A MODEL FOR THE IMPLEMENTATION OF INTEGRATED QUALITY MANAGEMENT SYSTEM (IQMS) IN SELECTED EASTERN CAPE SCHOOLS

by

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DECLARATION

I ANTONY MATEMBA SAMBUMBU declare that this research report entitled: “A Model for the Implementation of IQMS in the Selected Eastern Cape’s Schools” is my own unaided work.

It is being submitted towards the fulfilment of the requirements for the study of the degree of the Doctor of Public Administration (D. Admin) at the Faculty of Management and Commerce, University of Fort Hare.

This document has not been submitted before, in whole, or in part for any degree or examination at any other academic institution or university.

Signed:

Antony Matemba Sambumbu

Dated:
ABSTRACT

The main purpose of this research was to evaluate the processes for IQMS implementation in the selected Eastern Cape schools so as to determine the model that can be postulated for improving the IQMS implementation in the South African schools. While mainly deriving from the fact that so far, empirical research reveals that the process for IQMS implementation has been marred with a significant number of challenges. The study begins with the formulation of a thought-process in its overriding hypothesis. The hypothesis is that the application of a five constructs’ IQMS Implementation Model in Figure 1.1 would significantly influence the successful IQMS implementation in South African schools.

The five constructs that are outlined in the IQMS Implementation Model in Figure 1.1 include: (1) Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, and Evaluations and Applications of the Improvement Actions. Despite the fact that the integrated quality management theories strongly support this hypothesis, the study, in line with these five constructs which were also aligned with the five research questions and hypotheses that guided this research applies exploratory factor analysis. This has been done in order to further define the structure of the IQMS Implementation Model in Figure 1.1 prior to applying confirmatory factor analysis in order to determine whether the IQMS Implementation Model in Figure 1.1 would perfectly reproduce the 53 observed sample data which was used in the study.

The results confirmed the overriding hypothesis in the IQMS Implementation Model in Figure 1.1 which is that effectiveness of the IQMS implementation processes in the South African schools can be significantly influenced by the application of the five constructs. These include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of the Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Action. In effect, it was recommended that
the Eastern Cape Department of Education must adopt the IQMS implementation Model in Figure 1.1 in order to effectively implement its integrated quality management systems. Despite examining the limitations of the study, the recommendations chapter also discussed the area for further research in which it was suggested that the area for further research would be: “Evaluating the impact of appropriate standards’ setting on the successful IQMS implementation in the schools in the Eastern Cape schools.”
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Without His bounty, it would have been impossible for me to carry out this study. Praise, glory and honour are unto Him, now and forever.
# TABLE OF CONTENTS

| DECLARATION | ii |
| ABSTRACT | iii |
| ACKNOWLEDGEMENTS | v |
| TABLE OF CONTENTS | vii |

## LIST OF APPENDICES

| LIST OF APPENDICES | xv |
| LIST OF TABLES | xvi |
| LIST OF FIGURES | xvii |
| LIST OF ACRONYMS | xviii |

## LIST OF CONTENTS

| CHAPTER ONE: THE PROBLEM AND SCOPE OF THE RESEARCH | 1 |
| 1.1 INTRODUCTION | 1 |
| 1.2 Historical Background: The Concept of the New Public Management and the Notion of Quality Management in the South African Department of Education | 2 |
| 1.2 Research Problem Statement/Main Purpose of the Research | 5 |
| 1.4 Primary Research Objective/Main Purpose of the Research | 7 |
| 1.4.1 Secondary Research Objectives | 7 |
| The secondary research objectives for this study are: | 7 |
| 1.5 Research Questions | 8 |
| 1.6 Research Hypotheses | 8 |
| 1.7 Theoretical Background of the Research: Overview of the Literatures and Theories on Integrated Quality Management Systems | 10 |
| 1.7.1 The Notion of “Quality” and Whole School Evaluation | 10 |
| 1.7.2 Performance measurement and Developmental Appraisals | 12 |
| 1.7.3 Key Success Factors for IQMS Implementation | 16 |
| 1.7.4 The Implementation, Monitoring and Evaluations of IQMS | 18 |
| 1.7.5 Application of IQMS Corrective and Improvement Actions | 20 |
| 1.8 The Conceptual Background of the Research | 23 |
| 1.9 Contextual Background of the Research | 26 |
| 1.9 OVERVIEW: RESEARCH DESIGN AND METHODOLOGY | 28 |
| 1.9.1 Step 1: Postulation of the Measurement Theory: IQMS Implementation Model in Figure | 30 |
| 1.9.2 Step 2: Determining the Target Population and Appropriate and Valid Sample Size | 31 |
| 1.9.3 Step 3: Questionnaire Design and Data collection process | 32 |
2.5.1.3 Acceptable Quality Levels ........................................................................75
2.5.1.4 Cost of quality .......................................................................................76
2.6 PERFORMANCE MEASUREMENT AND DEVELOPMENTAL APPRAISAL .........77
2.6.1 The Purpose of Performance Management in Organizations .......................81
2.6.1.1 Strategic Purpose ................................................................................81
2.6.1.2 Administrative Purpose ......................................................................82
2.6.1.3 Developmental Purpose ......................................................................82
2.6.2 THE PERFORMANCE MANAGEMENT PROCESS ....................................83
2.6.2.1 Step 1: Launching process ..................................................................83
2.6.2.2 Step 2: Coaching process ....................................................................83
2.6.2.3 Step 3: Evaluation process ...................................................................84
2.6.3 PERFORMANCE APPRAISAL ...................................................................84
2.6.3.1 The performance appraisal system ......................................................87
2.6.3.1.1 Relevance ......................................................................................87
2.6.3.1.2 Reliability ......................................................................................87
2.6.3.1.3 Sensitivity ......................................................................................88
2.6.3.1.4 Freedom from contamination or validity ........................................88
2.6.3.1.5 Practicality ......................................................................................88
2.6.3.1.6 Acceptability ..................................................................................89
2.6.3.1.7 Legal Compliance ..........................................................................89
2.6.4 SETTING PERFORMANCE APPRAISAL STANDARDS ............................89
2.6.4.1 The process for developing performance standards ................................90
2.6.4.2 Collaborative or Consultative Approach ..............................................90
2.6.4.3 The guidelines for performance standards .........................................91
2.6.4.4 Checklist for performance standards ..................................................91
2.6.5 METHODS OF APPRAISING EMPLOYEES ...........................................92
2.6.5.1 Comparative Approach (Relative rating technique) .............................92
2.6.5.1.1 Forced distribution .......................................................................92
2.6.5.1.2 Attribute Approach ......................................................................93
2.6.5.1.3 The Behavioral Approach ..............................................................94
2.6.5.1.4 The results Approach ....................................................................94
2.7 CAUSES OF POOR PERFORMANCE IN ORGANIZATIONS ..........................95
2.7.1 Lack of skills, ability and knowledge .......................................................96
2.7.2 Lack of motivation ................................................................................97
2.7.3 Lack of respect for rules or counterproductive behavior ........................................... 98
2.7.4 Personal problems ........................................................................................................ 98
2.7.5 Organizational Context or System factors ................................................................. 99
2.7.6 Poor Recruitment Policies .......................................................................................... 100
2.7.7 Poor Management and Monitoring Policies ............................................................... 101
2.8 KEY SUCCESS FACTORS FOR THE IMPLEMENTATION OF IQMS ....................... 102
2.8.1 Consideration of the essential quality management principles .............................. 102
2.8.2 Effective coordination of activities ............................................................................ 103
2.8.3 Selection of effective implementation process models ............................................. 105
2.8.4 Compatibility with other management systems ......................................................... 106
2.8.5 Establishment of appropriate employee participation programmes ........................ 107
2.8.6 Engaging of appropriate change management strategies .......................................... 107
2.8.7 Lewin’s Three-Step Change Model ......................................................................... 109
2.9 THE IMPLEMENTATION, MONITORING AND EVALUATION OF IQMS ............. 110
2.9.1 Advocacy, training and planning ............................................................................... 110
2.9.2 Evaluation ................................................................................................................. 110
2.9.3 Feedback and discussions ......................................................................................... 112
2.9.4 Quality management process .................................................................................... 114
2.9.5 Quality planning ........................................................................................................ 114
2.9.5.1 Step 1: Establishing missions and goals ............................................................... 115
2.9.5.2 Step 2: Identifying the customers ........................................................................ 116
2.9.5.3 Step 3: Discovering the customers’ needs ........................................................... 116
2.9.5.4 Step 4: Developing the product or service ............................................................ 117
2.9.5.5 Step 5: Develop process ...................................................................................... 117
2.9.5.6 Step 6: Developing process/controls/transfers to operations .............................. 118
2.10 THE EFFECTS OF IQMS IMPLEMENTATION ON SOUTH AFRICAN SCHOOLS 119
2.10.1 Improved Internal Efficiency ................................................................................... 119
2.10.2 Learning achievements ............................................................................................. 120
2.11 CHALLENGES OF IMPLEMENTING IQMS IN THE SOUTH AFRICAN EDUCATION SYSTEM ................................................................. 121
2.11.1 Inconsistent Educational Statistics ........................................................................ 122
2.11.2 Education Expenditure ............................................................................................ 123
2.11.3 Educators’ Qualifications ......................................................................................... 124
2.11.4 Educator Ratios and Class Size ............................................................................... 124
Despite the fact that such approach resulted into the unearthing of the information that enhanced the researcher’s knowledge, the researcher also ensured that prior to questionnaire completion, appropriate explanations were provided to the respondents about the purpose of the study. Once they understood, they were provided with questionnaires to
complete in isolation, and the researcher advised that if there is any uncertainty, they must feel free to ask him. Where clarity was needed, the researcher provided explanations without suggesting or influencing the kind of response expected. The process was similar for all schools up to the point when the desired questionnaires from the 53 high schools were obtained. The obtained data was used in both the exploratory and confirmatory factor analysis in order to test and validate the postulated IQMS implementation model in Figure 1.1.

3.4.1.4 STEP 4: DATA ANALYSIS AND INTERPRETATION OF INDICES

3.4.1.4.1 Exploratory Factor Analysis and Interpretation of Indices

3.4.1.4.1.1 Step 1: Assessment of the Factorability of the Correlation Matrix

3.4.1.4.1.2 Step 2: Choosing Factor Models and Defining the Factor Structure

3.4.1.4.1.3 Step 3: Factor rotation and interpretation

3.4.1.4.2 Confirmatory Factor Analysis

3.5 VALIDITY AND RELIABILITY OF THE FACTOR ANALYSIS

3.6 ETHICAL CONSIDERATIONS

3.7 CONCLUSION

LIST OF REFERENCES FOR CHAPTER 3

CHAPTER FOUR: FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

4.2 SECTION A: QUALITY AND WHOLE SCHOOL EVALUATION

4.2.1 Tangibility

4.2.2 Reliability

4.2.3 Responsiveness

4.2.4 Empathy

4.2.5 Assurance

Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

4.3 SECTION B: PERFORMANCE MEASUREMENT AND DEVELOPMENTAL APPRAISAL

Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

4.4 SECTION C: INCORPORATING IQMS’ KEY SUCCESS FACTORS

4.5 SECTION D: MONITORING AND EVALUATING IQMS IMPLEMENTATION

Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

4.6 SECTION E: UNDERTAKE CORRECTIVE MANAGEMENT ACTIONS
This hypothesis determined the formulation of the last construct, and it argued that management must review processes, objectives and redesign the implementation strategies. 

Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

4.7 CONCLUSION ON CHAPTER FOUR: FINDINGS AND DISCUSSIONS

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

5.2 CONCLUSIONS AND KEY FINDINGS OF THE RESEARCH

The discussions in the Chapter 1 of this research report indicates that this research was derived from the fact that despite the implementation of the integrated quality management systems in the South African schools in 2003, authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) reveal that the processes for the delivery of public education in the South African schools is still marred with inefficiencies, poorly skilled educators, poor infrastructure, and high failure rates at the matric levels. The interpretations of the theories in the Chapter 1 of this research report also indicates that Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) note that the successful IQMS implementation in South African schools is still marred by lack application of well-defined framework, shortage of skills, and lack of interest and unwillingness of educators to ensure that IQMS implementation is successful.

