمبادرات العاملين مع ضمان الإنصاف وتكافؤ الفرص.
					٢. مصرفكم يطور معارف العاملين وقدراتهم وتحسين المواهب المطلوبة لتعظيم

					مساهمتهم في تحقيق الرؤيا والرسالة .
				٣ .	يعمل مصرفكم علي تمكين العاملين وتسخير كامل إمكاناتهم في شكل شراكة حقيقية عبر تفويض أمثل للصلاحيات.
				٤ .	مصرفكم يعزز ثقافة الإبداع والابتكار عبر أنظمة المؤسسة، وتمكن الموظفين من الاستجابة السريعة للتحديات التي يواجهونها.
				٥ .	مصرفكم يعزز مشاركة المعرفة لضمان فهم الموظفين وإثبات مساهمتهم في نجاح المؤسسة المستمر.
الشراكات والموارد					
				١ .	مصرفكم يدير علاقات الشركاء والموردين لتحقيق المنفعة المستدامة بما يتماشى مع استراتيجيات وقيم المؤسسة علي أسس الثقة ، الاحترام والشفافية المتبادلة.
				٢ .	يعمل مصرفكم علي إنشاء شبكات شراكات مناسبة لتمكينه من تحديد فرص الشراكة المحتملة لتعزيز قدراته علي توليد قيمة مضافة لأصحاب المصلحة.
				٣ .	مصرفكم يقيم ويتحقق من جدوي الإستثمار في الأصول. مع الاخذ بعين الإعتبار الآثار الإقتصادية والإجتماعية والبيئية علي المدى الطويل.
				٤ .	مصرفكم يستخدم إستراتيجيات وسياسات وعمليات لإدارة المباني والمعدات والمواد بطريقة مستدامة مالياً وبيئياً
				٥ .	مصرفكم يعمل علي تقليل الأثر علي البيئة المحلية والعالمية شاملاً ذلك تحديد أهداف طموحة تستوفي المعايير والمتطلبات القانونية ،الإقتصادية والإجتماعية كما يعمل للإرتقاء بهذه المعايير .
				٦ .	مصرفكم يعمل علي إدارة حزمة تقنية متكاملة لدعم الإستراتيجية العامة للمؤسسة، بغرض التحسين، المرونة وسرعة التكيف مع المتغيرات.
				٧ .	مصرفكم يعمل علي إدارة المعلومات والمعرفة لدعم صناعة القرار بصورة فاعلة وبناء قدرات المؤسسة.
العمليات					
				١ .	العمليات في مصرفكم تصمم وتدار بهدف تعظيم القيمة لصالح جميع المعنيين بالمؤسسة عبر إدارة العمليات في جميع مراحلها.
				٢ .	يعمل مصرفكم علي تطوير المنتجات عبر إشراك المتعاملين ما أمكن في تطوير وإبتكار خدمات ومنتجات وتجارب جديدة.
				٣ .	يعمل مصرفكم علي ترويج المنتجات والخدمات وتسويقها بشكل فاعل من خلال التعرف علي المجموعات المختلفة للمتعاملين معها ، الحاليين والمحتملين.
				٤ .	مصرفكم ينتج ويقدم خدمات لتلبية أو تجاوز إحتياجات المتعاملين الحالية وتطلعاتهم المستقبلية مع إدارة هذه المنتجات والخدمات طوال فترة حياتها .

٥.	يعمل مصرفكم على تطوير علاقات المتعاملين وتعزيزها عبر بناء وتطوير حوار متواصل معهم يتسم بالشفافية والمصارحة.				
إنطباعات العاملين					
١	تقوم الإدارة بمصرفكم بأخذ أفكار ومقترحات العاملين عند اتخاذ القرارات.				
٢.	تحرص الإدارة بمصرفكم على حل ومعالجة العقبات التي تواجه العاملين.				
٣.	تقوم الإدارة بمصرفكم بمراعاة المؤهلات العلمية وسنوات الخدمة ومؤشرات الاداء للموظفين عند التعيين أو الترقيات .				
٤.	مصرفكم يعزز ثقافة التقدير للأفراد والفرق .				
٥.	مصرفكم يعمل على ضمان وجود بيئة عمل صحية ومتوازنة .				
٦.	مصرفكم يعمل على ضمان الرعاية المتبادلة بين العاملين والمؤسسة.				
٧.	مصرفكم يعمل على دعم أنظمة لتنقلات الموظفين تراعي إستقرار العاملين .				
٨.	هنالك وصف وظيفي بمصرفكم يراعي المهارات المطلوبه وتتم مراجعته بشكل دوري.				
٩.	مصرفكم يسعى باستمرار إلى تحسين فعالية التواصل والتعاون بين العاملين.				
١٠.	مصرفكم يوائم بين الأهداف الشخصية و أهداف فريق العمل و أهداف المؤسسة .				
نتائج العملاء					
١.	عندما تكون هنالك مشكلة تواجه العملاء، يظهر موظفو مصرفكم اهتماماً صادقاً بحلها.				
٢.	يعمل مصرفكم على تقديم خدماته في الفترات التي يعلن فيها بذلك				
٣.	يقدم موظفي مصرفكم الخدمة بالسرعة المطلوبة وفق توقعات العملاء				
٤.	موظفو مصرفكم مستعدون دائماً لمساعدة عملائهم				
٥.	سلوك موظفي مصرفكم يغرس الثقة في العملاء				
٦.	يشعر العملاء بالأمان في تعاملاتهم مع مصرفكم				
٧.	لدى مصرفكم ساعات تشغيل ملائمة لجميع عملائه				
٨.	لدى مصرفكم موظفون يعطون الاهتمام المطلوب لعملائهم				
٩.	يدرك موظفو مصرفكم الاحتياجات المحددة لعملائهم				
١٠.	لعملاء مصرفكم ولاء له نسبة للمستوي الرفيع في تعاملته وخدماته المقدمة				
المؤشرات المالية					
١.	يستخدم مصرفكم استراتيجيات مالية وتشغيلية لدعم الاستراتيجية العامة و ضمان المرونة المالية.				
٢.	مصرفكم يستخدم الحوكمة المالية ، المصممة لجميع المستويات المناسبة في المؤسسة.				
٣.	يعمل مصرفكم على تخصيص الموارد اللازمة لتلبية الاحتياجات على المدى الطويل عوضاً عن التركيز على الربح السريع في المدى القصير ، مع حيازة وتعزيز القدرة				

التنافسية في المجالات المناسبة					
					٤. مصرفكم يستعرض نجاح خطته المالية بناءً على المخرجات المالية للنشاط، إنطباعات أرباب العمل ، الأداء المالي مقابل الميزانية ، حجم المنتجات الرئيسية ونتائج العمليات الرئيسية
					٥. القادة في مصرفكم يطورون مجموعة من النتائج المالية وفق توقعات أرباب العمل
					٦. القادة في مصرفكم يضعون المرجعية العلمية الملائمة لإيجاد صيغة متوازنة تأخذ بعين الاعتبار متطلبات الإنسان من جهة والحفاظ على البيئة وتحقيق الأرباح من جهة أخرى .

Source: prepared by researcher (2019).

3. EFQM excellence model criteria used in this study.

1. Leadership

EFQM Criterion Definition

Excellent organisations have leaders who shape the future and make it happen, acting as role models for its values and ethics and inspiring trust at all times. They are flexible, enabling the organisation to anticipate and react in a timely manner to ensure the on-going success of the organisation.

- 1a. Leaders develop the Mission, Vision, Values and ethics and act as role models.
- 1b. Leaders define, monitor, review and drive the improvement of the organisation's management system and performance.
- 1c. Leaders engage with external stakeholders.
- 1d. Leaders reinforce a culture of excellence with the organisation's people.
- 1e. Leaders ensure that the organisation is flexible and manages change effectively.

1a. Leaders develop the mission, vision, values and ethics and act as role models.

For example, leaders in excellent organisations:

- Secure their future by defining and communicating a core purpose that provides the basis for their overall Vision, Mission, values, ethics and corporate behaviour.
- Champion the organisation's values and are role models for integrity, social responsibility and ethical behaviour, both internally and externally, to develop and enhance the organisation's reputation.
- Set and communicate a clear direction and strategic focus; they unite their people to share and achieve the organisation's Mission, Vision and strategic goals.
- Develop and support a shared leadership culture for the organisation and review and improve the effectiveness of personal leadership behaviours.

1b. Leaders define, monitor, review and drive the improvement of the organisation's management system and performance.

For example, leaders in excellent organisations:

- Define and use a balanced set of results to review progress, provide a view of long and short term priorities and manage the expectations of the key stakeholders.
- Understand and develop the underlying capabilities of the organisation.
- Evaluate the set of results achieved to improve future performance and provide sustainable benefits to all their stakeholders.
- Base decisions on factually reliable information and use all available knowledge to interpret current and predicted performance of the relevant processes.

- Deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios and effectively manage strategic, operational and financial risks.

1c. Leaders engage with external stakeholders.

For example, leaders in excellent organisations:

- Use approaches to understand, anticipate and respond to the different needs and expectations of their key stakeholders.
- Establish shared values, accountability, ethics and a culture of trust and openness throughout the value chain.
- Are transparent and accountable to their stakeholders and society at large for their performance and ensure their people act ethically, responsibly and with integrity.
- Ensure transparency of financial & non-financial reporting to relevant stakeholders, including appropriate governance bodies, in line with their expectations.
- Encourage their stakeholders to participate in activities that contribute to the wider society.