5.2.1 Key Research Finding 1: Considering the Notion of “Quality” and Whole School Evaluation

5.2.2 Key Research Finding 2: Performance Management and Developmental Appraisals

5.2.3 Key Research Finding 3: Considering Key Success Factors for IQMS Implementation

5.2.4 Key Research Finding 4: The Use of Appropriate Implementation Processes

5.2.5 Key Research Finding 5: Constant Monitoring, Evaluations and Applications of the Improvement Actions

5.3 Conclusion in the Context of the Research Problem and Postulation of the IQMS Implementation Model in Figure 1.1

5.3 RECOMMENDATIONS IN THE CONTEXT OF THE APPLICATION OF THE IQMS IMPLEMENTATION MODEL IN FIGURE 1.1

5.3.1 Re-evaluating the concept of “Quality and Whole School Evaluation”

5.3.2 Effectively accomplish the processes in performance management and developmental appraisals

5.3.3 Ensuring the IQMS Implementation Key Success Factors

5.3.4 Following the Appropriate Processes for IQMS Implementation, Monitoring and Evaluation

5.3.5 The Application of the Appropriate Corrective and Improvement Measures
LIST OF APPENDICES

Appendix 1: Ethical Clearance 283

Appendix 2: Letter to respondents 284

Appendix 3: Questionnaire 285
<table>
<thead>
<tr>
<th>No.</th>
<th>Titles of Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1.1</td>
<td>Guidelines for Identifying Significance Factor Loadings Based on Sample Size</td>
<td>49</td>
</tr>
<tr>
<td>Table 3.1</td>
<td>KMO and Bartlett's Test</td>
<td>182</td>
</tr>
<tr>
<td>Table 3.2</td>
<td>Factor Extraction and Total Variance Explained</td>
<td>183</td>
</tr>
<tr>
<td>Table 3.3</td>
<td>Guidelines for Identifying Significance Factor Loadings Based on Sample Size</td>
<td>185</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Tangibility: Results of Exploratory Factor Analysis</td>
<td>197</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Confirmatory Factor Analysis (Tangibility)</td>
<td>207</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Modification Indices (Alternative Fit Statistics) (Tangibility)</td>
<td>209</td>
</tr>
<tr>
<td>Table 4.4</td>
<td>Results of Exploratory Factor Analysis (Reliability)</td>
<td>212</td>
</tr>
<tr>
<td>Table 4.5</td>
<td>Confirmatory Factor Analysis; Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Reliability)</td>
<td>215</td>
</tr>
<tr>
<td>Table 4.6</td>
<td>Modification Indices (Alternative Fit Statistics) (Reliability)</td>
<td>216</td>
</tr>
<tr>
<td>Table 4.7</td>
<td>The School’s Responsiveness (Results of Exploratory Factor Analysis)</td>
<td>218</td>
</tr>
<tr>
<td>Table 4.8</td>
<td>Confirmatory Factor Analysis; Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Responsiveness)</td>
<td>222</td>
</tr>
<tr>
<td>Table 4.9</td>
<td>Modification Indices (Alternative Fit Statistics) (Responsiveness)</td>
<td>224</td>
</tr>
<tr>
<td>Table 4.10</td>
<td>Results of Exploratory Factor Analysis for Empathy</td>
<td>226</td>
</tr>
<tr>
<td>Table 4.11</td>
<td>Confirmatory Factor Analysis; Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Empathy)</td>
<td>229</td>
</tr>
<tr>
<td>Table 4.12</td>
<td>Modification Indices (Alternative Fit Statistics) (Empathy)</td>
<td>231</td>
</tr>
<tr>
<td>Table 4.13</td>
<td>Results of Exploratory Factor Analysis for Assurance</td>
<td>233</td>
</tr>
<tr>
<td>Table 4.14</td>
<td>Confirmatory Factor Analysis; Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Assurance)</td>
<td>236</td>
</tr>
<tr>
<td>Table 4.15</td>
<td>Modification Indices (Alternative Fit Statistics) (Assurance)</td>
<td>238</td>
</tr>
<tr>
<td>Table 4.16</td>
<td>The Second Construct; Undertake Performance Measurement and Developmental Appraisal (Results of Exploratory Factor Analysis)</td>
<td>241</td>
</tr>
<tr>
<td>Table 4.17</td>
<td>Confirmatory Factor Analysis; Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (PMDA)</td>
<td>251</td>
</tr>
<tr>
<td>Table 4.18</td>
<td>Modification Indices (Alternative Fit Statistics) (PMDA)</td>
<td>253</td>
</tr>
<tr>
<td>Table 4.19</td>
<td>Incorporate Key Success Factors for IQMS Implementation (Results of Exploratory Factor Analysis)</td>
<td>256</td>
</tr>
<tr>
<td>Table 4.20</td>
<td>Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Key Success Factors)</td>
<td>264</td>
</tr>
<tr>
<td>Table 4.21</td>
<td>Modification Indices (Alternative Fit Statistics) (Key Success Factors)</td>
<td>267</td>
</tr>
<tr>
<td>Table 4.22</td>
<td>Results of Exploratory Factor Analysis for Implementation, Monitoring and Evaluations</td>
<td>269</td>
</tr>
<tr>
<td>Table 4.23</td>
<td>Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) (Implementation, Monitoring and Evaluations)</td>
<td>273</td>
</tr>
<tr>
<td>Table 4.24</td>
<td>Modification Indices (Alternative Fit Statistics) (Implementation, Monitoring and Evaluations)</td>
<td>275</td>
</tr>
<tr>
<td>Table 4.25</td>
<td>Results of Exploratory Factor Analysis; Undertake Corrective Actions</td>
<td>277</td>
</tr>
<tr>
<td>Table 4.26</td>
<td>Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$); Undertake Corrective Actions</td>
<td>281</td>
</tr>
<tr>
<td>Table 4.27</td>
<td>Modification Indices; Undertake Corrective Actions</td>
<td>283</td>
</tr>
</tbody>
</table>
### LIST OF FIGURES

<table>
<thead>
<tr>
<th>No.</th>
<th>Titles of Figures</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.1</td>
<td>IQMS Implementation Model</td>
<td>51</td>
</tr>
<tr>
<td>Figure 2.1</td>
<td>Quality Function Deployment Matrix</td>
<td>75</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>Coordination of activities within IQMS</td>
<td>123</td>
</tr>
<tr>
<td>Figure 3.1</td>
<td>First Construct (Factor): Quality and Whole School Evaluation</td>
<td>170</td>
</tr>
<tr>
<td>Figure 3.2</td>
<td>The Second Construct: Developmental Appraisal and Performance Management</td>
<td>171</td>
</tr>
<tr>
<td>Figure 3.3</td>
<td>The Third Construct; Incorporate Key Success Factors for IQMS Implementation</td>
<td>172</td>
</tr>
<tr>
<td>Figure 3.4</td>
<td>The Fourth Construct: IQMS implementation, monitoring and Evaluations</td>
<td>173</td>
</tr>
<tr>
<td>Figure 3.5</td>
<td>The Fifth Construct; Undertake Corrective Actions</td>
<td>174</td>
</tr>
<tr>
<td>Figure 3.6</td>
<td>The clustered high schools in the Republic of South Africa</td>
<td>176</td>
</tr>
<tr>
<td>Figure 3.7</td>
<td>Factor Extraction and Scree Plot</td>
<td>183</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>First Construct (Factor): Quality and Whole School Evaluation</td>
<td>193</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>Tangibility</td>
<td>195</td>
</tr>
<tr>
<td>Figure 4.3</td>
<td>Frequencies and Percentages on Tangibility</td>
<td>198</td>
</tr>
<tr>
<td>Figure 4.4</td>
<td>Multiple Correlation Coefficient ($R^2$)(Tangibility)</td>
<td>207</td>
</tr>
<tr>
<td>Figure 4.5</td>
<td>Reliability</td>
<td>210</td>
</tr>
<tr>
<td>Figure 4.6</td>
<td>The Percentages (%) on Reliability</td>
<td>213</td>
</tr>
<tr>
<td>Figure 4.7</td>
<td>Squared Multiple Correlation Coefficient ($R^2$)(Reliability)</td>
<td>215</td>
</tr>
<tr>
<td>Figure 4.8</td>
<td>Responsiveness</td>
<td>217</td>
</tr>
<tr>
<td>Figure 4.9</td>
<td>The Percentages (%) on Responsiveness</td>
<td>219</td>
</tr>
<tr>
<td>Figure 4.10</td>
<td>Multiple Correlation Coefficient ($R^2$)(Responsiveness)</td>
<td>222</td>
</tr>
<tr>
<td>Figure 4.11</td>
<td>Empathy</td>
<td>224</td>
</tr>
<tr>
<td>Figure 4.12</td>
<td>The Percentages (%) on Empathy</td>
<td>227</td>
</tr>
<tr>
<td>Figure 4.13</td>
<td>Multiple Correlation Coefficient ($R^2$) (Empathy)</td>
<td>229</td>
</tr>
<tr>
<td>Figure 4.14</td>
<td>Assurance</td>
<td>231</td>
</tr>
<tr>
<td>Figure 4.15</td>
<td>Percentages (%) on Assurance</td>
<td>233</td>
</tr>
<tr>
<td>Figure 4.16</td>
<td>Squared Multiple Correlation Coefficient ($R^2$)(Assurance)</td>
<td>236</td>
</tr>
<tr>
<td>Figure 4.17</td>
<td>The Second Construct: Developmental Appraisal and Performance Management</td>
<td>238</td>
</tr>
<tr>
<td>Figure 4.18</td>
<td>Percentages (%) on Performance Management and Developmental Appraisal</td>
<td>242</td>
</tr>
<tr>
<td>Figure 4.19</td>
<td>Correlation Coefficient ($R^2$) (PMDA)</td>
<td>252</td>
</tr>
<tr>
<td>Figure 4.20</td>
<td>The Third Construct; Incorporate Key Success Factors for IQMS Implementation</td>
<td>254</td>
</tr>
<tr>
<td>Figure 4.21</td>
<td>Percentages (%) on IQMS Key Success Factors</td>
<td>258</td>
</tr>
<tr>
<td>Figure 4.22</td>
<td>Correlation Coefficient ($R^2$) (Key Success Factors)</td>
<td>265</td>
</tr>
<tr>
<td>Figure 4.23</td>
<td>The Fourth Construct: IQMS implementation, monitoring and Evaluations</td>
<td>267</td>
</tr>
<tr>
<td>Figure 4.24</td>
<td>Percentages (%) IQMS Implementation, Monitoring and Evaluations</td>
<td>270</td>
</tr>
<tr>
<td>Figure 4.25</td>
<td>Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)(Implementation, Monitoring and Evaluations)</td>
<td>273</td>
</tr>
<tr>
<td>Figure 4.26</td>
<td>The Fifth Construct; Undertake Corrective Actions</td>
<td>275</td>
</tr>
<tr>
<td>Figure 4.27</td>
<td>Percentages (%) on Corrective Management Actions</td>
<td>278</td>
</tr>
<tr>
<td>Figure 4.28</td>
<td>Correlation Coefficient ($R^2$) (Corrective Actions)</td>
<td>281</td>
</tr>
</tbody>
</table>
## LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Details in Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABEUK</td>
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<tr>
<td>ABC</td>
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<td>Appearance of Teachers and Learners</td>
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<td>B.C</td>
<td>Before Christ</td>
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<td>Degree of Freedom</td>
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<td>Goodness of Fitness Index</td>
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<td>RMR</td>
<td>Root Mean Residual</td>
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<td>Total Quality Management</td>
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<td>TEC</td>
<td>Tertiary Education Commission</td>
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<td>TLI</td>
<td>Tucker Lewis Index</td>
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<td>TAPL</td>
<td>Teachers adequate Prepare for Lessons</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>TLAT</td>
<td>Teachers and Learners Arrive on Time</td>
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<td>TLUEF</td>
<td>Teachers and Learners Understand Each Other’s Feelings</td>
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<td>TLEHEO</td>
<td>Teachers and Learners Express Humility to Each Other</td>
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<td>TASPL</td>
<td>Teachers Act as Second Parents to Learners</td>
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<td>Chi-Square</td>
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CHAPTER ONE: THE PROBLEM AND SCOPE OF THE RESEARCH

1.1 INTRODUCTION

The main purpose of this research is to evaluate the processes for the Integrated Quality Management Systems (IQMS) implementation in South African schools, so as to determine the kinds of the key success factors that would influence the successful implementation of IQMS as a quality improvement system in the South African public education system. Although the entire research process is guided by an overriding hypothesis and a primary research objective, this chapter provides the overview highlighting the key research problems that motivate the study. In order to accomplish this, the chapter examines the following: historical background, theoretical background, conceptual background and contextual background of the research.

As a point of departure, in the historical background section in this chapter, it is noted that this study is motivated by the fact that despite the IQMS implementation in the South African Department of Education, the evaluations of the findings of Biputh (2008:IV). In addition, Kanyane (2008:1) and Ramnarain (2008:V) indicate that ever since the implementation of IQMS in the South African schools in 2005, not much improvement has been registered on improved efficiency, effectiveness, accountability and education service delivery processes. Yet at the same time, in a view supportive of the Ramnarain’s (2008:39) assertion, Kanyane (2008:106) explains that the Matriculation (Matric) failure rate in schools is still unacceptably high in conjunction with the fact that teachers’ qualifications and skills have not yet been upgraded.

The research problem statement that this research study begins with is based on the formulation of a thought-process in its overriding hypothesis that the application of a five constructs’ IQMS Implementation Model in Figure 1.1 would significantly influence the successful IQMS implementation in the South African schools.

In line with these five constructs, the chapter also outlines the research objectives, questions, and hypotheses that guide the entire research process. The chapter also documents the research problem statement, research objectives, research questions, research hypothesis, and overview of the research design and methodology.
1.2 Historical Background: The Concept of the New Public Management and the Notion of Quality Management in the South African Department of Education

In the context of Evans (2009:13) and the ELRC’s (2003:5) interpretations, the view that the application of the IQMS would significantly influence the improvement in the quality management of public education in South Africa is in line with the thrust of the argument in the concept of the “New Public Management” that the application of the private sector management principles in the management of the activities in the public sector organizations would significantly influence the improvement in the efficiency and performance of the modern public sector organizations. The concept of “New Public Management” is revealed by Evans (2009:13) to be derived from the ideology that evolved in response to the failing public sector organizations during the Thatcher administration in the United Kingdom in the mid-1980s. “The general improvement in the efficiency and performances of the modern public sector organizations can be significantly improved by transposing and applying the private sector management principles in the management of the activities in the modern public sector organizations” (2009:13).

In effect Trupp and Willmott (2003:6) concur with Mok (1992:2) and Evans (2009:13) that ever since the introduction of the new public management concept, the management in the modern public sector organizations have experienced a plethora of the applications of different but coherent private sector related management principles such as: Total Quality Management (TQM), benchmarking, SERVQUAL, Kaplan and Norton’s (1982) Balanced Scorecard, performance measurement, and performance appraisals.

In response to such changes, and as part of the general initiatives to deal with the quality challenges that had been incalcated in the South African education system, Williams (2003:5) notes that an agreement was also reached in the ELRC (Resolution 8 of 2003) to integrate the Developmental Appraisal System (DAS) that came into being on 28 July 1998 (Resolution 4 of 1998), the Performance Measurement System that was agreed to on 10 April 2003 (Resolution 1 of 2003) and Whole-School Evaluation (WSE) as the first, second and third legs of the IQMS. Williams (2008:5) adds that the introduction of the IQMS in 2005 resulted into the establishment of the appropriate standards for measuring the performance and the quality of services
expected of the educators in the South African schools. In a view supportive of Williams' (2008:5) revelation, Ramnarain (2008:39) notes that the implementation of IQMS in the South African schools is derived from the fact that for decades, the South African school system has been regarded as an underperforming, where the quality of teaching and learning was under suspicion and failure rates were unreasonably higher.

In a complete move away from the old system, Ramnarain (2008:39) explains that the philosophy underpinning the Integrated Quality Management System (IQMS) is based on the fundamental belief that the purposes of IQMS are fivefold. These include: determining competence, assessing strengths and areas for development, providing support and opportunities for development to assure continued growth, promoting accountability and monitoring the overall effectiveness of the public education system. On that basis, Kanyane (2008:106) maintains that a variety of projects that include whole school development projects, the indoctrination of a culture of learning and teaching in schools, the development appraisal system and Tirisano have been implemented in a bid to restore and build a culture which is conducive and fosters effective teaching and learning in the South African schools. Kanyane (2008:106) elaborates that the main purpose of these policies is to facilitate personal and professional development of educators in order to improve the quality of teaching practice and education management in schools. In other words, Kanyane (2008:106) concurs with authors such as McLennan (2000:105), Smith and Ngoma-Maema (2003:352) who assert that the implementations of these policies were aimed at reversing the trends in the apartheid era in which the traditional school inspector was used as a policing mechanism to embed the apartheid education policy with the consequence that they had very little to do with assuring the quality of educational provision.

In views also similar to RSA DOE (1998:5), Smith and Ngoma-Maema (2003:352) posit that the appraisal system during apartheid was geared towards enhancing the control and containment of learners and educators, rather than their development and support. Smith and Ngoma-Maema (2003:352) point out that one of the limitations of the system is that it was “highly bureaucratised with strict control through standardised procedures, codes and lines of responsibility” which resulted into a state of chaos and subsequently its rejection in the majority of African schools in South Africa.
Consequently, McLennan (2000:105), Smith and Ngoma-Maema (2003:352) noted that the quality of public education in the majority of the black schools was left to decay without the constant evaluation and application of the quality remedial and improvement measures. However, McLennan (2000:105), Smith and Ngoma-Maema (2003:352) and Williams (2008:5) note that after the 1994 elections, the new government reacted to the challenges in the department of education and abolished the different education departments that were based on ethnicity, race and colour. Williams (2008:5) explains that this was accomplished through the passing of the South African Schools Act (SASA, RSA, 1996) that provided the momentum for the transformation of schools in the sense that a high priority was placed on the evaluation and improvement of the quality of public education throughout the South African public schools.

Nonetheless, the evaluations of the findings of Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) indicate that ever since the implementation of IQMS in the South African schools in 2005, not much improvement has been registered on improved efficiency, effectiveness, accountability and education service delivery processes. Yet at the same time, Ramnarain (2008:39) points out that insufficient progress has been made in terms of establishing a teaching and learning culture in schools. In a view supportive of the Ramnarain’s (2008:39) assertion, Kanyane (2008:106) explains that the Matriculation (Matric) failure rate is still unacceptably high in conjunction with the fact that teachers’ qualifications and skills have not yet been upgraded. Kanyane (2008:106) states that lack of management skills and capacities, lack of teacher commitment and low staff morale are still the factors that continue to hamper the effective performance of the South African department of education. This view is substantiated in Biputh’s (2008:IV) revelations that increasingly, the provision of public education in most of the South African schools is still characterized with poor facilities in rural areas, ill-trained teachers, lack of scholarstic materials, poorly designed curricula, and constantly mundane performances of the students at the matric levels.

As Kanyane (2008:1) and Ramnarain (2008:V) posit, the cardinal principle underpinning the existence of an effective and efficient department of education rests on the extent to which an education system is able to provide adequate facilities, resources, outline and adhere to standards that support the realization of quality
learning and teaching. Kanyane (2008:1) and Ramnarain (2008:V) also agree that the successful educational outcomes also depend on empowering, motivating and training educators to ensure that the allocated educational tasks are accomplished within the defined quality frameworks so as to render the achievement of the outlined strategic educational outcomes possible.

In a view supported in the ELRC (2003), Williams (2008:5) explains that despite the fact that it is emphasized in the new educator-appraisal system that each individual educator’s performance must be measured against the stipulated performance standards of the IQMS document as part of education quality management process, the effectiveness of the process of evaluation is significantly influenced by the extent to which the prescribed set of beliefs and principles are congruent with the outcome desired. In other words, it is the challenges that are highlighted by authors such as Kanyane (2008:1), Ramnarain (2008:V), Dumminy (1997:113) Williams (2008:5) about the factors marring the effective IQMS implementation in the South African schools that motivate this study. The exact details of the research problem of the study are as elucidated in the next sub-section.

1.2 Research Problem Statement/Main Purpose of the Research

It is clear from discussions that despite the IQMS implementation, the processes that are related to the management of quality in the South African schools still continue to be marred by a significant number of challenges. Certainly, this implies that the IQMS implementation seem to have failed to influence the improvement in the management of the quality of public education in the South African schools. This is attributable to the fact that whereas IQMS uses the notion of “integrated quality management”, it only limits the evaluation of the education quality to the assessments of learning materials and teachers’ qualifications. However, in actual sense, the notion of “integrated quality management” when interpreted within the context of the existing quality management literatures extends far beyond the mere evaluation of the learning materials, curriculum and the teachers’ qualifications to include: the environment within which learning is accomplished, the educational infrastructures, facilities, the attitudes of teachers, the cooperation between teachers and learners, empathy and the extent to which the school management authorities, the school governing bodies (SGBs) and teachers in general are able to effectively respond to the needs that are required to
render the successful dissemination of knowledge possible. To a significant degree, this explains why despite the IQMS implementation, a significant number of the South African schools still continues to perform quite poorly at the metric level.

When the quality of the learners that are produced at the metric level to join universities are benchmarked with the quality of the learners produced in the other African countries and across the globe, a consensus exists among the educators and the critics that the South African education still lags behind most of the countries. Some of these countries are the less resourced states such as Tanzania, Democratic Republic of Congo, Rwanda and South American countries. In addition to the exclusion of the core concepts that would have influenced the evaluation and improvement of the education quality, the process for the integration and application of the concept of developmental appraisal is also marred by a significant number of the conceptual and practical difficulties. Such a view is substantiated by the fact that theoretical evaluations indicate that the main purposes of developmental and performance appraisals are to determine the weaknesses and strengths in the employees’ performance. This serves to determine the improvement measures that must be applied. However, the ELRC (2003) limits the objective of performance appraisal to the mere evaluation for the purpose of salary upgrade other than improving performance.

Although the upgrade of salary and other financial incentives can directly influence employee motivation and performance, the mere fact that the improvement in the performance of educators is not effectively isolated as one of the main objectives of developmental and performance appraisals implies that the effect that the developmental and performance appraisal and the IQMS implementation would have had on the improvement of the education quality in the South African schools is most likely to be limited. At the same time, the processes for performance appraisal are ridden with lack of management or appraisers’ confidence and competence. Due to fear of generating criticisms from ordinary teachers, appraisers are not honest in their reporting of the results of evaluation processes. Even in the light of below average performance, teachers are often rated well by their peers in order to please and attract the desired ordinary educators’ support. Certainly, such a practice limits the extent to which the IQMS implementation is able to influence the improvement in the quality of public education in the South African schools.
Some appraisers use the evaluation process to gain political support among colleagues while others use the process to suppress and eliminate their opponents, and thereby destroying the purposes for which performance appraisal was incorporated as one of the key IQMS constructs. On the other hand, some of the appraisers have used the process to cover up colleagues’ poor performance in order to avert the chances of dismissal. Despite the fact that the application of the present method is limited by such factors, there has been no initiative to introduce other forms of performance appraisals which do not involve peer evaluation, thereby limiting the effectiveness of performance appraisal as a performance improvement measure in the South African schools.

It is therefore against such conceptual and practical limitations that this research evaluates the processes for the implementations of the integrated quality management systems in the South African schools. This is done with the purpose to determine the key success factors that can be recommended for improving the IQMS implementation. In line with these five constructs, the research objectives, questions and hypotheses that guide the entire research process are outlined in the following sub-sections in order to validate and determine the fitness of the key success factors that are outlined in Figure 1.1 as the measures for improving the processes for the successful IQMS implementation in the South African schools.

1.4 Primary Research Objective/Main Purpose of the Research

The primary research objective of this study is to develop a model for effective IQMS implementation in the selected Eastern Cape Schools.

1.4.1 Secondary Research Objectives

The secondary research objectives for this study are:

- To assess how whole school evaluation affects IQMS implementation in the selected Eastern Cape Schools;
- To examine performance measurement and appraisals influence the successful IQMS implementation in the selected Eastern Cape Schools;
- To determine the key success factors influence the successful IQMS implementation in the selected Eastern Cape Schools;
To assess measures for implementing, monitoring and evaluating IQMS implementations in the selected Eastern Cape Schools;

To analyze how the application of corrective and improvement measures affect successful IQMS implementation in the selected Eastern Cape Schools; and

To determine the model that can be recommended to the Department of Education for improving the processes for the implementation of IQMS in the South African schools.

1.5 Research Questions

The research questions for this study are:

- How does whole school evaluation affect the successful IQMS implementation in the selected Eastern Cape Schools?
- Which processes and techniques are used in the performance measurement and appraisals in the selected Eastern Cape Schools?
- Which types of key success factors are considered essential for the successful IQMS implementation in the selected Eastern Cape Schools?
- What measures are used for implementing, monitoring, and evaluating the processes for the IQMS implementations in the selected Eastern Cape Schools?
- How appropriate are the corrective and improvement measures which are in place for improving the processes for IQMS implementation in the selected Eastern Cape Schools?
- Which model can be recommended to the Department of Education for improving the processes for IQMS implementation in the South African schools?

1.6 Research Hypotheses

The research hypotheses underpinning this study are that:

**Research Hypothesis 1:**

H₀: Consideration of the essential service quality dimensions would significantly influence the successful IQMS implementation in the selected schools in the Eastern Cape Province;
H1: Consideration of the essential service quality dimensions would not determine the successful IQMS implementation in the selected schools in the Eastern Cape Province.

**Research Hypothesis 2:**

H0: The effective undertaking of performance management and developmental appraisals is a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

H1: The effective undertaking of performance management and developmental appraisals is not a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

**Research Hypothesis 3:**

H0: The successful IQMS implementation in the selected Eastern Cape schools would be predicted by the extent to which the essential IQMS key success factors are considered;

H1: The successful IQMS implementation in the selected Eastern Cape schools is not predicted by the extent to which the essential IQMS key success factors are considered.

**Research Hypothesis 4:**

H0: The undertaking of appropriate implementation, monitoring, and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools;

H1: The undertaking of appropriate implementation, monitoring and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools.

**Research Hypothesis 5**

H0: The use of appropriate corrective actions can result in the successful IQMS implementation in the selected Eastern Cape Schools;

H1: The use of appropriate corrective actions may not result in the successful IQMS implementation in the selected Eastern Cape Schools.
Against these five research objectives, questions and hypothesis, the summary of the integrated quality management literature that provides the theoretical framework to the study is provided in the next section.

1.7 Theoretical Background of the Research: Overview of the Literatures and Theories on Integrated Quality Management Systems

While deriving from these research objectives, questions and hypotheses, the literature and theories grounding the study are summarized in this section according to the five constructs that are outlined in Figure 1.1 to encompass. These constructs are: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions.

1.7.1 The Notion of “Quality” and Whole School Evaluation

The notion of whole school evaluation is construed by the ELRC (2003:5) to refer to the process of assessing and evaluating schools’ effectiveness and the quality of teaching and learning. Fleish and Perry (2005:18) state that the introduction of the notion of whole school evaluation implies that it must be immediately followed by the initiative to set appropriate standards against which such evaluation can be undertaken. In other words, Fleish and Perry (2005:18) believe that the notion of whole school evaluation cannot be effectively accomplished in the absence of well-defined education quality standards. Fleish and Perry’s (2005:18) perceptions of the notion of quality in whole school evaluation is consonant with primary theory on quality management articulated by Juran (1988:1). This also agrees with modern authors such as Mohanty and Lakhe’s (2006:3), Jumah, Burt and Buttram (2012:2) and Lal (2006:1) where they assert that quality refers to the totality of characteristics and features of a product or service or a process which facilitates realisation of given requirements. Mohanty and Lakhe (2006:3), Lal (2006:1) and Juran (1988:26) and Jumah et al. (2012:2) believe that quality is defined by characteristics encompassing: durability, design, shape, size, physical appearance, and salient features such as prestige which comes with the consumption of a product or a service. According to
Mohanty and Lakhe (2006:3), Lal (2006:1) and Juran (1988:26) and Jumah et. al. (2012:2), these core characteristics define the standards against which quality evaluations are undertaken.

However, Hassan, Kumiega and Vliet (2010:42) differ on the basis that quality requirements and standards for the manufacturing sector is distinct from the quality requirements in the service setting. In the service setting, Hassan et al. (2010:42) agrees with Garvin’s (1986:1) Quality Management Framework which stipulates that quality evaluation in a service setting is guided by criteria encompassing: performance (primary operating characteristics), features (bells and whistles), reliability (probability of malfunction or failure), conformance (ability to meet specifications), durability (how long the product continues to provide value to the customer), serviceability (speed, courtesy, competence and ease of having the problems fixed), aesthetics (how the product appeals to any or all of the users five senses), and perceived quality (associations such as the reputation of the company or brand name).

In a more well-defined service quality evaluation framework, Parasuraman, Zeithmal and Berry (1985:41) share Garvin’s (1986:1) views and postulate a service quality model outlining five dimensions for evaluating the organization’s service quality. Parasuraman et. al. (1985:42) stipulated that the five broad dimensions encompass: tangibles (appearance of the physical elements), reliability (dependable and accurate performance), responsiveness (promptness and helpfulness), assurance (competence, courtesy, credibility and security), and empathy (easy access, good communications and customer understanding).