1d. Leaders reinforce a culture of excellence with the organisation's people.

For example, leaders in excellent organisations:

- Inspire people and create a culture of involvement, ownership, empowerment, improvement and accountability through their actions, behaviours and experience.
- Recognise sustainable advantage is dependent on the ability of leaders to learn quickly and rapidly respond when necessary.
- Support people throughout the organisation to achieve their plans, objectives and targets.
- Recognise their efforts and achievements in a timely and appropriate manner.
- Promote a culture which supports the generation of new ideas and new ways of thinking to encourage innovation and organisational development.
- Promote and encourage equal opportunities and diversity.

1e. Leaders ensure that the organisation is flexible and manages change effectively.

For example, leaders in excellent organisations:

- Are flexible; they demonstrate their ability to make sound, timely decisions, based on available information, previous experience and knowledge, with consideration of their potential impact.
- Consider “People, Planet and Profit” as a reference when balancing the sometimes conflicting imperatives that they face.
- Involve and seek support and contributions from all relevant stakeholders for changes necessary to ensure the sustainable success of the organisation.
- Effectively manage change through structured project management and focused process improvement.
- Use a structured approach for generating and prioritising creative ideas.
- Test and refine the most promising ideas, allocating resources to realise them within appropriate timescales.

2. Strategy

EFQM Criterion Definition

Excellent organisations implement their Mission and Vision by developing a stakeholder focused strategy. Policies, plans, objectives and processes are developed and deployed to deliver the strategy.

- 2a. Strategy is based on understanding the needs and expectations of both stakeholders and the external environment.
- 2b. Strategy is based on understanding internal performance and capabilities.
- 2c. Strategy and supporting policies are developed, reviewed and updated.
- 2d. Strategy and supporting policies are communicated, implemented and monitored.

2a. Strategy is based on understanding the needs and expectations of both stakeholders and the external environment.

For example, excellent organisations:

- Gather stakeholders' needs and expectations for input to the development and review of their strategy and supporting policies, remaining alert to any changes.
- Identify, analyse and understand external indicators, such as global and local economic, market and societal trends, which may affect the organisation.
- Understand and anticipate the long and short-term global and local impact of changes to relevant political, legal, regulatory and compliance requirements.
- Use mechanisms to identify changes in their external environment and translate these into potential future scenarios for the organisation.

2b. Strategy is based on understanding internal performance and capabilities.

For example, excellent organisations:

- Analyse operational performance trends to understand their current and potential capabilities and capacities and identify where development is needed to achieve the strategic goals.
- Analyse data and information regarding existing and potential partners' core competencies and capabilities to understand how they complement the organisation's capabilities.
- Determine the potential impact of new technologies and business models on the performance of the organisation.
- Compare their performance with relevant benchmarks to understand their relative strengths and areas for improvement.

2c. Strategy and supporting policies are developed, reviewed and updated.

For example, excellent organisations:

- Create and maintain a clear strategy and supporting policies to achieve the Mission and Vision of the organisation.
- Integrate the concepts of sustainability within their core strategy, value chain and process design and allocate the resources required to deliver these goals.
- Identify and understand the key results required to achieve their Mission and evaluate progress towards the Vision and strategic goals.
- Adopt effective mechanisms to manage the strategic risks identified through scenario planning.
- Understand their key competencies and how they can generate shared value to benefit wider society.

2d. Strategy and supporting policies are communicated, implemented and monitored.

For example, excellent organisations:

- Translate their strategies into aligned processes, projects and organisational structures, ensuring changes can be implemented with appropriate speed throughout the value chain.
- Establish targets based on comparisons of their performance with other organisations, their current and potential organisational capability and their strategic goals.
- Ensure that financial, physical and technological resources are available to support organisational development.
- Deploy strategy and supporting policies in a structured manner to achieve the desired set of results, with clearly defined "cause and effect" relationships.
- Set clear goals and objectives for innovation, based on an understanding of the market and opportunities, supported by appropriate policies and resources.
- Communicate strategy and supporting policies with relevant stakeholders.

3. People

EFQM Criterion Definition

Excellent organisations value their people and create a culture that allows the mutually beneficial achievement of organisational and personal goals. They develop the capabilities of their people and promote fairness and equality. They care for, communicate, reward and recognise, in a way that motivates people, builds commitment and enables them to use their skills and knowledge for the benefit of the organisation.

- 3a. People plans support the organisation's strategy.
- 3b. People's knowledge and capabilities are developed.
- 3c. People are aligned, involved and empowered.
- 3d. People communicate effectively throughout the organisation.
- 3e. People are rewarded, recognised and cared for.

3a. People plans support the organisation's strategy. For example, excellent organisations:

- Have clearly defined the people performance levels required to achieve the strategic goals.
- Align people plans with their strategy, the organisational structure, new technologies and key processes.
- Rapidly adapt their organisational structure to support the achievement of the strategic goals.
- Involve employees, and their representatives, in developing and reviewing the people strategy, policies and plans, adopting creative and innovative approaches when appropriate.
- Manage recruitment, career development, mobility and succession planning, supported by appropriate policies, to ensure fairness and equal opportunities.
- Use people surveys and other forms of employee feedback to improve people strategies, policies and plans.

3b. People's knowledge and capabilities are developed.

For example, excellent organisations:

- Define the skills, competencies and people performance levels required to achieve the Mission, Vision and strategic goals.
- Effectively plan to attract, develop and retain the talents required to meet these needs.
- Appraise and help people improve their performance and engagement.
- Develop people's skills and competencies to ensure their future mobility and employability.
- Ensure their people have the necessary competencies, resources and opportunity to be able to maximise their contribution.

3c. People are aligned, involved and empowered.

For example, excellent organisations:

- Align personal and team objectives, and empower people to realise their full potential in a spirit of true partnership.
- Recognise that innovation can apply to products, processes, marketing, organisational structures and business models.
- Create a culture of creativity and innovation across the organisation, ensuring people have an open mind-set and can respond quickly to challenges they face.
- Encourage their people to be ambassadors of the organisations' image and reputation.
- Inspire participation in activities that contribute to wider society.

3d. People communicate effectively throughout the organisation.

For example, excellent organisations:

- Understand the communication needs of their people and use appropriate strategies and tools to maintain a dialogue.
- Communicate a clear direction and strategic focus to ensure that people understand and can demonstrate their contribution to the organisation's on-going success.
- Enable and encourage the sharing of information, knowledge and good practices, achieving a dialogue throughout the organisation.
- Develop a culture that continually seeks to improve the effectiveness of collaboration and teamwork throughout their value chain.

3e. People are rewarded, recognised and cared for.

For example, excellent organisations:

- Align remuneration, benefits and terms of employment with transparent strategies and policies.
- Motivate people to become involved in improvement and innovation and recognise their efforts and achievements.
- Ensure a healthy work / life balance in the reality of 24/7 connectivity, increasing globalisation and new ways of working.
- Promote a culture of mutual support, recognition and care between individuals and between teams.
- Respect and embrace the diversity of their people and the communities and markets the organisation serves.

4. Partnerships & Resources

EFQM Criterion Definition

Excellent organisations plan and manage external partnerships, suppliers and internal resources in order to support their strategy, policies and the effective operation of processes. They ensure that they effectively manage their environmental and societal impact.

- 4a. Partners and suppliers are managed for sustainable benefit.
- 4b. Finances are managed to secure sustained success.
- 4c. Buildings, equipment, materials and natural resources are managed in a sustainable way.
- 4d. Technology is managed to support the delivery of strategy.
- 4e. Information and knowledge are managed to support effective decision making and to build the organisation's capability.

4a. Partners and suppliers are managed for sustainable benefit.

For example, excellent organisations:

- Segment partners and suppliers, in line with the organisation's strategy, and adopt appropriate policies and processes for effectively working together.
- Build a sustainable relationship with partners and suppliers based on mutual trust, respect and openness.
- Ensure partners and suppliers operate in line with the organisation's strategies and values.
- Establish appropriate networks to enable them to identify potential partnership opportunities to enhance their capabilities and ability to generate additional stakeholder value.
- Work together with partners to achieve mutual benefit and enhanced value for their respective stakeholders, supporting one another with expertise, resources and knowledge.

4b. Finances are managed to secure sustained success.

For example, excellent organisations:

- Use financial strategies, policies and processes to support the overall strategy of the organisation and ensure financial resilience.
- Design the financial planning, control, reporting and review processes to optimise the use of resources.
- Allocate resources to provide for long-range needs rather than just short-term gain and, where relevant, become and remain competitive.
- Use financial governance processes, tailored to all appropriate levels in the organisation.

- Evaluate, select and validate investment in, and divestment of, both tangible and non-tangible assets, respecting their long-term economic, societal and ecological effects.

4c. Buildings, equipment, materials and natural resources are managed in a sustainable way.

For example, excellent organisations:

- Use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.
- Optimise the use and effectively manage the lifecycle and physical security of their tangible assets, including buildings, equipment and materials.
- Measure and optimise the impact of their operations, product lifecycle and services on public health, safety and the environment.
- Minimise their local and global environmental impact, including setting challenging goals for meeting and exceeding legal standards and requirements.
- Actively advance the economic, environmental and social standards within their sector.

4d. Technology is managed to support the delivery of strategy.

For example, excellent organisations:

- Manage a technology portfolio that supports the organisation's overall strategy.
- Evaluate and develop the technology portfolio to improve the agility of processes, projects and the organisation.
- Involve relevant stakeholders in the development and deployment of new technologies to maximise the benefits generated.
- Identify and evaluate alternative and emerging technologies in the light of their impact on organisational performance and capabilities and the environment.
- Use technology to support the culture of creativity and innovation.

4e. Information and knowledge are managed to support effective decision making and to build the organisation's capability.

For example, excellent organisations:

- Ensure that their leaders are provided with accurate and sufficient information to support them in timely decision making.
- Transform data into information and where relevant into knowledge that can be shared, and effectively, used.
- Establish approaches to engage relevant stakeholders and use their collective knowledge in generating ideas and innovation.
- Provide and monitor access to relevant information and knowledge for their people and external users, whilst ensuring both security and the organisation's intellectual property are protected.
- Establish and manage learning and collaboration networks to identify opportunities for creativity, innovation and improvement.
- Transform ideas into reality within timescales that maximise the advantages that can be gained.

5. Processes, Products & Services

EFQM Criterion Definition

Excellent organisations design, manage and improve processes, products and services to generate increasing value for customers and other stakeholders.

- 5a. Processes are designed and managed to optimise stakeholder value.
- 5b. Products and services are developed to create optimum value for customers.
- 5c. Products and services are effectively promoted and marketed.
- 5d. Products and services are produced, delivered and managed.
- 5e. Customer relationships are managed and enhanced.

5a. Processes are designed and managed to optimise stakeholder value.

For example, excellent organisations:

- Use a framework of key processes to implement the organisation's strategy.
- Manage the end to end processes, including processes that extend beyond the boundaries of the organisation.
- Ensure process owners understand their role and responsibility in developing, maintaining and improving processes.
- Develop a meaningful mix of process performance indicators and related outcome measures, enabling the review of the efficiency and effectiveness of the key processes and their contributions towards the strategic goals.
- Use data on the current performance and capabilities of their processes, as well as appropriate benchmarks, to drive improvement, creativity and innovation.

5b. Products and services are developed to create optimum value for customers.

For example, excellent organisations:

- Strive to innovate and create value for their customers, involving them and other stakeholders, where appropriate, in the development of new and innovative products, services and experiences.
- Use market research, customer surveys and other forms of feedback to anticipate and identify improvements aimed at enhancing the product and service portfolio.
- Develop their portfolio in line with the changing needs of existing and potential customer groups.
- Design their product and service portfolio and actively manage the full product lifecycle in a responsible way.

5c. Products and services are effectively promoted and marketed.

For example, excellent organisations:

- Know who their different customer groups are, both existing and potential, and anticipate their different needs and expectations.
- Transform needs, expectations and potential requirements into attractive and sustainable value propositions for both existing and potential customers.
- Implement the business model by defining their value proposition, "unique selling points", positioning, target customer groups and distribution channels.
- Develop marketing strategies to promote their products and services to target customers and user groups.

5d. Products and services are produced, delivered and managed.

For example, excellent organisations:

- Produce and deliver products and services to meet, or exceed, customer needs and expectations, in line with the offered value proposition.
- Develop an effective and efficient value chain to ensure they can consistently deliver on their promised value proposition.
- Ensure people have the necessary resources, competencies and empowerment to maximise the customer experience.
- Manage products and services throughout their lifecycle, including reusing and recycling where appropriate, considering any impact on public health, safety and the environment.
- Compare their performance with relevant benchmarks and learn from their strengths and opportunities for improvement in order to maximise the value generated for customers.

5e. Customer relationships are managed and enhanced.

For example, excellent organisations:

- Segment customers, in line with the organisation's strategy, and adopt appropriate policies and processes for effectively managing the relationship.
- Determine and meet customers' day-to-day and long-term contact requirements.
- Build and maintain a dialogue with customers, based on openness and transparency.
- Continually monitor and review the experiences and perceptions of their customers and ensure processes are aligned to respond appropriately to any feedback.
- Ensure customers are clear on their responsibilities with regards to the use of products and services.

6. Customer Results

EFQM Criterion Definition

Excellent organisations achieve and sustain outstanding results that meet or exceed the needs and expectations of their customers.

In practice, we find that excellent organisations:

- Use a set of perception measures and related performance indicators to determine the successful deployment of their strategy and supporting policies, based on the needs and expectations of their customers.
- Set clear targets for the key customer results based on the needs and expectations of their customers, in line with their chosen strategy.
- Segment results to understand the experience, needs and expectations of specific customer groups.
- Demonstrate positive or sustained good customer results over at least 3 years.
- Clearly understand the underlying reasons and drivers of observed trends and the impact these results will have on other performance indicators, perceptions and related outcomes.
- Have confidence in their future performance and results based on their understanding of the cause and effect relationships established.
- Understand how their key customer results compare to similar organisations and use this data, where relevant, for target setting.

6a. Perceptions.

These are the customers' perceptions of the organisation. These may be obtained from a number of sources, including surveys, focus groups, ratings, compliments and complaints. These perceptions should give a clear understanding of the effectiveness, from the customers' perspective, of the deployment and outcomes of the organisation's customer strategy, supporting policies and processes.

MEASURES COULD INCLUDE PERCEPTIONS OF:

- Reputation and image
- Product and service value
- Product and service delivery
- Customer service, relationship and support
- Customer loyalty and engagement

6b. Performance Indicators.

These are the internal measures used by the organisation in order to monitor, understand, predict and improve the performance of the organisation and to predict their impact on the perceptions of its customers. These indicators should give a clear understanding of the deployment and impact of the organisation's customer strategy, supporting policies and processes.

MEASURES COULD INCLUDE PERFORMANCE INDICATORS ON:

- Product and service delivery
- Customer service, relationships and support
- Complaints handling
- Involvement of customers and partners in the design of products, processes, etc.

7. People Results

EFQM Criterion Definition

Excellent organisations achieve and sustain outstanding results that meet or exceed the needs and expectations of their people.

In practice, we find that excellent organisations:

- Use a set of perception measures and related performance indicators to determine the successful deployment of their strategy and supporting policies, based on the needs and expectations of their people.
- Set clear targets for key people results based on the needs and expectations of their people, in line with their chosen strategy.
- Segment results to understand the experience, needs and expectations of specific groups of people within their organisation.
- Demonstrate positive or sustained good people results over at least 3 years.
- Clearly understand the underlying reasons for and drivers of observed trends and the impact these results will have on other performance indicators and related outcomes.
- Have confidence in their future performance and results based on their understanding of the cause and effect relationships established.
- Understand how the key people results compare to similar organisations, and use this data, where relevant, for target setting.

7a. Perceptions.

These are the people's perception of the organisation. These may be obtained from a number of sources, including surveys, focus groups, interviews and structured appraisals. These perceptions should give a clear understanding of the effectiveness, from the people's perspective, of the deployment and outcomes of the organisation's people strategy and supporting policies and processes.

MEASURES COULD INCLUDE PERCEPTIONS OF:

- Satisfaction, involvement and engagement
- Motivation and empowerment
- Leadership and management
- Competency and performance management
- Training and career development
- Effective communications
- Working conditions

7b. Performance Indicators.

These are the internal measures used by the organisation in order to monitor, understand, predict and improve the performance of the organisation's people and to predict their impact on perceptions. These indicators should give a clear understanding of the deployment and impact of the organisation's people strategy and supporting policies and processes.

MEASURES COULD INCLUDE PERFORMANCE INDICATORS ON:

- Involvement and engagement activities
- Competency and performance management activities
- Leadership performance
- Training and career development activities
- Internal communications

9. Business Results

EFQM Criterion Definition

Excellent organisations achieve and sustain outstanding results that meet or exceed the needs and expectations of their business stakeholders.

In practice, we find that excellent organisations:

- Develop a set of key financial and non-financial results to determine the successful deployment of their strategy, based on the needs and expectations of their business stakeholders.
- Set clear targets for key business results based on the needs and expectations of their business stakeholders, in line with their chosen strategy.
- Segment results to understand the performance of specific areas of the organisation and the experience, needs and expectations of business stakeholders.
- Demonstrate positive or sustained good business results over at least 3 years.
- Clearly understand the underlying reasons and drivers of observed trends and the impact these results will have on other performance indicators and related outcomes.
- Have confidence in their future performance and results based on their understanding of the cause and effect relationships established.
- Understand how their key business results compare to similar organisations and use this data, where relevant, for target setting.

9a. Business Outcomes.

These are the key financial and non-financial business outcomes which demonstrate the success of the organisation's deployment of their strategy. The set of measures and relevant targets will be defined and agreed with the business stakeholders.

OUTCOME MEASURES COULD INCLUDE:

- Financial outcomes
- Business stakeholder perceptions
- Performance against budget
- Volume of key products or services delivered
- Key process outcomes

9b. Business Performance Indicators.

These are the key financial and non-financial business indicators that are used to measure the organisation's operational performance. They help monitor, understand, predict and improve the organisation's likely business outcomes.

MEASURES COULD INCLUDE PERFORMANCE INDICATORS ON:

- Financial indicators
- Project costs
- Key process performance indicators
- Partner and supplier performance
- Technology, information and knowledge

Source: EFQM Model (2013).