While towing Parasuraman et. al. (1985:42), Wang and Chen (2010:301) state that the application of the five dimensions provides basis and frameworks for determining standards and criteria against which the organization’s service quality can be effectively evaluated. They argue that having improved service quality entails consistently meeting or exceeding customers’ expectations. According to Wang and Chen (2010:301), the manager’s task is therefore to balance customer expectations and perceptions in order to close any gap between the two. Zeithmal, et al. (1987:221), as cited in Lovelock and Wirtz (2004:112), state that there are potentially four gaps within the service organisation which can lead to the final and most serious gaps between what customers expect and what they perceive to have been delivered. Zeithmal, et al. (1987:221) identified a total of seven types of gaps that can occur at
various points during the design and delivery of a service performance. These seven gaps are: gap 1-the knowledge gap, gap 2- the standard gap, gap 3-the delivery gap, gap 4-the internal communication gap, gap 5- the perception gap, gap 6-the interpretation gap, and gap 7-the service gap.

Using these theories, one would note that what the ELRC (2003:5) prescribes as the appropriate criteria for evaluating whole school evaluation falls short of what is articulated by Garvin (1986:13) and Parasuraman et al. (1985:42) to be the core determinants of effective and successful quality evaluations. That means that the South African schools may not be able to deal with the ten gaps that Zeithmal, et al. (1987:221) believe usually arises from failure to balance customers’ expectations and perceptions of the provided education quality. It is therefore on that basis that this study construes that the proper defining of quality determinants within the context of Parasuraman et al. (1985:42) would significantly result in improving undertaking of whole school evaluation in South African schools. As demonstrated in Figure 1.1, performance measurement and developmental appraisal is the next construct which must be examined after clearly defining the notion of quality and whole school evaluation.

1.7.2 Performance measurement and Developmental Appraisals

The ELRC (2003:22) prescribe performance measurement and developmental appraisal as the second construct determining successful IQMS implementation. According to the ELRC (2003:22), the purpose of performance measurement is to evaluate individual educators for salary progression purposes, affirmation of appointment, grade progression, rewards and incentives. On the other hand, the purpose of developmental appraisal is noted by the ELRC (2003:22) to refer to the process of appraising individual educators so as to determine areas of strengths and weaknesses to improve planning for individual career development programmes. In a view not agreeing with the ELRC’s (2003:22), Bourne and Mike (2005: 113) and Bourne, Mills, Wilcox, Neely and Platts (2000:69) argue that performance measurement refers to the process of evaluating behaviours, skills, abilities, attitudes, knowledge, job context, pay and job design in order to determine whether the accomplishment of activities will result into achieving defined strategic organizational goals and objectives. In a view supportive of Bourne and Mike (2005: 113) and Bourne
Bititci, Umit, Carrie and McDevitt (1997:231) postulate that there is a significant direct
positive correlation between such predictor variables and improving general
organizational performance. In other words, they construe that such a proposition
signifies that the careful manipulations and management of these variables can
significantly result into improving employee performance and subsequently general
organizational performance.

Rothberg (2012:4), on the other hand, argues that early models were vague as to what
performance is, since most of them viewed it as function of the individual’s ability and
motivation. Rothberg (2012:4) reveals that although there has been criticism of this
view, the idea remains prominent in contemporary theories that performance is what
the organization hires one to do, and do well. He points out that this definition has got
the connotation that performance deals with accomplishing activities that enhance
achieving organizational goals as prescribed in an employee contract. On that basis,
Rothberg (2012:4) argues that behavior which has nothing to do with these prescribed
organizational goals is not performance. One has to be critical of this definition
because it excludes all the other activities which an individual might perform to the
advantage of the organization although they are not part of the performance contract.
For example, an educator can become a soccer coach and do it well for the good of
the institution. Can we conclude that this is not performance just because the educator
was not hired to coach soccer?

Nonetheless, Chang (2005:437) take this definition further and bring an angle which
encompasses all activity which benefits the organization. They define performance “as
the total expected value, to the organization, of the discrete behavioral episodes that
an individual carries out over a standard period of time” (2005:437). The important
aspect of this definition is the term ‘total expected value’. If we follow this definition
employee performance may encompass even those activities which are not prescribed
on the performance contract but add value to the organization.

An educator who volunteers to coach a soccer team and do it well adds value to the
institution, and this has to be regarded as performance. Authors such as McEwen,
Shoesmith and Allen (2010:568) and Noe et al. (2000:280) posit that such value plays
an important role in organization management and performance on the basis that it
enhances the achievement purposes of an effective performance system which
include: strategic, administrative and developmental issues. McEwen et al. (2012:568) believe that the extent to which the organizational performance measurement system will result into achieving such defined purposes depends on the extent to which the performance management process is accomplished according to three major steps encompassing: launching, coaching process, and evaluation.

In addition to performance measurement, studies conducted by Sarrico, Rosa and Manatos (2012:272) reveal that most modern organizations also use performance appraisal for various purposes. However, Sarrico et al. (2012:272) also agree that the main issue hovers around what criteria should be used to appraise performance, given that all appraisals involve judgments which are not always fair, organizations therefore tend to use multifarious techniques and tools to measure performance as objectively as possible. Besides a good technique, Sarrico et al. (2012:272) posit that successful performance appraisal requires a consistent approach, clear standards, measures and bias free ratings. Rhodes, Biondi, Gomes, Melo, Ohemeng, Lopez, Rossi and Sutiyono (2012:235) noted that a critical part of the evaluation process is the preparation of the raters who must be trained on the system being used and its purpose to ensure consistency and accuracy. Hawke (2012:310) argues that if the employees’ performance is to improve, they must be provided with feedback on their performance and advice on how to make improvements. However, Hawke (2012:310) noted that in today’s competitive business environment, assessing employee activity is an important human resource management function in both large and small organizations.

He argues that the necessity of assessing employee performance is brought about by the realization that employees are an important resource in advancing organizational goals. Hawke (2012:310) concurs with Nel et al. (2004:486) that the product of successful performers is a high-performance company with an unmistakable profile that distinguishes it from the mediocre. It is for this reason that organizations have to conduct performance appraisals. Meanwhile Waal, Goedegebuure and Geradts (2011:778) and Rao (2006:335) share similar views with Swanepoel et al. (2000:372) that performance appraisal can be construed to refer to a formal and systematic process by means of which the job-relevant strengths and weaknesses of employees are identified, observed, measured, recorded and developed in order to render achieving superior employee and general improving organizational performance
possible. Waal et al. (2011:778), Rao (2006:335) and Swanepoel et al. (2000:375) also believe that the main purpose of assessing employees is to identify their weaknesses and then help them overcome these weaknesses. Such a view is echoed in Waal et al.’s (2011:778) statement that the ultimate goal of a performance appraisal is to develop employees and improve their performance.

However, Waal et al. (2011:778), Bhattacharya (2006:279) and Swanepoel et al. (2000:203) agree that the effectiveness of the performance appraisal system is defined by the extent to which it meets certain prescribed criteria. They noted that these criteria encompass relevance, reliability, sensitivity, freedom from contamination or validity, practicality, acceptability, and legal compliance. In addition these criteria, Rhodes et al. (2012:235) noted that there must also be written standards of performance that describe how well a job should be performed to achieve the desired strategic objectives and goals. Rhodes et al. (2012:235) explained that performance standards are usually developed collaboratively with employees, and whenever possible, explained to new employees during the first month on the job. He further argues that performance standards are essential on the basis that they provide the benchmark against which to evaluate work performance. While Bhattacharya (2006:279) noted that job description describes the essential functions and the tasks to be done, Halachmi (2011:24) pointed out that the performance standard defines how well each function or task must be performed in order to meet or exceed expectations. However, Bhattacharya (2006:279) believes that the effectiveness of the organization’s performance standards is measured by the extent to which it is designed in accordance with guidelines that are related to the employees’ assigned work and job requirements.

Bhattacharya (2006:279) argues that setting the organizational performance standards is also enhanced by how the reporting systems should be adequate to measure and generate more quantitative data. According to Bhattacharya (2006:279), standards must also describe in clear and specific terms the characteristics of performance quality that are verifiable and that would meet or exceed expectations. He noted that the accomplishment of organizational objectives should be included where appropriate, and that such situations usually include cost control, improving efficiency, productivity, project completion, process redesign or public service. Bhattacharya’s (2006:229) views are further supported in Halachmi’s (2011:24)
assertions that performance standards must be realistic, measurable, congruent with goals, challenging, clear, and dynamic. On the other hand, Halachmi (2011:24) postulates that in addition to setting appropriate standards, performance appraisal must also utilize a combination of techniques encompassing the comparative approach, attribute approach, behavioral approach, and results approach. He also argues that employees’ performance and the effectiveness of performance appraisal can be hindered by lack of skills, ability and knowledge, lack of motivation, lack of respect for rules or counterproductive behavior, personal problems, organizational context or system factors, poor recruitment policies, and poor management and monitoring policies.

On that basis, Halachmi (2011:24) suggests that the design of performance measurement and appraisal systems must be done in conjunction with considering measures or strategies that can be used to mitigate such limitations. In conclusion, the evaluation of theories in this section indicates that what the core theories of performance measurement and appraisals reveal to be essential for successful accomplishment of performance measurement and appraisals are completely ignored in the ELRC’s (2003:22) IQMS implementation framework. Schools are not unique to any organization or enterprise, and since a number of performance measurement and appraisal techniques are neglected, one would appreciate why authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) have concluded that so far, the IQMS implementation in South African schools have been a failure due to lack application of a well defined framework, shortage of skills, lack of interest and unwillingness of educators to ensure that IQMS implementation is successful.

1.7.3 Key Success Factors for IQMS Implementation

Not only is there a failure to apply an effective performance measurement and appraisal framework, but also the entire ELRC (2003:12) IQMS implementation framework ignores incorporation of key success factors as one of the constructs determining successful IQMS implementation in South African schools. Certainly such shortfalls, significantly affects IQMS implementation and the kinds of education quality provided by the South African schools. Harber and Muthukrishna (2000:434) posit that the cardinal principle underpinning the existence of the department of education is that it has the responsibility of providing facilities and resources to support learning and
teaching. They also argue that successful educational outcomes also depend on empowering, motivating and training educators. Harber and Muthukrishna’s (2000:434) views about the determinants of education outcomes are echoed in the assertions of the National Association of Health Care Quality Canada (2010:1), Pun (1998:1), Fasset (2004:7), Heizer (2006:198) and Jha (2004:34) that successful implementation of IQMS can never be achievable unless keen management attention is paid to certain key factors both before, during and after implementation.

They pointed out that these factors include essential quality management principles, effective coordination of activities, selection of effective implementation process models, compatibility with other management systems, establishing appropriate employee participation programmes, and engaging appropriate change management strategies. According to Fasset (2004:7), quality management provides principles and methodological frame for operations, and coordinates activities to management and control an organization on quality initiatives. He also argues that quality assurance and quality control are the parts of any successful quality management system. Fasset (2004:7) attributes his arguments to the fact that quality assurance focuses on providing confidence that quality requirements will be fulfilled and includes all the planned and systematic activities implemented in a quality system so that quality requirements for a product or service is fulfilled.

Heizer (2006:198) construes that quality control is associated with those components used to ensure that the quality requirements are fulfilled and includes all the operational techniques and activities used to fulfil quality requirements. Heizer (2006:198) concurs with Fasset (2004:7) that quality management principles are a set of comprehensive and fundamental rules or beliefs for leading or operating an organization. The National Association of Health Care Quality Canada (2010:1) states that the establishment of a well-coordinated integrated quality management system is one of the prerequisites for the successful implementation of IQMS. It argues that the cornerstone of a quality organization is found in the capability of the customers and suppliers to work together. In order for this to be effective, the National Association of Health Care Quality Canada (2010:1) posits that customer-supplier interfaces must extend beyond the immediate customers and suppliers.

The National Association of Health Care Quality Canada (2010:1) tows the line of Charantimath’s (2004:188) arguments that for organizations to function effectively,
they must identify and manage numerous interlinked, cross-functional processes whilst at the same time persistently ensuring that customer satisfaction is the target which must be achieved. However, Bhatti and Qureshi (2007:56) believe that the effectiveness of all these measures is determined by the extent to which employees are involved in the relevant processes. They posit that the concept of employee participation refers to a process in which influence is shared among individuals who are otherwise hierarchically unequal.

In other words, Bhatti and Qureshi (2007:56) share similar views with Gennard and Judge (2005:180) that participatory management balances the involvement of managers and their subordinates in information processing, decision making, and problem-solving endeavours. Through these, Gennard and Judge (2005:180) and Bhatti and Qureshi (2007:56) noted that employee participation is able to induce improvement of employee job satisfaction, motivation, morale and commitment, which is essential for implementation of any quality improvement strategy. On the other hand, Buteau and Gopal (2012:4) argue that it is not only employee involvement that influences successful implementation of quality improvement strategies, but also the extent to which such strategies are applied in conjunction with the appropriate change management strategies.

Buteau and Gopal (2012: 4) agrees with Kotter (1996), ABE (2007: 223), Mecalfe (2007: 3) and Lewin (1972: 1) that the application of change management strategies reduces employee resistance and influences successful implementation of the quality improvement strategies. Conclusively, despite the fact that theories stress the importance of considering key success factors in the implementation of quality improvement strategies, the analysis also reveals that the IQMS implementation framework outlined in the ELRC (2003:1) is silent on the need for considering such key success factors in the implementation of IQMS in South African schools.