4. Macro-Economic indicators of Sudan 1979/80-1994/95.

Economics Indictors 1979/80 -1994/95

SDG(000)

Year	Gross Domestic Product at Current Prices	Gross Domestic Product at Constant Prices	Gross National Product at Current Prices	National Income	Disposable Income	Total Consumption Expenditure	Total Demand	Investment	Saving	Factor Income	Current Trans.	Population *(000)	G.D.P Per. Capita SDG	National Income Per.Capita	Growth rate
1979 /80	3972.0		3947.0	3583.0	3892.9	3981.9	4360.9	379.0	-89.0	-25.0	309.9	18362	216.3	195.1	
1980 /81	4950.7		4903.5	4450.6	4807.9	5152.8	5394.1	241.3	344.9	-47.2	357.3	19079	259.5	233.3	
1981 /82	7040.1	7040.1	6983.3	6275.3	6666.2	6458.0	8064.6	1606.6	153.9	-56.8	390.9	19829	355.0	313.7	
1982 /83	9591.9	7185.2	9452.6	8408.5	8695.0	9445.9	10976.2	1530.3	-730.9	-139.3	286.5	20210	474.6	416.1	2.1
1983 /84	11807.4	6825.3	11502.4	10214.9	10727.9	11073.5	12700.5	1627.0	-345.6	-305.0	513.0	20530	575.1	497.6	-5.0
1984 /85	15357.2	6396.6	15199.5	13561.9	14487.4	15947.0	16640.1	693.1	-1459.6	-157.7	925.5	20882	735.4	649.5	-6.3
1985 /86	20218.1	6742.9	20060.8	17803.3	18757.7	19362.5	21765.5	2403.0	-604.8	-157.3	954.4	21085	958.9	844.4	5.4
1986 /87	36479.8	7701.8	36388.9	33167.5	33952.4	32552.4	37280.7	4728.3	1400.0	-90.9	784.9	21290	1713.5	1557.9	14.2
1987 /88	46791.1	7676.3	46690.8	42463.7	43440.2	41489.6	48652.2	7162.6	1950.6	-100.3	976.5	21724	2153.9	1954.7	-0.3
1988 /89	82562.0	8361.9	82507.7	76615.1	78120.9	74217.3	85217.7	11000.4	3903.6	-54.3	1505.8	22394	3686.8	3421.2	8.9
1989 /90	110110.7	7904.5	109885.2	101720.7	102896.1	101233.1	111499.1	10266.0	1663.0	-225.5	1175.4	23079	4771.0	4407.5	-5.5
1990 /91	192660.5	8498.2	192593.2	178336.5	179187.2	174169.4	200058.3	25888.9	5017.8	-67.3	850.7	23780	8101.8	7499.4	7.5
1991 /92	421818.0	9056.7	420841.7	396304.0	414270.6	362764.4	435816.7	73052.3	51506.2	-976.3	17966.6	24495	17220.6	16179.0	6.6
1992 /93	948448.0	9471.0	945949.0	886656.0	910456.0	836743.0	1024703.0	187960.0	73713.0	-2499.0	23800.0	25222	37604.0	35154.1	4.6
1993 /94	1881289.0	9566.3	1877148.9	1736976.0	1751572.7	1660369.0	2086808.0	426439.0	91203.7	-4140.1	14596.7	25961	72466.0	66907.1	1.0
1994 /95	4049739.4	10140.0	4047377.0	3828565.4	3870076.0	3426693.5	4320739.4	894045.9	443382.4	-2362.4	41510.6	26688	151743.8	143456.4	6.0

Source: Central Bureau of Statistics

- Source: Sudan Central Bureau of Statistics web page. Retrieved on September 2019 at:
[http://cbs.gov.sd/resources/uploads/files/Economics%20Indicators\(3\).pdf](http://cbs.gov.sd/resources/uploads/files/Economics%20Indicators(3).pdf)

Economics Indictors 1996 -2016

SDG Millions

Year	Gross Domestic Product at Current Prices	Gross Domestic Product at Constant Prices	Gross National Product at Current Prices	National Income	Disposable Income	Total Consumption Expenditure	Total Demand	Investment	Saving	Factor Income	Current Trans.	Population *(000,000)	G.D.P Per Capita SDG.	National Income Per Capita	Growth rate
1996	10478.1	11.3	10494.8	9587.8	9613.9	9990.3	11299.4	1408.1	-276.5	6.7	48.0	27.9	375.9	343.2	11.6
1997	16137.4	12.0	16155.8	14971.4	15170.6	15316.6	18159.6	2942.9	-146.1	18.4	199.2	28.6	593.7	523.0	6.1
1998	21935.9	13.0	21942.0	20272.0	20982.9	19698.2	25439.6	5751.4	1294.7	6.0	710.9	29.5	743.7	687.3	8.2
1999	27038.8	13.5	26799.2	24922.0	25948.4	24920.8	29345.3	4424.5	1027.7	-259.7	1026.4	30.3	892.3	821.8	4.2
2000	33770.5	14.7	32191.1	29218.0	29813.9	30791.6	34059.3	3267.7	-977.7	-1471.6	595.8	31.1	1096.5	940.1	8.4
2001	40638.6	16.3	39235.0	36238.0	37203.0	35240.6	42028.1	6787.5	1962.4	-1423.6	964.9	31.9	1274.0	1135.5	10.8
2002	47736.1	17.2	46165.5	42439.9	44158.1	40382.3	50808.7	10426.4	3775.8	-1570.6	1718.1	32.8	1457.4	1295.1	6.0
2003	55733.8	18.3	53473.8	49238.3	51106.1	47901.4	57781.5	9880.1	3204.7	-2280.0	1867.8	33.6	1658.4	1483.3	6.3
2004	68721.4	19.3	65847.8	60480.1	63381.1	57789.5	70659.2	13069.6	5591.6	-2873.6	2901.0	34.5	1991.2	1752.4	5.1
2005	85707.1	20.3	82429.1	74988.0	78390.3	77912.2	94688.5	18756.3	478.1	-3278.0	3522.3	35.4	2421.2	2115.0	5.6
2006	98291.9	21.7	94902.1	87187.0	89917.6	83147.6	108423.5	25275.9	6770.0	-3389.8	2730.7	36.3	2707.2	2401.4	6.5
2007	119837.3	22.9	115295.6	108862.0	107832.5	98334.9	124070.3	27235.4	10797.6	-4541.7	770.6	37.3	3215.4	2867.2	5.7
2008	135511.7	23.4	128211.0	120042.5	120847.8	104895.4	132595.6	27900.2	16152.4	-8300.7	805.3	39.2	3461.0	3065.9	3.8
2009	138987.5	24.9	132401.1	122015.1	124389.7	117542.7	146127.4	26594.7	6828.9	-8886.4	2354.6	40.5	3439.8	3011.1	4.5
2010	160846.5	26.5	155027.6	143913.2	148958.2	124732.2	159536.1	34803.9	24228.0	-5618.9	5045.0	42.2	3802.6	3406.5	6.5
2011	182151.3	27.5	178896.0	168090.4	169061.0	138858.1	187493.0	44232.5	30202.8	-3165.3	2970.6	34.0	5357.4	4885.0	3.8
2012	222547.9	27.7	213216.4	198315.7	203914.4	181376.3	240935.2	38582.4	7515.8	-8329.5	5598.7	35.1	6340.4	5650.0	0.7
2013	304116.7	29.6	282710.4	261843.3	275301.6	245557.5	328755.1	47719.0	551.8	-21408.3	13358.3	36.2	8401.0	7236.0	6.8
2014	447998.2	31.6	436335.4	406810.9	415266.1	388934.2	472797.6	58134.2	8758.2	-11682.8	8455.2	37.3	12010.7	10906.5	7.0
2015	505780.7	32.8	498891.1	463628.1	469116.3	486502.4	534092.1	65589.7	613.9	-8889.6	5488.2	38.4	13170.9	12073.6	3.7
2016	605408.6	34.1	600191.6	559836.8	565205.2	579817.9	639125.0	59507.1	-14412.7	-5217.0	5388.4	39.6	15288.1	14137.3	3.9

Source: Central Bureau of Statistics

- Source: Sudan Central Bureau of Statistics official web page. Retrieved on September 2019 at : [http://cbs.gov.sd/resources/uploads/files/Economics%20Indicators\(3\).pdf](http://cbs.gov.sd/resources/uploads/files/Economics%20Indicators(3).pdf)

5. Sudan consumer price index and inflation rates for the period 1970 – 2017.

الرقم القياسي لأسعار المستهلك ومعدلات التضخم في الفترة من 1970 - 2017 أساس (2007)

consumer price index and Inflation rates in Term From 1970-2017 Base (2007)

معدل التضخم	الرقم القياسي لأسعار المستهلك	السنوات	معدل التضخم	الرقم القياسي لأسعار المستهلك	السنوات
Inflation rates	consumer price index	Years	Inflation rates	consumer price index	Years
114,5	7,99	1994	-	0,002	1970
64,5	13,15	1995	1,2	0,002	1971
109,8	27,59	1996	8,1	0,002	1972
48,4	40,95	1997	15,8	0,002	1973
18,7	48,62	1998	24,1	0,003	1974
18,9	57,80	1999	21,1	0,004	1975
7,8	62,28	2000	2,0	0,004	1976
4,4	65,03	2001	17,5	0,004	1977
6,9	69,51	2002	20,0	0,005	1978
6,2	73,85	2003	-1,0	0,005	1979
9,5	80,89	2004	70,8	0,009	1980
8,6	87,84	2005	22,0	0,011	1981
7,2	94,16	2006	28,4	0,014	1982
6,2	100,00	2007	31,7	0,018	1983
14,3	114,30	2008	30,7	0,024	1984
11,2	127,15	2009	47,2	0,035	1985
13,0	143,65	2010	28,4	0,045	1986
18,1	169,62	2011	24,0	0,055	1987
35,6	230,00	2012	46,7	0,081	1988
36,5	314,00	2013	75,3	0,142	1989
36,9	429,80	2014	65,3	0,235	1990
16,9	502,53	2015	119,1	0,516	1991
17,8	591,73	2016	156,7	1,324	1992
32,4	783,16	2017	181,5	3,73	1993

•Source: Sudan Central Bureau of Statistics official web page. Retrieved on September 2019 at:

<http://cbs.gov.sd//resources/uploads/files/consumer%20price%20index%20and%20Inflation%20rates1970%20-%202017.pdf>

6. Exchange rate of Sudanese Pound against US dollar for the period Jan.2016 to Mar.2019.

جدول رقم (12) Table No.(12)
سعر صرف الجنيه السوداني مقابل الدولار
Exchange Rate of the Sudanese Pound against the Dollar
نهاية شهر يناير 2016 حتى مارس 2019
End of Month Jan. 2016 To Mar. 2019

الفترة Period	أسعار صرف بنك السودان			أسعار شراء البنوك التجارية			أسعار شراء الصرافات		
	الشراء Buying	البيع Selling	المتوسط Average	أدنى Low	المتنوال Mode	أعلى High	أدنى Low	المتنوال Mode	أعلى High
31/1/2016	6.5821	6.6150	6.5986	6.6150	6.9470	6.9470	6.9000	6.9470	6.9470
29/2/2016	6.6417	6.6749	6.6583	6.6749	7.0099	7.0099	7.0000	7.0099	7.0099
31/3/2016	6.8781	6.9125	6.8953	6.9125	7.2594	7.2594	7.0000	7.2594	7.2594
28/4/2016	6.8884	6.9228	6.9056	6.9228	7.2703	7.2703	7.1000	7.2703	7.2703
31/5/2016	6.7656	6.7995	6.7825	6.7995	7.1407	7.1407	7.1000	7.1407	7.1407
30/6/2016	6.7468	6.7805	6.7637	6.7805	7.1208	7.1208	7.0000	7.1208	7.1208
31/7/2016	6.7948	6.8288	6.8118	7.1715	7.2074	7.1895	7.1715	7.2074	7.1895
31/8/2016	6.7796	6.8135	6.7966	7.1555	7.1913	7.1734	7.1555	7.1913	7.1734
30/9/2016	6.9623	6.9971	6.9797	7.3482	7.3849	7.3666	7.3482	7.3849	7.3666
31/10/2016	7.1106	7.1462	7.1284	7.1462	7.5048	7.5048	7.5000	7.5048	7.5048
30/11/2016	6.8890	6.9234	6.9062	7.4764	7.5618	7.5618	7.5000	7.5618	7.5618
31/12/2016	6.8811	6.9155	6.8983	6.9155	7.4091	7.4091	7.3000	7.4091	7.4091
31/1/2017	7.1314	7.1670	7.1492	7.1670	7.3661	7.3661	7.3000	7.3661	7.3661
28/2/2017	7.0594	7.0947	7.0770	7.0947	7.2993	7.2993	7.2500	7.2993	7.2993
31/3/2017	7.1687	7.2045	7.1866	7.2045	7.4854	7.4854	7.4000	7.4854	7.4854
30/4/2017	7.2640	7.3004	7.2822	7.7409	7.7409	7.3004	7.7409	7.7409	7.7409
31/5/2017	7.4492	7.4865	7.4679	7.4865	8.0183	8.0183	7.0183	8.0183	8.0183
30/6/2017	7.4485	7.4857	7.4671	7.4857	8.2337	8.2337	8.1000	8.2337	8.2387
31/7/2017	7.8224	7.8616	7.8420	8.0389	8.0389	8.0389	8.0389	8.0389	8.0389
31/8/2017	7.9824	8.0223	8.0024	9.5181	9.6254	9.6254	9.6000	9.6254	9.6254
30/9/2017	7.8230	7.8621	7.8426	9.3332	9.4332	9.4332	9.4000	9.4332	9.4332
31/10/2017	7.7542	7.7929	7.7736	9.1697	9.2623	9.2623	9.2000	9.2623	9.2623
30/11/2017	7.9016	7.9411	7.9214	9.3410	9.4383	9.4383	9.4000	9.4383	9.4383
31/12/2017	8.4125	8.4546	8.4336	10.5964	10.6876	10.6876	10.5000	10.6876	10.6876
31/1/2018	17.9551	18.0449	18.0000	19.9000	19.9224	19.9224	18.0000	19.9224	19.9224
28/2/2018	17.9551	18.0449	18.0000	29.2776	29.2856	29.2856	37.2520	28.3000	28.3000
31/3/2018	17.9551	18.0449	18.0000	29.1225	29.1303	29.1303	28.0100	29.0000	29.2760
30/4/2018	17.9551	18.0449	18.0000	29.1205	29.1283	29.1283	28.0080	29.1283	29.1283
31/5/2018	17.9551	18.0449	18.0000	29.1208	29.1283	29.1283	28.0080	29.1283	29.1283
30/6/2018	17.9551	18.0449	18.0000	29.1208	29.1283	29.1283	28.0080	29.1283	29.1283
31/7/2018	17.9551	18.0449	18.0000	29.1207	29.1283	29.1283	28.0080	29.1283	29.1283
31/8/2018	17.9551	18.0449	18.0000	29.1275	29.1283	29.1283	28.0080	29.1283	29.1283
30/9/2018	17.9551	18.0449	18.0000	29.1275	29.1283	29.1283	28.0080	29.1283	29.1283
31/10/2018	47.5000	47.7375	47.6188	47.4990	47.5000	47.5000	47.0000	47.5000	47.5000
30/11/2018	47.5000	47.7375	47.6188	47.4990	47.5000	47.5000	47.5000	47.5000	47.5000
31/12/2018	47.5000	47.7375	47.6188	47.5000	47.5000	47.5000	47.5000	47.5000	47.5000
31/1/2019	47.5000	47.7375	47.6188	47.5000	47.5000	47.5000	47.5000	47.5000	47.5000
28/2/2019	47.5000	47.7375	47.6188	47.5000	47.5000	47.5000	47.5000	47.5000	47.5000
31/3/2019	47.5000	47.7375	47.6188	47.5000	47.5000	47.5000	47.5000	47.5000	47.5000

- Source: Central Bank of Sudan official web page - Retrieve on September 2019 at :

https://cbos.gov.sd/sites/default/files/%D8%A7%D9%84%D8%B9%D8%B1%D8%B6%20%D8%A7%D9%84%D8%A7%D9%82%D8%AA%D8%B5%D8%A7%D8%AF%D9%8A%20%D8%A7%D9%84%D8%B1%D8%A8%D8%B9%20%D8%A7%D9%84%D8%A7%D9%88%D9%84-2019%20%281%29_0.pdf

7. Total Banks finance over total deposits for the period 2016 to 2018.



1

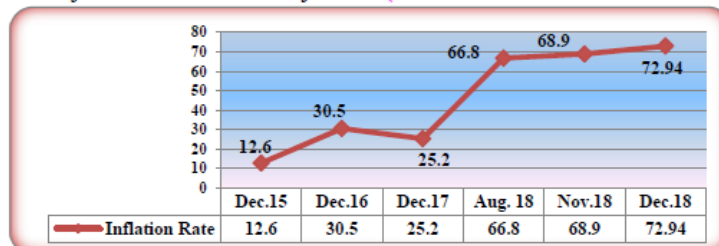
Source: Central Bank of Sudan official web page www.cbos.gov.sd -Retrieve on September 2019 at <https://cbos.gov.sd/sites/default/files/12-2018.pdf>

8. Inflation rate for the year ended December 2018.

(5) Inflation Rate

Inflation rate increased from 68.9% at the end of November 2018 to 72.94% at the end of December 2018.

The Inflation rates at the end of month (December 2015 – December 2018)



(6) Exchange rate

The exchange rate of both of USD & EUR against the Sudanese pound at the Commercial Banks and Exchange Bureaus as at 31 December 2018.

(a) The Exchange Rate of USD:

Particulars	Rate	
	Buying Rate	Selling Rate
Commercial Banks	47.5000	47.7375
Exchange Bureaus	47.5000	47.7375

(b) The Exchange Rate of EURO:

(SDG)

Particulars	Buying Rate		Selling Rate		Most Prevalent Rate	
	Higher	Lower	Higher	Lower	Buying	Selling
Commercial Banks	54.2792	54.0164	54.5506	54.2792	54.2792	54.5506
Exchange Bureaus	54.2792	53.5000	54.5506	53.7675	54.2792	54.5506

* Qatar Islamic Bank registered the highest selling and buying rates. Whereas Qatar National Bank registered the lowest of both selling and buying rates.

* Alabadi Company for Exchange registered the highest selling rate and buying rate as well. Hat Exchange Company registered the highest selling and buying rates.