1.7.4 The Implementation, Monitoring and Evaluations of IQMS

ELRC (2003:12) prescribes three main steps for the IQMS implementation. These are advocacy, training and planning, evaluation, and feedback and discussions. ELRC (2003:13) stipulates that every individual educator’s performance must be measured against the stipulated performance standards of the IQMS document. It prescribes that evaluation is not apart from, but is a part of the educational process. However,
ELRC (2003:13) notes that sound evaluation practices must be based on a set of beliefs and principles that are congruent with the outcome desired. According to the Department of Education (2001:1), the implementation of quality measurements must involve collection of data or information and use of tests and examinations in measuring changes brought about by education. In other words, the Department of Education (2011:1) posits that the information gathered by measurement was analysed and interpreted to find out how successful the teaching had been. However, Mathye (2006:16) argues that such approach has been found to be judgmental and contrary to principles of democracy, as there is neither consultation with, nor meaningful participation by school communities. In a contrary view, Pun (1998:1) offers a seven-stage approach for IQMS implementation. According to Pun (1998:1), the seven implementation stages of IQMS include: Stage 1-Establishing the Programme and its goals and objectives. Pun (1998:1) explains that the process in stage 1 involves defining corporate mission and values, forming a steering committee, developing goals, objectives and success factors. In the Stage 2, Pun (1998:1) stated that expected activities involve setting up training and support initiatives which are charged with promoting quality awareness, team building and empowerment. According to Pun (1998:1), the Stage 3 concerns work teams’ involvement which can be accomplished by encouraging work teams to recommend improvement measures. Pun (1998:1) further explains that the Stage 4 entails the planning and implementing improvement actions, whilst Stage 5 stage deals with evaluation of actions and eventually standardizing new or improved processes and procedures. In Stage 6, Pun (1998:1) argues that organizations must recognize and reward employees’ quality efforts, whereby in Stage 7, organizations must strive to attain excellence through continuous improvement.

Not only is it clear that the IQMS implementation process which is prescribed in the ELRC (2003:13) is contrary to Pun (1998:1), it also seems to be inconsistent with the National Association of Health Care Quality Canada’s (2010:1) overall process for quality management which includes the following steps. Step 1- establish missions and goals, step 2- identify the customers, step 3- discover customers’ needs, step 4- develop the product or service. Tripathi and Reddy (2006:266) argue that there is a significant positive correlation between an organization’s well implemented IQMS and the following benefits: improved employee and general organizational performance,
improved product and service quality, reduced general operational costs resulting from reductions in duplications, reduced risks and increased profitability, elimination of conflicting responsibilities and relationships and diffusing of power system and encouragement employee involvement. They noted that this is because a well implemented IQMS can also lead to improved communication and coordination of activities, and facilitates skills development.

Mathye (2006:16), however, notes that the evaluation of IQMS implementation in the South Africa shows that a number of the benefits which usually accrue from an IQMS implementation are missing. Mathye (2006:16) points out that such shortfalls include lack of improved internal efficiency and learning achievements. Mathye’s (2006:16) concerns are echoed in the DoE Document “Trends in Education Macro Indicators” (2009:4) that it is difficult to have successful implementation of an Integrated Quality Management System in the midst of the challenges encompassing: inconsistent educational statistics, education expenditure, educators’ qualifications, educator ratios and class size, educator attrition, poor educational infrastructure, lack of effective communication, and legitimacy of the process. On that basis, the DoE (2009:4) argues that the matric failure rate is still unacceptably high due to the fact that teachers’ qualifications and skills have not yet been upgraded.

The DoE (2009:4) also attributed poor IQMS implementation to lack of management skills and capacities, lack of teacher commitment and low staff morale. In other words, the analysis of theories in this sub-section not only illustrates the extent to which IQMS implementation in South African schools is marred with a lot of challenges, but also the extent to which its successful implementation falls short of logical, systematic, and chronological processes defined in the integrated quality management theories. Nonetheless, this study posits that after considering the hindrances and implementing IQMS, the next step is usually to determine whether the prior set objectives and standards have been met.

1.7.5 Application of IQMS Corrective and Improvement Actions

Koontz and Weihrich (2010:319) posit that applying corrective and improvement action is last step in any quality management process. However, Koontz and Weihrich (2010:319) argue that this is the step which managers usually do not engage in. They
argue that although there is usually commitment at the beginning of the strategy or plan formulation and implementation, it subsequently burns out due to either low monetary motivation or changes which happen and draw management's attention away. In certain cases, Koontz and Weihrich (2010:319) pointed out that the successes of plans or strategies are not evaluated and monitored, and actions are only taken if there is a significant occurrence which generates criticisms against management. In terms of IQMS implementation, Fasset (2004:7) notes that although the implementation of IQMS takes an integrative approach, each facet may use certain specific techniques. According to Fasset (2004:7), measuring and comparing standards enable the degree of variations between the actual performance and standards to be determined. Fasset (2004:7) stated that it is therefore critical to determine the acceptable range of variations so that deviations which exceed such a range become significant and therefore require management attention. In the comparison stage, Courty, Heinrich and Marschke (2006:347) state that managers are particularly concerned with size and direction of the variation. Courty et al. (2006:347) also state that where deviations are identified to have exceeded the acceptable range of variations, management must take appropriate action.

However, they argue that there a number of options that this action may take. Management may do nothing, correct the deviations, or can revise the standards. Courty et al. (2006:347) further noted that if the source of the performance variation is unsatisfactory work, then management must take corrective action encompassing changing strategy, structure, compensation, training programmes, redesigning jobs, or firing employees. On the other hand, Koontz and Weihrich (2010:319) pointed out that deciding on the corrective action to be applied must involve the analysis of whether immediate corrective action must be applied correct problems at once in order to get performance on track or that the application of basic corrective action must look at how and why performance has deviated and then proceeds to correct the source of deviations. Nonetheless, Koontz and Weihrich (2010:319) pointed out that it is not unusual for managers to rationalize that they do not have the time to take basic corrective action, and therefore must be content to perpetually put out fires with the immediate corrective actions. Koontz and Weihrich (2010:319) state that if the variance results from unrealistic standards, then it is the standard that needs corrective action, not performance. Koontz and Weihrich (2010:319) note that the most
troublesome problem is the revision of performance standards downwards. They attributed their assertions on the fact that if an employee, work team or work unit falls significantly short of reaching its goals, then their natural response would be to shift the blame for the variance to the goal. In a view similar to Koontz and Weihrich’s (2010:319) perceptions, Courty et al. (2006:347) noted that it may be true that when standards are high, this can result in a significant variation and may even contribute to de-motivating those employees being measured against them.

However, Robbins and Coulter (2003:498) pointed out that it is important to note that if the employees or managers do not meet the standard, the first thing they are likely to attack is the standard. Nevertheless, in the IQMS implementation, the ELRC (2003:34) provides some other measures for improving performance. These are the Personal Growth Plan, School Improvement Plan, and District Improvement Plan. Such measures are inconsistent with Heizer and Reinder’s (2006:198) belief that quality management can be significantly improved through the application of Total Quality Management (TQM). According to Heizer and Reinder (2006:198), TQM is a management philosophy which emphasizes embracing the notion of continuous improvement by constantly ensuring that the quality of the product or service predominates the entire organization’s processes. As Jha (2004:86) noted, the effectiveness of TQM is determined by embracing the notion of continuous improvement, employee empowerment, and application of a set of TQM techniques.

Jha (2004:86) and Heizer and Reinder’s (2006:198) TQM perceptions are echoed in the views expressed in the PHCC Educational Foundation (1996:3) that TQM is a comprehensive management system which focuses on meeting customers/owners’ needs by providing quality services at a cost that provides value to the owners/customers and is driven by the quest for continuous improvement in all operations. The PHCC Educational Foundation (1996: 3) further explains that TQM also recognizes that everyone in the organization has owners/customers who are either internal or external, and views an organization as an internal system with a common aim rather than an individual department acting to maximize their own performances. Charantimath (2004: 6) also concurs with Heizer (2006:198) that the core concepts in TQM encompass quality for profit, right first time, acceptable quality levels, and cost of quality. Finally, Charantimath (2004: 6) construes that TQM encourages competitive benchmarking as a way for continuous improvement,
involvement of everyone in the organization, supporting technology, and appropriate reward strategies.

Conclusively, the ELRC (2003:46) outlines IQMS corrective and improvement actions to only encompass Personal Growth, School Improvement, and District Improvement plans. The evaluations of theories in this sub-section indicates that successful application of corrective and improvement measures is quite complex and is more than the mere simplification represented in such three constructs. As much as organizational practice in the Department of Education reveals that there is no well-defined IQMS implementation framework, the evaluation of theories in this section indicates that there is well outlined framework defining the five key constructs outlined in Figure 1.1.

1.8 The Conceptual Background of the Research

Practically, the evaluations of the historical background, discussed above, of the research indicate that there is a limitation in the processes of the IQMS implementation. This is grounded on the basis that authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) note that despite the IQMS implementations in the South African schools, the processes for the delivery of public education in the South African schools is still marred with inefficiencies, poorly skilled educators, poor infrastructures, and high failure rates at the matric levels.

The theoretical framework also indicates that Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) note that the successful IQMS implementation in South African schools is still marred by lack application of well defined framework, shortage of skills, and lack of interest and unwillingness of educators to ensure that IQMS implementation is sucessful. So far, the interpretation of this research is that the inability of the IQMS implementation to impact positively on the improvement of the quality of public education in the South African schools is attributed to the conceptual limitation in the kinds of the quality improvement measures that are prescribed in the ELRC (2003) IQMS implementation document.

It is stated, in the ELRC (2003:12), that the three tenets measuring successful IQMS implementation encompass developmental appraisal, performance measurement, and whole school evaluation. However, the evaluations of the literatures in the
theoretical framework for this study imply that the effectiveness of any integrated quality management system is measured by the five constructs that include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions.

In other words, contrary to the ELRC’s (2003:1) three constructs’ framework that include whole school evaluation, developmental appraisal, and performance measurement, this research uses the theoretical interpretations and posits in its overriding hypothesis in Figure 1.1 that the five main constructs determining the successful IQMS implementation include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions.

In terms of the first construct, the study follows the basis of Parasuraman, Zeithmal and Berry (1985:42) and Gronroos’ (1986:106) arguments that it is practically impossible to attempt to evaluate service quality without examining elements such as tangibility, reliability, responsiveness, assurance, and empathy. The ELRC (2003:12) states that IQMS implementation can be enhanced through whole school evaluation, but it does not outline the criteria which are consonant with Parasuraman et al.’s (1985:16) five core service quality dimensions. It is on that basis that this study asserts in the first construct that integrating the Parasuraman et al.’s (1985:16) five core service quality dimensions in the whole school evaluation would significantly influence the successful IQMS implementation. This study outlines the performance measurement and developmental appraisal techniques that must be used and also prescribes the key success factors, the processes for implementation, monitoring and evaluation, and the corrective and improvement measures that must be used. This is on the basis that most these key constructs and their determining variables have not been effectively addressed in the ELRC IQMS Implementation Document (2003).
This study agrees with Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) that the use of the ELRC’s (2003:1) IQMS implementation framework is ineffective for achieving successful IQM implementation in South African schools. However, the study also differs on the basis that measures postulated by Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) did not result into prescribing a comprehensive framework for measuring and improving IQMS implementation in South African schools. Biputh’s (2008:IV) and Kanyane’s (2008:1) studies are more skewed towards analysing performance appraisal. Performance appraisal, when construed within the context of the ELRC’s (2003:1) IQMS implementation framework, is only one of the constructs determining successful IQM implementation. Ramnarain (2008:V) believes that effective IQMS implementation is measured through three discourses. These are the compliance discourse, the discourse of accountability, and the discourse of development. Ramnarain (2008:V) explains that the compliance discourse refers to
the extent to which accomplishment of schools’ activities are consonant with established IQMS principles and procedures. Ramnarain (2008:V) posits that accountability discourse concerns the extent to which appropriate measures are applied to enhance accountability to relevant stakeholders in terms of the quality of teaching and learning.

Finally Ramnarain (2008:V) argues that development discourse refers to the perception that IQMS is implemented in order to improve the quality of education through constant skills development. It is a fact that the use of Ramnarain's (2008:V) three discourses would enhance the successful IQM implementation, however, Ramnarain (2008:V) does not clearly define key ingredients determining education quality evaluation and key success factors which are essential for IQMS implementation. Contrary to the ELRC’s (2003:1) three constructs’ framework, and Biputh (2008:IV), Kanyane (2008:1) and Ramnarain’s (2008:V) perceptions, the contextual background to the research which is discussed in the next sub-section indicates that this study is accomplished within the context of the five main IQMS implementation constructs that are outlined in Figure 1.1.

1.9 Contextual Background of the Research

Deriving from the above context background, this study is accomplished within the context of the overriding hypothesis in Figure 1.1 which indicates that the five constructs that determine the successful IQMS implementation encompass: considering the notion of “quality” and whole school evaluation, performance management and developmental appraisals, considering key success factors for IQMS implementation, the use of appropriate implementation processes, systems and methods, and undertaking constant monitoring, evaluations and improvement actions. In terms of the first construct, the study echoes Parasuraman, Zeithmal and Berry (1985:42) and Gronroos’ (1986:106) arguments that it is practically impossible to attempt to evaluate service quality without examining elements such as tangibility, reliability, responsiveness, assurance and empathy.

The ELRC (2003:12) states that IQMS implementation can be enhanced through whole school evaluation, but it does not outline criteria which are consonant with Parasuraman et al.’s (1985:16) five core service quality dimensions. Not only are the quality dimensions not clearly defined, but also the ELRC (2003:12) does not clearly
outline all the essential techniques for performance measurement and performance appraisal. Instead, it over-emphasizes the use of peer evaluation which is prone to colleagues’ favouritism, as essential individual and multiple evaluation techniques that are outlined by the authors such as Rothberg (2012:17) and Naz, Aslam and Arshad (2012:3) are excluded. Despite the fact that the ELRC (2003:22) outlines clear processes for IQMS implementation, it undermines the effects of constant monitoring and evaluation, and the application of the appropriate corrective and improvement measures that authors such as Kaplan (2012:1), Sarrico, Rosa and Manatos (2012:272) and Waal, Goedegebuure and Geradts (2011:778) believe are essential for realizing successful strategy implementation and improving general organizational performance. Despite the fact that this study believes in the theories that are articulated by Parasuraman et al. (1985:16), Rothberg (2012:17) and Naz, Aslam and Arshad (2012:3), it is also notes that most of these authors only examined the individual and discrete areas of the IQMS implementation framework which are illustrated in Figure 1.1.