Source: Central Bank of Sudan official web page www.cbos.gov.sd -Retrieve on September 2019 at <https://cbos.gov.sd/sites/default/files/12-2018.pdf>

9. Sudan trade balance during the period 2007-2018.

الميزان التجاري خلال الفترة 2007 - 2018*
Trade Balance During The Period 2007 - 2018*
(القيمة بآلاف الدولارات)
(Value In US.\$000'S)

Period	الميزان التجاري Trade Balance	الواردات Imports	الصادرات Exports	الصادرات غير البترولية Non Petroleum Exports	الصادرات البترولية Petroleum Exports	الفترة
2007	103,793	8,775,457	8,879,250	460,722	8,418,528	2007
2008	2,318,964	9,351,540	11,670,504	576,393	11,094,111	2008
2009	(1,433,813)	9,690,918	8,257,105	1,020,318	7,236,787	2009
2010	1,359,510	10,044,770	11,404,280	1,709,085	9,695,195	2010
2011	957,424	9,236,008	10,193,432	2,294,239	7,899,193	2011
2012	(5,163,819)	9,230,318	4,066,499	3,111,511	954,988	2012
2013	(5,128,336)	9,918,068	4,789,732	3,073,187	1,716,545	2013
2014	(4,757,577)	9,211,300	4,453,723	3,096,140	1,357,583	2014
2015	(6,340,104)	9,509,115	3,169,011	2,541,829	627,182	2015
2016	(5,216,968)	8,310,607	3,093,639	2,757,926	335,713	2016
2017	(5,033,287)	9,133,668	4,100,381	3,683,175	417,205	2017
2018*	(4,365,399)	7,850,081	3,484,682	2,965,104	519,578	2018*
January	(150,936)	420,896	269,960	265,598	4,362	يناير
February	(344,313)	682,686	338,373	296,082	42,291	فبراير
March	(383,596)	645,266	261,671	214,960	46,711	مارس
April	(249,586)	593,785	344,199	256,039	88,160	أبريل
May	(330,801)	639,366	308,565	258,626	49,938	مايو
June	(204,964)	449,946	244,982	199,274	45,709	يونيو
July	(453,325)	696,928	243,603	235,664	7,939	يوليو
August	(240,772)	477,394	236,622	199,586	37,036	أغسطس
September	(427,917)	708,811	280,894	231,583	49,310	سبتمبر
October	(395,444)	705,373	309,929	263,537	46,391	أكتوبر
November	(627,678)	887,630	259,951	207,113	52,838	نوفمبر
December	(556,067)	942,000	385,933	337,041	48,892	ديسمبر

*Provisional Data

*بيانات أولية

Source: Central Bank of Sudan official web page www.cbos.gov.sd -Retrieve on September 2019 at
<https://cbos.gov.sd/sites/default/files/digest-q4-2018.pdf>

10. SPSS output

EFA for dependent variables (DV) (A).

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	5693.104
	df	300
	Sig.	.000

Communalities

	Initial	Extraction
The management of your bank considered the ideas and proposals of the employees when making decisions.	1.000	.553
The management of your bank is keen to solve and address the obstacles facing employees.	1.000	.664
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	1.000	.664
Your bank promotes a culture of appreciation for individuals and teams.	1.000	.677
Your bank works to ensure a healthy and balanced work environment.	1.000	.663
Your bank works to ensure mutual care between employees and the institution.	1.000	.644
Your bank is supporting staff mobility systems that take into account employee stability.	1.000	.609
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	1.000	.575

Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	1.000	.744
Your bank aligns employee's personal goals with the team and the organization's goals.	1.000	.740
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	1.000	.492
Your bank staff provide the banking services at the required speed as per your customers' expectations.	1.000	.593
Your bank staff are always ready to help their customers.	1.000	.653
The behavior of your bank employees support customer's confidence.	1.000	.677
Customers feel secure in their dealings with your Bank.	1.000	.699
Your Bank has convenient operating hours for all its customers.	1.000	.461
Your Bank has employees who give the required attention to their customers.	1.000	.659
Your Bank employees recognize the specific needs of their customers.	1.000	.619
Customers of your bank have loyalty to it, due to the high level of services provided.	1.000	.547
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	1.000	.604
Your bank adopt financial governance, designed for all appropriate levels in your organization.	1.000	.628
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	1.000	.589

Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.

1.000

.634

Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.

1.000

.732

The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment, achievement of profits on the other hand.

1.000

.672

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.576	46.305	46.305	11.576	46.305	46.305	9.608
2	2.797	11.188	57.493	2.797	11.188	57.493	8.420
3	1.415	5.660	63.152	1.415	5.660	63.152	8.616
4	1.104	4.415	67.567				
5	.779	3.116	70.684				
6	.652	2.608	73.291				
7	.623	2.490	75.782				
8	.562	2.248	78.030				
9	.533	2.130	80.160				
10	.507	2.029	82.189				
11	.446	1.785	83.974				

12	.421	1.686	85.660
13	.394	1.576	87.236
14	.374	1.494	88.731
15	.357	1.430	90.160
16	.332	1.326	91.487
17	.309	1.236	92.723
18	.305	1.221	93.944
19	.268	1.071	95.015
20	.256	1.024	96.039
21	.234	.938	96.977
22	.220	.880	97.857
23	.200	.802	98.658
24	.183	.734	99.392
25	.152	.608	100.000

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Component Matrix^a			
	Component		
	1	2	3
The management of your bank considered the ideas and proposals of the employees when making decisions.	.593		
The management of your bank is keen to solve and address the obstacles facing employees.	.689		
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	.704		
Your bank promotes a culture of appreciation for individuals and teams.	.747		
Your bank works to ensure a healthy and balanced work environment.	.759		
Your bank works to ensure mutual care between employees and the institution.	.748		

Your bank is supporting staff mobility systems that take into account employee stability.	.697	
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	.676	
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	.770	
Your bank aligns employee's personal goals with the team and the organization's goals.	.763	
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	.636	
Your bank staff provide the banking services at the required speed as per your customers' expectations.	.665	
Your bank staff are always ready to help their customers.	.647	
The behavior of your bank employees support customer's confidence.	.617	.532
Customers feel secure in their dealings with your Bank.	.597	.550
Your Bank has convenient operating hours for all its customers.	.635	
Your Bank has employees who give the required attention to their customers.	.626	
Your Bank employees recognize the specific needs of their customers.	.631	
Customers of your bank have loyalty to it, due to the high level of services provided.	.650	
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	.672	

Your bank adopt financial governance, designed for all appropriate levels in your organization.	.668
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	.618
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	.696
Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	.738
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	.718

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

	Pattern Matrix ^a		
	Component		
	1	2	3
The management of your bank considered the ideas and proposals of the employees when making decisions.	.838		
The management of your bank is keen to solve and address the obstacles facing employees.	.883		

The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	.765
Your bank promotes a culture of appreciation for individuals and teams.	.778
Your bank works to ensure a healthy and balanced work environment.	.745
Your bank works to ensure mutual care between employees and the institution.	.734
Your bank is supporting staff mobility systems that take into account employee stability.	.726
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	.713
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	.853
Your bank aligns employee's personal goals with the team and the organization's goals.	.834
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.	.549
Your bank staff provide the banking services at the required speed as per your customers' expectations.	.708
Your bank staff are always ready to help their customers.	.783
The behavior of your bank employees support customer's confidence.	.854
Customers feel secure in their dealings with your Bank.	.916
Your Bank has convenient operating hours for all its customers.	.524

Your Bank has employees who give the required attention to their customers.	.846
Your Bank employees recognize the specific needs of their customers.	.791
Customers of your bank have loyalty to it, due to the high level of services provided.	.666
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	.739
Your bank adopt financial governance, designed for all appropriate levels in your organization.	.770
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.	.812
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	.726
Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	.818
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	.762

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Structure Matrix

	Component		
	1	2	3
The management of your bank considered the ideas and proposals of the employees when making decisions.	.734		
The management of your bank is keen to solve and address the obstacles facing employees.	.803		
The management of your bank considered the academic qualifications, years of experience and the performance indicators when appointing or promoting employees.	.803		.578
Your bank promotes a culture of appreciation for individuals and teams.	.821		.564
Your bank works to ensure a healthy and balanced work environment.	.804	.512	.540
Your bank works to ensure mutual care between employees and the institution.	.792	.506	.530
Your bank is supporting staff mobility systems that take into account employee stability.	.775		.555
In your Bank There is a job description that takes into consideration the required skills, and is reviewed periodically.	.754		.534
Your bank continuously seeks to improve communication and collaboration effectiveness among employees.	.862		.557
Your bank aligns employee's personal goals with the team and the organization's goals.	.858		.582
When there is a problem with your customers, your bank employees are genuinely interested in resolving it.		.679	.534
Your bank staff provide the banking services at the required speed as per your customers' expectations.		.765	

Your bank staff are always ready to help their customers.		.804	.508
The behavior of your bank employees support customer's confidence.		.818	
Customers feel secure in their dealings with your Bank.		.828	
Your Bank has convenient operating hours for all its customers.		.652	
Your Bank has employees who give the required attention to their customers.		.810	
Your Bank employees recognize the specific needs of their customers.		.787	
Customers of your bank have loyalty to it, due to the high level of services provided.		.731	
Your bank adopt financial and operational strategies to support the overall strategy and ensure financial flexibility	.504		.775
Your bank adopt financial governance, designed for all appropriate levels in your organization.	.559		.785
Your bank allocate resources to meet long-term needs rather than focusing on short-term profit, while acquiring and enhancing competitiveness in appropriate fields.			.764
Your bank reviews the success of its financial plan based on the financial outputs of the activity, the impressions of shareholders, the financial performance against the budget, the volume of the main products and the results of the main operations.	.501	.552	.787

Leaders in your bank develop a range of financial outcomes in line with shareholders expectations.	.587		.854
The leaders in your bank put the appropriate scientific reference to find a balanced formula that takes into account the human requirements on one hand and the preservation of the environment , achievement of profits on the other hand.	.563	.504	.818

Extraction Method: Principal Component Analysis.
 Rotation Method: Promax with Kaiser Normalization.

Component Correlation Matrix

Component	1	2	3
1	1.000	.500	.643
2	.500	1.000	.580
3	.643	.580	1.000

Extraction Method: Principal Component Analysis.
 Rotation Method: Promax with Kaiser Normalization.