In other words, there is a shortfall or lack of a properly defined IQMS implementation framework in both public administration and typical management theories. Such interpretation flows from the fact that conceptually, the analysis of the above-discussed theories and organizational practice in the Department of Education reveals that the application of the IQMS implementation framework prescribed in the ELRC (2003:5) falls short of the core determinants for achieving successful implementation of IQMS in South African schools. The integrated quality management literature and theories underpinning the study support the assertion in the IQMS implementation model postulated in Figure 1.1 that successful implementation of the organization’s IQMS is significantly measured by constructs encompassing considering the notion of “quality” and “whole school evaluation”, performance measurement and performance, incorporating key success factors, implementation, monitoring and evaluations, and application of corrective and improvement actions. However, none of the theories that support the study provide a coherent, logical and systematic framework compatible to the five constructs postulated in the IQMS implementation model in Figure 1.1.

The problem is that there is lack of an effective IQMS implementation framework and a gap in the existing theories, and by validating and postulating a model in Figure 1.1,
the study will not only contribute to the minimization of such a gap, but also the improvement of IQMS implementation in South African schools. It is therefore against that backdrop that this study is being conducted with the overriding motive of validating and postulating a new, comprehensive IQMS implementation model. The overview of literatures and theories in the next section are not only guided by the five constructs outlined in Figure 1.1, but are also undertaken with the view of outlining theories grounding the study and how the application of the five constructs outlined in Figure 1.1 would result into successful IQMS implementation.

Against this backdrop, the research objectives, questions and hypothesis guiding the study, the overview of the research design and methodology which were used in the primary research processes are as described in the sub-sections that follow.

1.9 OVERVIEW: RESEARCH DESIGN AND METHODOLOGY

The research design and methodology of this study was mainly built along the quantitative research paradigm or positivist approach. The quantitative research paradigm or positivist approach refers to an enquiring process in which the enquirer, having postulated the underpinning hypotheses for the study, outlines the guiding objectives, evaluates theories and collects numerical data which is used in the measurement and the validation of the postulations in the underpinning research hypothesis. In line with this definition, it is clear that this study opted for a quantitative research paradigm or positivist approach because the study was dictated by the need to examine the causal relationship between the latent constructs and the underlying variables which are hypothesized by the study in the measurement model in Figure 1.1. It was anticipated that by examining the causal relationships between the latent constructs and the underlying variables, the study would subsequently fulfil its underpinning assumption and the primary research objective which is to develop a model for the effective measurement and implementation of the Integrated Quality Management Systems (IQMS) in the selected Eastern Cape Schools.

In order to test and validate the IQMS Implementation Model in Figure 1.1, the study used factor analysis as the main quantitative research technique. In the context of Hair, Black, Babin and Anderson’s (2010:94) definition, factor analysis refers to the application of an interdependent technique whose primary purpose is usually to define the underlying structure among the variables in the analysis. Hair et al. (2010:94)
explain that factor analysis is a quantitative procedure which searches for the groups of variables which are significantly correlated with each other, whilst not maintaining high correlations with other variables. Such groups of variables are called “factors” or “dimensions” or “constructs”.

Nonetheless, Hair et al. (2010:94) concur with the authors such as Bentler (2006:137), Bagozzi (2007:237) that the two main types of factor analysis that are used in the testing and validation of a model include exploratory factor analysis and confirmatory factor analysis. This study used a combination of the exploratory factor analysis and confirmatory factor analysis. According to Bagozzi (2007:237), exploratory factor analysis refers to the process of applying a set of the multivariate techniques to discover a set of the constructs that are significantly explained by a set of certain specific variables. In other words, Bagozzi (2007:237) argues that exploratory factor analysis is used to explore the possible underlying factor structure of a set of observed variables without imposing a pre-conceived structure of the outcome. Despite the fact that in this study, there was already a pre-conceived theory with a defined structure in Figure 1.1, exploratory factor analysis was applied to further define the factor structure of the IQMS Implementation Model in Figure 1.1 so as to effectively define the factor structure and prepare the IQMS Implementation Model in Figure 1.1 for testing and validation using the confirmatory factor analysis techniques.

Such interpretation is in line with the postulation in the Bentler’s (2006:137) assertion that confirmatory factor analysis tests whether a specified set of constructs is influencing responses in a predicted way and thus allows the researcher to test the hypothesis that a relationship between the observed variables and their underlying constructs exists. In general, the processes for accomplishing factor analysis was undertaken within the unique framework that Hair et al. (2010:94) prescribe to include the four main steps that include Step 1: Postulation of the Measurement Theory, Step 2: Sample Size Determination, Step 3: Data Collection Process, Step 4: Data Analysis and Interpretation of Indices.
1.9.1 Step 1: Postulation of the Measurement Theory: IQMS Implementation Model in Figure 1.1

Hair et al. (2010:94), Bentler (2006:137) and Bagozzi (2007: 237) agree that where the application of the confirmatory factor analysis technique is involved, the first step requires the formulation of the theory that will be used in the measurement exercise. In line with the Hair et al. (2010:94), Bentler (2006:137) and Bagozzi’s (2007: 237) interpretation in this study, the effective application of this step involved determining the key constructs and the associated variables that measure the effectiveness of the IQMS Implementation Model in Figure 1.1. On that basis, using the three IQMS tenets which are outlined in the ELRC IQMS Implementation Document (2003) in conjunction with the analysis of the quality management literatures, the study concluded that the considering of the notion of quality and whole school evaluation is one of the key constructs that influences the effectiveness of the IQMS Implementation Model in Figure 1.1. At the same time, in reliance with the quality management literatures and specifically Parasuraman et al’s (1985:41) SERVQUAL Model, it was argued that the effectiveness of the notion of quality and whole school evaluation, which is one of the key constructs outlined in the Model in Figure 1.1, is measured by the variables that include: Tangibility (Physical aspects of schools), reliability, responsiveness, assurance and empathy. The second construct that determine the effectiveness of the IQMS implementation model in Figure 1.1 is hypothesized to be the existence of an effective developmental appraisal and performance management which is measured by the variables that include well outlined purposes and objectives, appropriate process, suitable criteria, standards, methods and techniques.

It is also indicated that the third construct that measure the effectiveness of the IQMS Implementation Model in Figure 1.1 deals with the Incorporation of the IQMS key success factors which is measured by the variables that include: quality management principles, effective coordination of activities, supporting information systems, stakeholders involvement, budget allocation, training and education, and change management strategies. The study further hypothesizes that the IQMS implementation, monitoring and evaluation converge in the fourth construct that determine the effectiveness of the IQMS Implementation Model in Figure 1.1. It is indicated in Figure 1.1 that the effectiveness of the process of IQMS implementation, monitoring and evaluation, as the fourth construct, is measured by the variables that
include adopting the systematic implementation process, establishing the monitoring mechanisms, establish evaluation mechanisms, and examine benefits and whether objectives and goals have been achieved. The final and the fifth construct which influence the effectiveness of the IQMS Implementation Model in Figure 1.1 concerns the application of the appropriate corrective and improvement actions which encompass the review of the IQMS implementation processes, objectives and redesign the implementation strategies which are used in the IQMS implementation process. Nonetheless, when the determination of the hypothesized measurement model in Figure 1.1 was complete, the process for the determination of appropriate sample size was accomplished in accordance to the descriptions that examined in the step 2 in the next sub-section.

1.9.2 Step 2: Determining the Target Population and Appropriate and Valid Sample Size

According to Hair et al. (2010:102), in a factor analysis research, the researcher would generally not factor-analyze a sample of fewer than 50 observations, and therefore the sample size should be 100 or larger. In line with Hair et al. (2010:94), Bentler (2006:137) and Bagozzi’s (2007:237) postulation, the study examined the appropriate and valid sample size that must be used in the study in this section. However, prior to determining the appropriate and valid sample size for the study, the target population for the study was discussed. In the context of Locke, Silverman and Spirduso’s (1998:75) interpretation, a target population refers to the subjects within an organization who are the focus of the study. Since the target population is usually too large to be studied, Locke et al. (1998:16) note that it is therefore important that the determination of a sample at a specified significance level is necessary.

On the basis of Locke et al.’s (1998:16) prescription, the target population for this study constitutes all the high schools in the Republic of South Africa. South Africa has a 3 tier education system with primary schools, secondary schools, high schools and tertiary education in the form of universities and universities of technology. According to the 2010 Report by the Department of Education, the country has 12.3 million learners, 386 000 teachers and 48, 000 schools in general, including 390 special special schools and 1, 000 registered private schools. From the above it is indicated that out of the 48, 000 schools, 807 are high schools. In order to determine the appropriate and valid sample size for this population size, South African high schools
are clustered according to the nine provinces. Following the clustering, the 53 high schools in the cluster of Eastern Cape Province were chosen as the sample population for the study. In essence, since there were only 53 high schools, this research used a census study to have all of the 53 high schools in the cluster of the Eastern Cape schools drawn into the sample population for the study. This was understood to be in agreement with Hair et al.’s (2010:102) line of argument that in a factor- analysis research, the researcher would generally not factor analyze a sample of fewer than 50 observations. The next step involved the questionnaire design and data collection process.

1.9.3 Step 3: Questionnaire Design and Data collection process

Step 3 was accomplished according to the two main processes that include the data collection method (Questionnaire Design) and the data collection process.

Data Collection Method (Questionnaire Design): The data collection method for this study was accomplished using a five Point-Likert-Scale-Style Questionnaire that comprised of the scales that included: Strongly Disagree--1, Disagree--2, Unsure--3, Agree--4, and Strongly Agree--5. In the design of the questionnaire, the study ensured that the sentences and the words which were used in the statements and questions in the questionnaires could easily be understood by all the respondents. This was achieved by drafting the statements and questions in the questionnaires in shorter sentences so as to ensure that the statements contained only a single meaning which could easily be understood and interpreted by the respondents. Despite the fact that there are a number of previous studies on the concept of IQMS in the educational setting and other industries, the researcher found that there was no questionnaire which was in tandem with issues that concerns the process for the investigation of this study. The questionnaires were therefore designed by the researcher in conjunction with the initiative of ensuring that the process and the key sections are aligned with the five key constructs that are outlined in the overriding hypothesis which is postulated in the IQMS Implementation Model in Figure 1.1.

As noted in the IQMS Implementation Model in Figure 1.1, the five constructs that would significantly influence the successful IQMS Implementation in the South African schools include: Quality and Whole School Evaluation, Performance Appraisal and Performance Management, IQMS’ Key Success Factors, IQMS’ Implementation,
Monitoring and Evaluation, and IQMS Corrective Actions. These key five constructs were transposed into the sections in the questionnaires to include Section A: *The concept of quality and whole school evaluation*, Section B: *The concept of Performance Appraisal and Performance Management*, Section C: *The IQMS’s key success factors*, Section D: *The Processes for IQMS’s implementation, Monitoring and Evaluation*, and Section E: *The Applications of the IQMS’ corrective and Improvement Measures*. These sections were also aligned to the hypotheses and the secondary research objectives of the study.

The general assumption of formulating the questionnaire along these lines was that it would lead to the solicitation of the desired information which could be used to test whether the estimated IQMS Implementation Model in Figure 1.1 would perfectly reproduce the observed 53 sample data. Nonetheless, after the questionnaire design, a pilot test was conducted on 10 respondents in order to further review and identify the errors and defects in the questionnaires. Most of the commonly identified errors were the use of certain technical terms which the respondents were not able to easily understand and interpret in the manner that would enable them to provide the answers that would accurately respond to the issues in the research questions, objectives and hypotheses for the study. All these were corrected prior to commencing the actual data collection process.

**Data Collection Process:** When the researcher was done with pilot testing, arrangements and contacts were made with the principals of the 53 high schools in the cluster of the Eastern Cape Province to have the questionnaires personally administered. The researcher opted for personal administration to other data collection methods such as a mailed questionnaire, panel groups, and telephonic interviews, on the basis that personal administration would enable the researcher create the necessary rapport with the respondents and induce the interpersonal relationship that would convince the respondents to participate in the study. In addition, through personal administration, the researcher was able to interact freely with the 53 principals, get some sort of background information, and influence the respondents to provide more details about the problems limiting the effective IQMS implementation in the selected Eastern Cape Schools.

Despite the fact that such approach resulted into the unearthing of the information that enhanced the researcher’s knowledge, the researcher also ensured that prior to
questionnaire completion, appropriate explanations were provided to the respondents about the purpose of the study. Once they understood, they were provided with questionnaires to complete in isolation, and the researcher advised that if there is any uncertainty, they must feel free to ask him. Where clarity was needed, the researcher provided explanations without suggesting or influencing the kind of response expected. The process was similar for all schools up to the point when the desired questionnaires from the 53 high schools were obtained. The obtained data was used in both the exploratory and confirmatory factor analysis in order to test and validate the postulated IQMS implementation model in Figure 1.1.

1.9.4 Step 4: Data analysis and Interpretation of Indices

Following the return of the questionnaires, the researcher captured data into the Statistical Programme for Social Sciences (SPSS) spreadsheet, edited, and cleaned it prior to the actual analysis that comprised of the exploratory factor-analysis and confirmatory factor-analysis.

1.9.4.1 Exploratory factor-analysis

Exploratory-factor analysis was implemented according to the three main steps that include Step 1: Assessment of the Factorability of the Correlation Matrix, Step 2: Choosing Factor Models and Defining the Factor Structure, and Step 3: Factor rotation and interpretation.