Source: prepared by researcher from data (2019).

EFA for independent variables (B).

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.941
Bartlett's Test of Sphericity	Approx. Chi-Square	4846.800
	df	300
	Sig.	.000

Communalities

	Initial	Extraction
Leaders in your Bank develop the mission, vision, values and ethics.	1.000	.654
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	1.000	.714
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	1.000	.697
Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	1.000	.680
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	1.000	.637
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	1.000	.670

Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.	1.000	.715
Strategy of your bank is based on understanding internal performance and capabilities.	1.000	.669
When developing a strategy, your bank ensures that financial and technical resources are available.	1.000	.684
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.	1.000	.691
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	1.000	.658
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	1.000	.656
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	1.000	.755
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	1.000	.804
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	1.000	.715

Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	1.000	.545
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.	1.000	.542
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.	1.000	.571
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.	1.000	.562
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.	1.000	.648
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	1.000	.635
Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.	1.000	.634

Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	1.000	.770
Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	1.000	.739
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	1.000	.637

Extraction Method: Principal Component Analysis.

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.178	44.711	44.711	11.178	44.711	44.711	7.986
2	1.652	6.610	51.321	1.652	6.610	51.321	8.663
3	1.384	5.537	56.857	1.384	5.537	56.857	7.086
4	1.310	5.239	62.096	1.310	5.239	62.096	6.965
5	1.157	4.627	66.723	1.157	4.627	66.723	7.077
6	.737	2.947	69.670				
7	.685	2.741	72.411				
8	.672	2.686	75.097				
9	.621	2.483	77.581				
10	.553	2.210	79.791				
11	.476	1.904	81.696				

12	.464	1.855	83.551
13	.459	1.836	85.387
14	.439	1.757	87.144
15	.409	1.636	88.780
16	.373	1.494	90.274
17	.355	1.421	91.695
18	.320	1.280	92.975
19	.299	1.194	94.169
20	.289	1.157	95.326
21	.278	1.112	96.439
22	.266	1.063	97.502
23	.242	.970	98.472
24	.201	.804	99.276
25	.181	.724	100.000

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Component Matrix^a

	Component				
	1	2	3	4	5
Leaders in your Bank develop the mission, vision, values and ethics.	.631				
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	.644				
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	.710				

Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	.715
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	.730
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	.724
Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.	.651
Strategy of your bank is based on understanding internal performance and capabilities.	.663
When developing a strategy, your bank ensures that financial and technical resources are available.	.647
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.	.706
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	.734
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	.712

Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	.753	
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	.764	
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	.716	
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	.625	
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.	.551	
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.	.522	.503
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.	.570	
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.	.616	

Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	.669	
Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.	.649	
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	.645	-.582-
Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	.645	-.538-
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	.655	

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

Pattern Matrix^a

	Component				
	1	2	3	4	5
Leaders in your Bank develop the mission, vision, values and ethics.	.849				
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	.871				
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	.765				
Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	.730				
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	.566				
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	.660				
Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.					.836
Strategy of your bank is based on understanding internal performance and capabilities.					.670
When developing a strategy, your bank ensures that financial and technical resources are available.					.805

When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.		.709
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	.711	
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	.733	
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	.852	
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	.901	
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.	.860	
Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.		.604
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.		.735

<p>Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.</p>	.787	
<p>Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.</p>	.738	
<p>Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.</p>	.757	
<p>Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.</p>	.616	
<p>Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.</p>		.719
<p>Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.</p>		.897
<p>Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.</p>		.866

Your Bank managed and enhanced
Customer relationships through
building and maintain continues
dialogue with customers, based on
Openness and transparency

.721

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

Structure Matrix

	Component				
	1	2	3	4	5
Leaders in your Bank develop the mission, vision, values and ethics.	.801				
Leaders in your Bank monitor, review and drive the improvement of the organization's management system and performance.	.819				.530
Leaders in your Bank deliver high levels of stakeholder confidence by adopting effective mechanisms to understand future scenarios.	.825	.596			
Leaders in your Bank anticipate and respond to the different needs and expectations of their key stakeholders. Promote culture of trust, ethics and transparency.	.803	.515	.538	.512	
Leaders in your Bank reinforce a culture of excellence, involvement , empowerment, accountability and improvement among the employees.	.758	.663			
Leaders in your Bank ensure that the organization is flexible and changes are managed effectively.	.795	.631		.513	

Strategy of your bank is based on understanding the needs and expectations of both stakeholders and the external Environment.		.502		.842
Strategy of your bank is based on understanding internal performance and capabilities.	.545	.597		.777
When developing a strategy, your bank ensures that financial and technical resources are available.				.821
When developing a strategy, your bank will ensure that clear objectives are developed which based on the understanding of markets and opportunities.		.578	.501	.816
Your Bank adopt employee's Innovations systems with fairness and equal opportunities.	.575	.801	.532	
Your Bank develop the employees' knowledge, capabilities and improve the required talent to maximize their contribution in achieving the declared mission and vision	.512	.796	.546	.522
Your bank is empowering employees and harnessing their full potential in a form of real partnership via an ideal delegation system.	.513	.866	.517	.548
Your bank promotes a culture of innovation across enterprise systems, enabling employees to respond quickly to the challenges they face.	.535	.886	.568	
Your bank promotes knowledge sharing to ensure employees understand and demonstrate their contribution to the organization's continued success.		.839		.525

Your Bank establish appropriate networks to enable identifying potential partnerships opportunities to capabilities and ability to generate additional stakeholder value.	.525	.709	
Your Bank evaluate, select and validate investment in assets with respecting their long- term economic, societal and ecological effects.		.725	
Your Bank use strategies, policies and processes for managing buildings, equipment and materials in a financial and environmentally sustainable way.		.740	
Your Bank Minimize its local and global environmental impact, including setting challenging goals for meeting legal standards and economic, environmental and social.		.742	
Your Bank Manage a technology portfolio that supports the organization's overall strategy to improve the agility of processes and change.		.790	.501
Your Bank managed Information and knowledge to support effective decision making and to build the organization's capability.	.502	.754	.588
Products and services of your bank developed by engaging customers as much as possible in the development and innovation of new services, products and experiences.			.790
Your bank promote and market products and services effectively by identifying the different groups of customers, current and potential.	.501		.876

Your Bank Produce and deliver products and services to meet, or exceed, customer needs and expectations while managing these products and services throughout their life cycle.	.858
Your Bank managed and enhanced Customer relationships through building and maintain continues dialogue with customers, based on Openness and transparency	.793

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

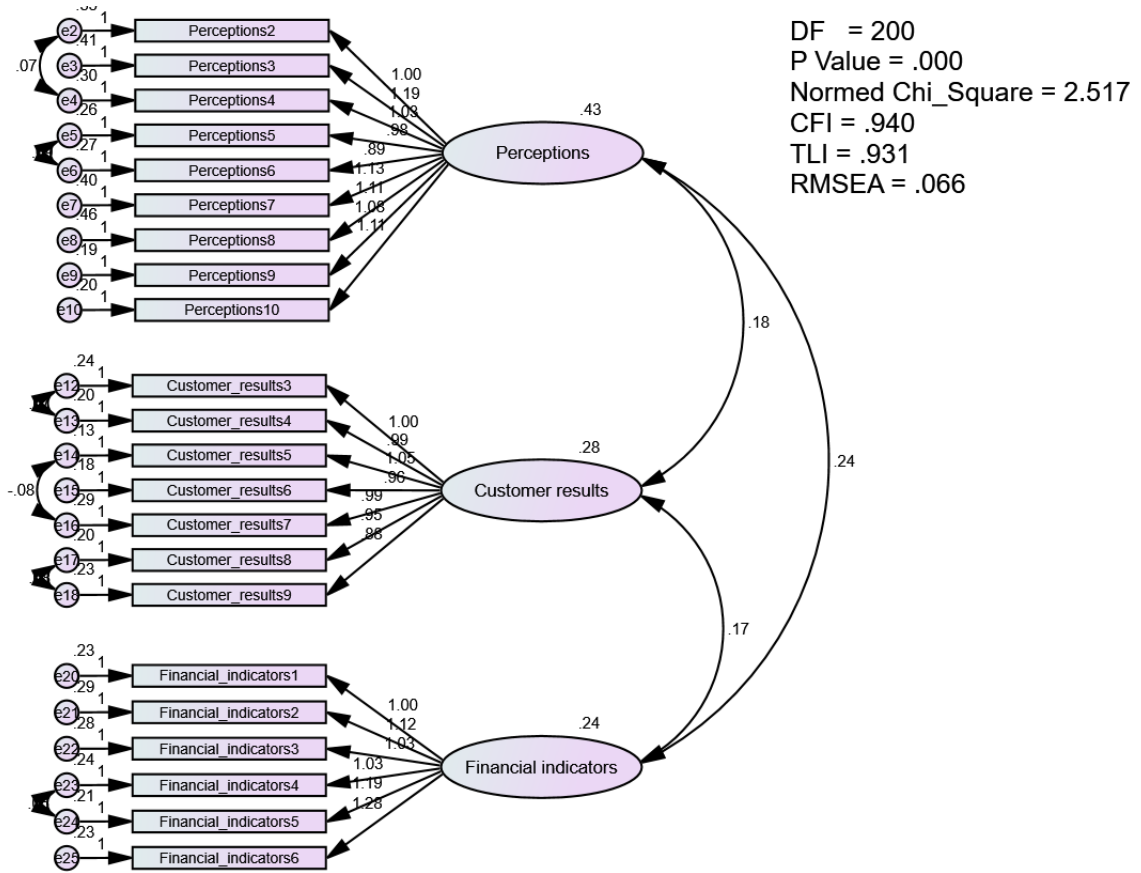
Component	1	2	3	4	5
1	1.000	.621	.490	.535	.541
2	.621	1.000	.553	.571	.590
3	.490	.553	1.000	.501	.500
4	.535	.571	.501	1.000	.478
5	.541	.590	.500	.478	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Source: prepared by researcher from data (2019).