1.9.4.1.1 Step 1: Assessment of the Factorability of the Correlation Matrix

In this step, the analysis focused on obtaining the percentages, mean, and standard deviations for the variables in order to enable the researcher to assess the conceptual issues which are arising from the obtained data, especially with regards to whether it can lead to the conclusion about the model being suggested or not. The second step led to the development of the correlation matrix, and it was used to determine whether the variables are sufficiently correlated to justify the application of factor analysis. In line with Bentler’s (2009:140) interpretation, diagnosing of the factorability of the correlation matrix was accomplished by examining whether all the correlations are low or equal and denoting that no structure exists to group variables. However, such a result which would have led to the cancellation of factor analysis was not realized since
the visual inspections of the correlation matrix revealed that a significant number of the correlations were greater than .30 (Bentler, 2009:140). The partial correlation which is the correlation unexplained when the effects of the other variables were taken into account was too small and depicted that true factors existed in the data.

Bentler (2009:140) posits that the rule of thumb provides that a partial correlation above .7 is not practical and statistically significant. The other technique which was used in assessing the factorability of the correlation matrix was Bartlett’s test of sphericity; the obtained result was greater than .50 and statistically signified that there was sufficient correlation among variables in order for factor- analysis to be done (Bollen & Davis, 2009a:523). The Measure of Sampling Adequacy (MSA) was also done by ensuring that the value for the overall test and individual variables exceeded .50. Variables with values less .50 were omitted from factor analysis. This resulted into the choosing of the factor models and the defining of the factor structure which was accomplished in the next step.

1.9.4.1.2 Step 2: Choosing Factor Models and Defining the Factor Structure

Bagozzi (2007:237) posits that there are two methods for choosing a factor model, these are Component Factor Analysis and Common Factor Analysis. The component factor analysis was used in this study because data reduction was the main objective of the analysis. In addition, the software used (SPSS) only had component factor analysis features. The common factor analysis model was left out because it is best in well specified theoretical applications. This was not the case for this study. In order to determine the number of factors to extract, latent root criteria or eigen values greater than 1 were used. The rationale behind the latent root criterion is that any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation. Factors with latent roots less than 1 are considered insignificant and are disregarded. However, in this study most of the factors had latent roots greater than 1, and therefore were statistically significant for retention (Bollen & Davis, 2009a:523).

A priori criterion was also applied because the researcher, as reflected above, already had prior knowledge of the number of factors which are based on the research objectives. The percentage of variance criterion was used by ensuring that factoring procedure continues until the extracted factors account for at least 95% of the variance
or until the last factor accounts for only a small portion (less than 5%). Finally there was application of the screen test criterion in which the factors, before the reflection point, were included. The end result of all these criteria was the extraction of a five dimensional factor model comprising of: Factor 1- Quality and Whole School Evaluation, Factor 2- Performance Appraisal and Performance Management, Factor 3- IQMS Key Success Factors, Factor 4- Implementation, Monitoring and Evaluation, and Factor 5- Undertaking Corrective Actions.

1.9.4.1.3 Step 3: Factor Rotation and Interpretation

Despite the fact that the un-rotated factor analysis achieved the objective of data reduction, it did not provide the information which offers the most adequate interpretation of the variables being assessed. This is because the first factor in the un-rotated factor analysis accounted for most of the high loadings and successively reduced with the second, third, fourth and fifth factors. In order to simplify the structure of the factor model, orthogonal rotation using varimax was done. There are two criteria for judging the significance of factor loading. These are the practical significance criterion and the statistical significance (Bollen, 2002:605).

In a practical significance, the loadings are assessed by ensuring that factor loadings in the range of ±0.30 to ±0.40 are considered in the interpretation of the factor structure, loadings of ±0.50 or greater are considered practically significant, and loadings of 1.70 are considered indicative of a well-defined factor structure (Bollen, 2002:605). The statistical significance criterion is where the interpretation of the factor loadings is based on the sample size. Table 3.1 overleaf provides the details:
Table 1.1: Guidelines for Identifying Significance Factor Loadings Based on Sample Size

<table>
<thead>
<tr>
<th>Factor Loading</th>
<th>Sample size needed for significance</th>
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<tr>
<td>.30</td>
<td>350</td>
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<tr>
<td>.35</td>
<td>250</td>
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<td>.70</td>
<td>60</td>
</tr>
<tr>
<td>.75</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Adopted from Hair et al. (2010:102)

This study used the statistical significance for determining the significant factor loading. The sample population for this study is 53 respondents, and according to the above Table 3.1, for a sample population of 53, a factor loading of 0.75 and above is significant for identifying the common variables underlying the specific constructs. A factor loading of .75 and above was therefore used for identifying the common variables under each constructs of the above devised model (Bollen, 2002:605). However, as multivariate analysis experts agree, there were adjustments based on the number of variables in order to edge out the disadvantages which arise from prior approaches where the number of variables being analyzed and the specific factors being examined are not considered. It has been shown in the above analysis that as the researcher moves from the first factor to later factors, the acceptable level for a loading to be judged significant should increase.

The fact that unique variance and error variance begin to appear in later factors may mean that some upward adjustments in the level of significance should be included. The number of variables being analyzed is also important in deciding which loadings are significant (Hair et al., 2010:102). As the number of variables being analyzed increases, the acceptable level for considering loading decreases. In this study, there
was a decrease. This process led to the formulation of the hypothesized IQMS Implementation Model which is contained in Figure 1.1. Once the structure of the factor model was defined through exploratory factor analysis, confirmatory factor analysis was applied in order to determine whether the resulting model perfectly reproduces the observed 53 sample observation.

1.9.4.2 Confirmatory Factor Analysis and Interpretation of Indices

While using Spearman (1904:461), Albright and Park (2009:3), Suhr (2010:1), Bollen (1993:1), Brown (2006:2), and Steiger and Lind’s (1980:3) theories, this study also used the confirmatory factor analysis techniques and/or indices’ analysis to test the five hypotheses (constructs) that are not illustrated only in the IQMS Implementation Model Figure 1.1. Generally, through this processes of testing the hypothesis, the study was able to arrive at statistically logical conclusion on whether or not the postulated IQMS Implementation model in Figure 1.1 is valid, and perfectly reproduces the observed 53 sample data.

In order to accomplish these, the obtained data was analyzed using the AMOS Version 21 of SPSS. In the first instance, the obtained data was captured into the SPSS Spread-Sheet and imported into the AMOS Programme. Thereafter, each of the five constructs that are hypothesized in Figure 1.1 and their associated measuring variables were drawn in the drawing space of the AMOS Programme.

After the drawing of each construct and the associated measuring variables, the analysis of estimates was accomplished in order to determine the model fitness. Chi-Square ($\chi^2$) in conjunction with the CMIN/DF \((\text{Chi-Square } (\chi^2)/\text{Degree of Freedom})\) were in the context of the Wegner’s (2011:345) interpretation used in the assessment of the model fitness, but since it is usually influenced by sample size, other modification indices were also be used. The modification indices which were used include: the Root Mean Residual (RMR), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA). Hu and Bentler’s (2006:22) interpretation was used in determining whether the results of GFI, PNFI, TLI and CFI were within acceptable limits of 0 and 1.
Wheaton’s (1987:2) and Carmnines and McLver’s (1981:1) argument was applied for assessing whether RMSEA (Root Mean Square Error of Approximation) were in the acceptable limit of 0.05 and 0.08. In other words, after the calculation of estimates and assessments of all the indices, the findings were analyzed and interpreted not only in the context of the five constructs in the IQMS Implementation Model in Figure 1.1, but also according to the five hypotheses that are illustrated in section 1.6.

Nonetheless, hand in hand with the application of the Chi-Square ($x^2$) value and modification indices, the study also used the Standardized Regression Weights (Factor Loadings) and the Square Multiple Correlation Coefficient ($R^2$) in order to determine how each of the hypothesized variables significantly load onto the hypothesized constructs. Within context of Bollen and Davis’ (2009a:536) criterion of ±.30 to ±.40, a variance was considered to be significant if a factor loading falls at ±.30 to ±.40 or above.

The Square Multiple Correlation Coefficient ($R^2$) was used to assess the extent to which the variance in the common factor is explained by the existence of each of the measured variable. In addition, in accordance to Bollen and Davis (2009a:536), a score of 30% was considered to be significant. These processes were followed throughout the processes of analyzing and testing the five hypotheses that are raised by the postulations of the five constructs in the IQMS Implementation Model in Figure 1.1. The conclusion arising from the applications of both the exploratory factor analysis and confirmatory factor analysis indicated that the application of the postulated IQMS Implementation Model in Figure 1.1 would significantly influence the successful implementations of the integrated quality management systems in the South African schools.

1.10 IMPORTANCE AND BENEFITS OF THE STUDY

This research seeks to introduce a new and comprehensive IQMS implementation model. The introduction of the new model will not only lead to the successful IQMS implementation in the South African schools, but will also add new theory to the already existing literature on IQMS implementation. It is anticipated that if this hypothesised and proposed model is adopted, it may lead to a significant improvement in the implementation of IQMS in South African schools. The study hypothesises that
one of the factors hindering the effective IQMS implementation in the South African schools is lack of a clear model.

The effectiveness of the model proposed by the ELRC (2003) is obscured by ambiguities and oversimplification of the IQMS concept. The ELRC (2003) postulated that there are three tenets of IQMS which are the Developmental Appraisal, Performance Appraisal and Whole School Evaluation. However, in reality there are a number of salient issues which the Department of Education failed to deal with adequately in the IQMS document. Among such factors is that the ELRC (2003) misrepresented the overall notion of IQMS. It mentions whole school evaluation, and instead of elaborating on the standards and techniques which should guide the process of evaluation, it tends to dwell too much on prescribing how Developmental Appraisal and Performance Management must be accomplished by schools.

In other words, the IQMS leans quite heavily on these two human resource tools as the measure for improving educational quality. Whereas the control over human resources may have a significant impact on an organisation’s service quality, it may not be effective as it would have been if all quality improvement systems were incorporated. In effect, this research hypothesizes that it cannot be possible to have effective whole school evaluation without seriously considering the appropriate quality standards and techniques which are mainly typical of the approach to quality improvement in the service setting.

1.11 THE STRUCTURE OF THE RESEARCH REPORT

This thesis is presented according to five main chapters, as seen below:

Chapter 1: Introduction and Problem Setting: The discussions in this chapter provide the overview highlighting the key research problem that motivates the study. In order to accomplish this, chapter is structured according to the main sections that include the historical background, theoretical background, conceptual background and contextual background. The chapter also documents the research problem statement, research objectives, research questions, research hypothesis, and an overview of the research design and methodology.
Chapter 2: Literatures on Integrated Quality Management Systems: This chapter examines the integrated quality management literatures and theories which are relevant to this study. The process for accomplishing this is mainly guided by the five main constructs in the IQMS implementation Model in Figure 1.1 that are aligned to the five main research objectives, questions, and hypotheses. In effect, this chapter examines the literature and theories on the five main areas of integrated quality management systems that include: the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of the Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Action.

Chapter 3: Research Design and Methodology: In line with the overriding objective which is to determine the IQMS implementation which can be suggested for improving the IQMS implementation in the South African schools. This chapter examines the research design and methodology which was used in the primary research process. Besides indicating that the study was mainly quantitative, the discussions in this chapter also highlight that the study applies exploratory factor analysis in order to further define the structure of the IQMS Implementation Model in Figure 1.1 prior to applying confirmatory factor analysis in order to determine whether the IQMS Implementation Model in Figure 1.1 would perfectly reproduce the 53 observed sample data which was used in the study.

Chapter 4: Findings, Interpretations and Discussions: This chapter evaluates the findings of the study. The processes for the interpretation and discussions of the findings are accomplished according to the five main constructs that are outlined in the hypothesized IQMS Implementation Model which include: (1) Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, Evaluations and Applications of the Improvement Actions.

Chapter 5: Conclusions and Recommendations: This chapter discusses the general conclusions and recommendations for the study.
1.11 CONCLUSION

It is generally noted, in the historical background in this chapter, that this study is motivated by the fact that despite the IQMS implementation in the South African Department of Education, the evaluations of the findings of Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) indicate that ever since the implementation of IQMS in the South African schools in 2005, not much improvement has been registered on improved efficiency, effectiveness, accountability and education service delivery processes. At the same time, in a view supportive of the Ramnarain’s (2008:39) assertion, Kanyane (2008:106) explains that the matric failure rate is still unacceptably high in conjunction with the fact that teachers’ qualifications and skills have not yet been upgraded. On the basis of these limitations, it is noted in the research problem statement that this research evaluates the processes for the implementations of the integrated quality management systems in the South African schools, so as to determine the key success factors that can be recommended for improving the IQMS implementation. Nonetheless, in line with the five constructs mentioned in this study, this chapter also outlines the research objectives, questions and hypotheses that guide the entire research process. The chapter also documents the research problem statement, research objectives, research questions, research hypothesis, and overview of the research design and methodology. In order to further define the constructs and the underlying variables, the discussions of the relevant literature and the formulation of the theoretical framework in the next chapter is guided by the same hypothesized model, prior to testing and validating through a factor-analysis discussed in chapter three.
LIST OF REFERENCES FOR CHAPTER 1


PHCC Educational Foundation (1996:3). The implementation of Total Quality Management in Education.


CHAPTER TWO: LITERATURE ON INTEGRATED QUALITY MANAGEMENT SYSTEMS

2.1 INTRODUCTION

In order to perfect the hypothesized IQMS Implementation Model which is contained in Figure 1.1 in the previous chapter, the formulation of the theoretical framework in this chapter is divided according to the sections which are aligned to the six hypotheses which are raised in the proposed IQMS measurement instrument (See Figure 1). These issues are: the notion of “quality” in a service setting, performance measurement, performance appraisal, key success factors for IQMS implementation, the monitoring and evaluations of IQMS implementation processes, and IQMS improvement actions.