11. AMOS output.



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	53	503.409	200	.000	2.517
Saturated model	253	.000	0		
Independence model	22	5300.757	231	.000	22.947

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.031	.885	.855	.700
Saturated model	.000	1.000		
Independence model	.278	.188	.111	.172

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.905	.890	.941	.931	.940
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.866	.784	.814
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	303.409	241.137	373.363
Saturated model	.000	.000	.000
Independence model	5069.757	4836.068	5309.819

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.438	.867	.689	1.067
Saturated model	.000	.000	.000	.000
Independence model	15.145	14.485	13.817	15.171

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.066	.059	.073	.000
Independence model	.250	.245	.256	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	609.409	616.865	814.031	867.031
Saturated model	506.000	541.590	1482.779	1735.779
Independence model	5344.757	5347.851	5429.694	5451.694

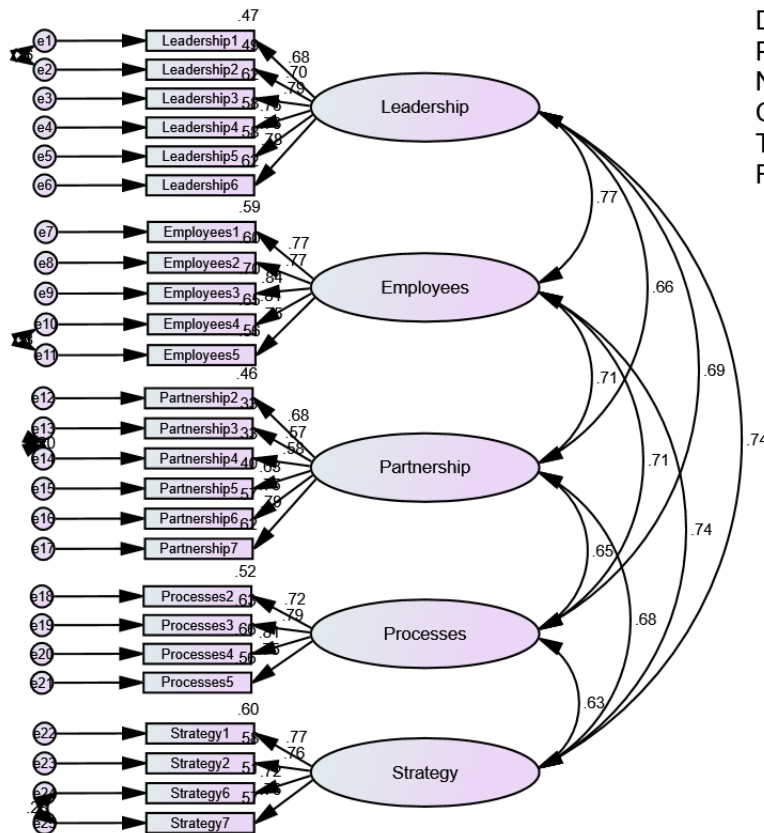
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.741	1.563	1.941	1.762
Saturated model	1.446	1.446	1.446	1.547
Independence model	15.271	14.603	15.957	15.280

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	163	174
Independence model	18	19

Minimization: .031
Miscellaneous: .735
Bootstrap: .000
Total: .766



DF = 261
 P Value = .000
 Normed Chi_Square = 1.957
 CFI = .950
 TLI = .942
 RMSEA = .052

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	64	510.793	261	.000	1.957
Saturated model	325	.000	0		
Independence model	25	5271.161	300	.000	17.571

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.024	.898	.873	.721
Saturated model	.000	1.000		
Independence model	.252	.186	.118	.172

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.903	.889	.950	.942	.950
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.870	.786	.826
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	249.793	189.501	317.879
Saturated model	.000	.000	.000
Independence model	4971.161	4738.956	5209.770

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.459	.714	.541	.908
Saturated model	.000	.000	.000	.000
Independence model	15.060	14.203	13.540	14.885

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.052	.046	.059	.281
Independence model	.218	.212	.223	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	638.793	649.065	885.884	949.884
Saturated model	650.000	702.160	1904.756	2229.756
Independence model	5321.161	5325.173	5417.681	5442.681

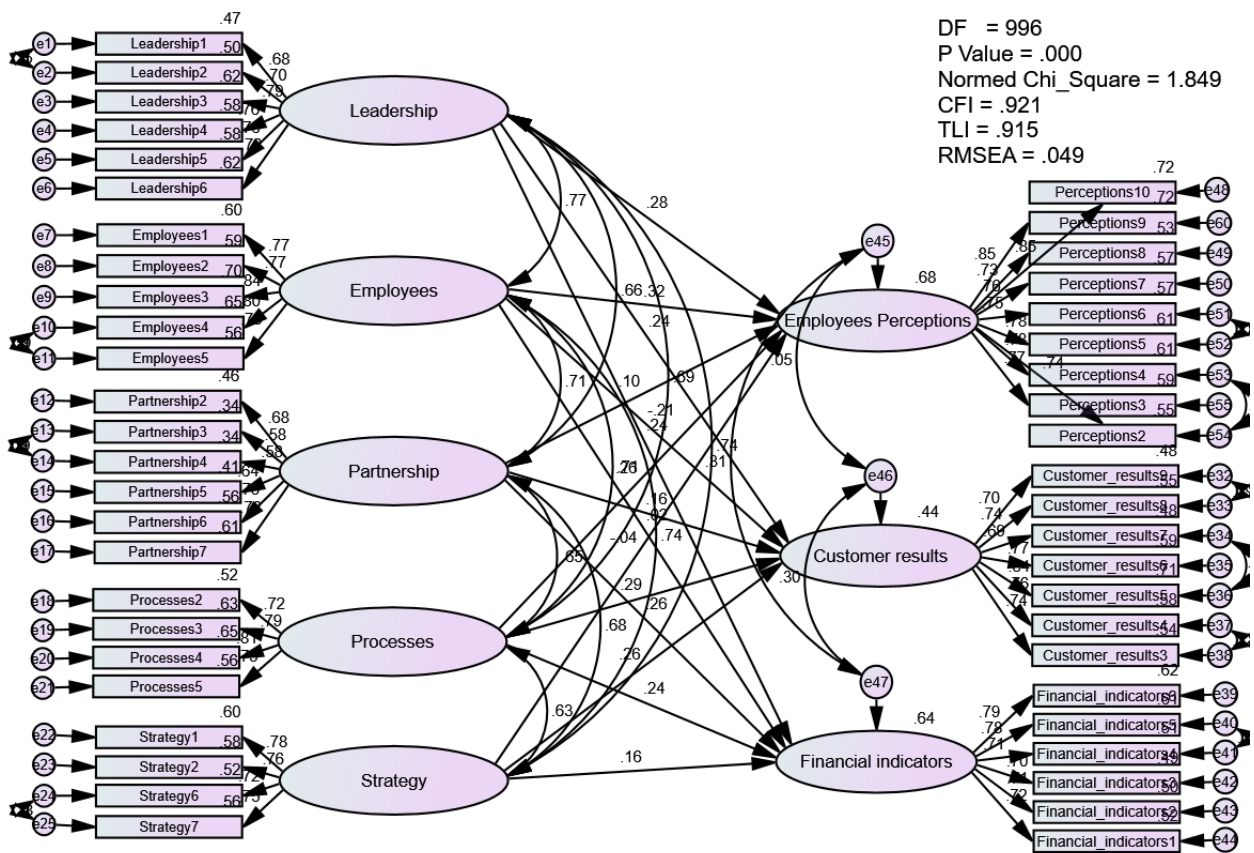
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.825	1.653	2.020	1.854
Saturated model	1.857	1.857	1.857	2.006
Independence model	15.203	14.540	15.885	15.215

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	206	218
Independence model	23	24

Minimization: .015
 Miscellaneous: .735
 Bootstrap: .000
 Total: .750



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	132	1841.203	996	.000	1.849
Saturated model	1128	.000	0		
Independence model	47	11839.359	1081	.000	10.952

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.027	.821	.797	.725
Saturated model	.000	1.000		
Independence model	.253	.115	.076	.110

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.844	.831	.922	.915	.921
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.921	.778	.849
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	845.203	728.502	969.701
Saturated model	.000	.000	.000
Independence model	10758.359	10411.925	11111.275

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	5.261	2.415	2.081	2.771
Saturated model	.000	.000	.000	.000
Independence model	33.827	30.738	29.748	31.746

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.046	.053	.635
Independence model	.169	.166	.171	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	2105.203	2147.163	2614.827	2746.827
Saturated model	2256.000	2614.570	6610.967	7738.967
Independence model	11933.359	11948.299	12114.816	12161.816

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	6.015	5.681	6.371	6.135
Saturated model	6.446	6.446	6.446	7.470
Independence model	34.095	33.106	35.104	34.138

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	204	210
Independence model	35	36

Minimization: .047
 Miscellaneous: 1.619
 Bootstrap: .000
 Total: 1.666

Source: prepared by researcher from data (2019).