In the first section, there is an assessment of the concept of the whole school evaluation and the notion of “quality”. The discussions then proceeded to analyze the historical evolution of the notion of “quality”, and Deming’s quality management principles and their applications in education. Since the notion of whole school evaluation implies that there must be application of certain quality management techniques, there was also analysis of the measures for diagnosing and improving service quality. The techniques discussed were: Zeithmal, Parasuraman and Berry’s (1985:12) Model (SERVQUAL), criticisms of Parasuraman et al. (1985:12) model (SERVQUAL), Zeithmal, berry and Parasuraman’s service quality gap model, strategies to address the service quality gaps, and Total Quality Management.

The second section examined the second hypothesis which concerns performance measurement. In the first instance, the chapter analyzed the definition of performance measure and proceeded to examine the purpose of performance management in organizations. The main purposes of performance measurement discussed were the strategic purpose, administrative purpose, and developmental purpose. There was also a critical analysis of the performance management process which usually encompasses launching process, coaching process, and evaluation process.

The third section discussed the performance appraisal system, which according to the hypothesized model is the third hypothesis. However, the review of literature reveals that performance appraisal can only be effective if it is relevant, reliable, sensitive, free
from contamination or validity, practicable, acceptable, and legally compliant. Other matters discussed in this section include the process for setting performance appraisal standards, the process for developing performance standards, and the guidelines for performance standards. In order to set appropriate performance standards, literature reveals that there must be a checklist for performance standards, and appropriate methods of appraising employees. Such methods were noted to encompass the comparative approach (relative rating technique), forced distribution, attribute approach, the behavioral approach, and the results approach. Finally the third section examined the main causes of poor performance in organizations which are noted to include: lack of skills, ability and knowledge, lack of motivation, lack of respect for rules or counterproductive behavior, personal problems, organizational context or system factors, poor recruitment policies, poor management and monitoring policies.

The model in Figure 1.1 also hypothesizes that the effective integration of different quality management systems can significantly impact on the IQMS implementation. Because of this, there is also a section dealing with the process for effective integrated of different quality management systems. However, since the Model hypothesizes that IQMS implementation can never be successful without certain essential factors, the fourth section therefore examined the key success factors for the implementation of IQMS. The common key success factors discussed were: the essential quality management principles, quality management principles, effective coordination of activities, selection of effective implementation process models, compatibility with other management systems, establishment of appropriate employee participation programmes, and engaging of appropriate change management strategies.

The fifth section assesses the implementation, monitoring and evaluations of IQMS. The processes suggested by ELRC (2003:5) were noted to include: advocacy, training and planning, evaluation, and feedback and discussions. In addition there was comparison of the ELRC’s (2003:4) process with the quality management process, and assessment of the effects of IQMS implementation on South African schools. The effects assessed included improved internal efficiency and learning achievements. Finally the section discussed the challenges of implementing IQMS in the South Africa education. The common challenges discussed were: inconsistent educational statistics, education expenditure, educators’ qualifications, educator ratios and class
size, educator attrition, poor educational infrastructure, lack of effective communication, and legitimacy of the process.

The sixth section examines the last hypothesis which deals with the IQMS improvement actions. Among the improvement methods discussed were the correction of actual performance and revision of standards. Finally, the section analyses and compares management literature with the improvement measures suggested in the ELRC (2003:6) document (personal growth plan, school improvement plan, and district improvement plan). The discussion is presented in the sections and sub-sections that follows.

2.2 THE CONCEPT OF “AN INTEGRATED APPROACH TO QUALITY MANAGEMENT”

It is postulated by the National Association of Health Care Quality Canada (2010:1) that an Integrated Quality Management Systems refers to ‘a planned systematic approach for monitoring, analysis, correction and improvements of performance, which increases the likelihood of the desired outcomes by continuously improving the quality of services provided.” Pun (1998:1), in his abstract compared IQMS with TQM, and stated: “An Integrated Quality Approach to Quality Management” satisfies the criteria of TQM approach, whilst conforming to standards such as ISO 9000, ISO 14000. Similar structure to that of the Malcolm National Quality Award, with 1000 points are distributed over the following 10 categories:

1. Senior executive leadership.
2. Process analysis and management.
3. Human resources development and management.
4. Strategic planning and alignment.
5. Strategic information and analysis.
6. Customer value.
7. Employee satisfaction.
8. Supplier quality and relationship.
10. Environmental impacts on society.
IQMS is built on a clear corporate mission and on core values such as customer retention, customer satisfaction and corporate performance results.

The Chartered Quality Institute – CQI’s (2010:2) view of IQMS seems to differ from the one provided by Pun (1998:1). The CQI detailed the definition of IQMS by first highlighting that integrated means combined. It continues to put all the internal management practices into one system but not as separate components. For these systems to be an integrated part of the company’s management system, there have to be linkages so that the boundaries between processes are seamless. A system, on the other hand, was noted by CQI (2010:2) to refer to the interconnection of components to achieve a given objective. These components include the organization, resources, and processes. Therefore, people, equipment and culture are part of the system as well as the documented policies and practices. “For something to be integrated, it does not just sit next to the other components, it has to be fixed to the others so as to make a whole. Therefore, putting the financial system, the quality system, and the environmental system into one book of policies and procedures is not integrating management systems. Creating one national standard for management systems is not integration. Buying a software package which handles quality, safety and environmental documentation is not integration. Merging disciplines such as putting the quality manager, safety manager and environmental manager in one department is not integration. Neither are integrating just quality, health, safety and environment an IMS, as there is only one system in any business. It just so happens that some parts may be formalized and others are not.”

Such a view is not consistent with Pun (1998:1)’s perception that tended to treat IQM as a departmental issue. However, Pun (1998:1)’s view of IQMS seems to rhyme with National Association of Health Care Quality Canada (2010:1) and Yukon Hospital Corporation-YHC (2010)’s findings on Integrated Quality Model. The tenets of IQMS are underpinned by the purpose of quality management systems which are to determine competence, to assess strengths and areas for further development, to ensure continued growth (Ramnarain, 2010:36), to promote accountability, and to monitor the overall effectiveness of an institution (Kaplan & Norton, 1996:1). Quality comes through process improvements intended to make a sustainable difference to the outcome of these processes (Murgatroyd &Morgan, 1993:X1). For organizations
that have quality initiatives and quality programmes in place, measurement would be a central part of any such programme (Kaplan & Norton, 1996:119).

Gryna, Chua and Defeo (2007:44) pointed that in order for an organisation to ensure the delivery of quality services or products, a quality management system must be developed in each functional area and at critical control points. In effect, they defined a quality management system as, “A documented set of policies and procedures that provide assurance to the customer of the product and service levels expected. Quality management system is system based, people based, process based, and the emphasis is on prevention in all spheres.”

They added that quality assurance is the name given to all activities that are used to ensure that the business is carried out effectively and efficiently. Quality management systems therefore play the role of assuring such quality. Metters Industries INC (2009:3) however provides a more formal definition which is that quality management involves the performance of the normal essential management functions comprising of planning, organising, leading and controlling. Metters Industries then indicated that in a quality management system there must be activities involving quality planning, quality assurance, quality control, and quality improvement. In a bid to constantly improve products and services’ quality, Heizer (2006:198), and Jha (2004:32), revealed that organizations have engaged in different quality improvement practices which have led to the development of other concepts, among which is the notion of Total Quality Management-TQM.

The National Association of Health Care Quality Canada (2010:1) and Yukon Hospital Corporation-YHC (2010:1) state that an Integrated Quality Model can only be effective if the following six key elements are taken into consideration. These are: strategic planning, safety framework, integrated risk management, quality improvement, utilization management, and ethics culture. Even if an organisation’s IQMS is based on such a model, the National Association of Health Care Quality Canada (2010:3) notes that its effectiveness may be limited, unless if it shares certain outlined characteristics. A good IQMS as the National Association of Health Care Quality Canada (2010:3) reveals should have certain common characteristics. These are that it must be deliberate and well planned, and based on systematically acquired information or evidence. It must analyze information or evidence from multiple sources to identify problems and their causes and rely on the knowledge and input of many
sources and people. It must fix problems that arise and check to make sure that selected solutions do work and pursues continuous quality improvements through well-planned and structured quality improvement efforts. Nonetheless, in the South African context, the ELRC (2003:12) states that the notion of quality is one of the essential IQMS dimensions.

2.3 WHOLE SCHOOL EVALUATIONS AND THE NOTION OF “QUALITY”

Hitherto, a general consensus exists among quality management experts that quality management concepts such as Total Quality Management (TQM) and Integrated Quality Management Systems (IQMS) are unsuitable for improving education quality in schools (Tribus, 2008:3). This is because of the perceptions that schools are distinct from industries due to the fact that schools are not factories, students are not products, and instead, their education is the product. Nonetheless, the customers for the products are numerous and usually include students, employers, parents and the society at large (Tribus, 2008:3). A study by Brookes and Becket (2007:8) also revealed that the application of quality management concepts proved difficult in schools because of the different stakeholders’ interests whose views of quality certainly varied from one another. In order to apply a quality improvement system, there was therefore the need for the development of a quality management system which took into considerations all these interests. This was however a challenge which slowed the extension of quality management concepts in education.

“The increasing modern pressure on governments to provide quality education to its masses has instigated the need to apply industry quality management practices to schools. The ever demanding learners with diverse interests and the increasing level of competition within and across national borders have also stimulated the need for improving quality education” (Eriksen, 1995:1; Oldfield & Baron, 1998:99& Becket & Brookes, 2006:1). South Africa is no exception to such increasing pressure for improving education quality. Weber (2006:70) stated that the recent transformation of public services has been marked by both increasing use of management discourses and techniques from the private sector and by the appointment and evaluation of a new class of professional managers, charged with overseeing the activities of welfare professionals within their institutions. Some have identified a more profound change: a deeper ideological process of managerialisation which is transforming relationship
of power, culture, control and accountability. It is in that regard therefore, that the
process for the formulation of the theoretical and empirical framework for this study
seeks to integrate the private sector IQMS concepts with the notion of the IQMS in the
South African public education.

According to the ELRC (2003:5), the purpose of the Whole School Evaluation (WSE)
is to evaluate the overall effectiveness of a school as well as the quality of teaching
and learning. It further prescribes that the WSE is supposed to be implemented
according to National Policy Document on WSE. WSE, ELRC (2003:7) noted, will take
place in a number of schools in a cycle of 3 or 5 years. The external WSE team,
including supervisors who are appointed by the provincial departments for this
purpose, will carry out WSE, including an evaluation of a sample of educators. The
observation and evaluation will be used to verify the DA and PM of educators
concerned and will serve to validate the PMs of other educators.

According to the DoE (2001:49), during the evaluation, the WSE team must collect
evidence through reading and analyzing any of the schools’ documents. They must
also use any district documentation that they require in order to help them reach fair
judgments about the school. These documents should include educators’ and
learners’ attendance registers, educators’ records of learners’ performance,
educators’ curriculum plans, learners’ personal record files, learners’ portfolios and
documents for developmental appraisal and performance management. After the
evaluation, the WSE team must provide feedback to individual educators on the quality
of their work, and feedback to Heads of each subject/learning area/programme
evaluated on the quality of work. A report must be made to the principal and school
management team. A report should also be submitted to the staff development team,
school governing body and a representative of the regional body as to how the school
can be improved (DoE, 2001:7, Smith & Ngoma-Maema, 2003:347). Some of the
attributes which the WSE focuses on are: the existence of a learning environment,
knowledge of curriculum and learning experience, lesson planning preparation and
presentation, learner assessment, professional development, extra curricula and co-
curricular participation, and administration of resources and records. The notion of
Whole School Evaluation and the entire concept of the IQMS introduce the notion of
quality management in education. Whether the WSE process is being conveyed in a
manner which is in accordance to the established theories on quality management is what the next section examines.

2.3.1 Quality as a Concept Defined

Despite the fact that the main purpose of the South African IQMS is to improve the quality of learning and teaching in schools, the ELRC (2003:8) does not provide a clear definition of quality, and this makes it difficult for the evaluators to assess what must or must not be considered as part of the determinants of the schools’ quality. The industry definition of quality as perceived by Mohanty and Lakhe (2006:3) in reference to the German DIN 55350 is “the totality of characteristics and features of a product or process which facilitates realisation of given requirements.” According to Mohanty and Lakhe (2006:3), this implies that quality does not only meet the features of a product, but also processes and that quality cannot be measured in absolute sense but in relative requirements. Juran (1988:2) posits that the major determinant of product quality is fitness for use. However such a perception has been found to be a restricted one. This is because it ignores issues such as the freedom from harmful effects, economics of costs and benefits to producers and consumers, and accountability for resource conservation and environmental protection.

Garvin (1984:101) views quality in five different ways, and these are:

1. **Transcendent view**: quality cannot be defined, but is easily recognisable through the experience which one undergoes. As such, quality is defined in an innate excellence.

2. **Product based view**: quality is measureable, and the difference in quality is usually a reflection of the differences in some quantity or attribute possessed by the product. It is in others a unit of goodness presented with a product. Therefore higher quality means there are more units of goodness, and a lower quality signifies fewer units of goodness.

3. **User based view**: quality refers to how a customer rates a product. A positive rating suggests that the product or service meets the customer requirements and it is of good quality. A lower rating means that the product does not meet customer requirements, and it is of poor quality.

4. **Manufacturing based view**: refers to the extent to which the product conforms to the set quality standards. Products which meet the set quality standards are
most likely to be regarded as being of good quality, and the ones which do not meet such standards are considered to be of poor quality.

5. **Value based view:** is the extent to which a product or service conforms to the acceptable price or cost.

The definition provided by Mohanty and Lakhe (2006:3) seems comprehensive, but Lal (2006:1) on the other hand, agrees with Juran (1988:2) that quality refers to the extent to which a particular product or service is fit for the user’s purpose. In other words, a product or service which easily meets the purpose which the consumer intends to use it for is considered to be of good quality. This means that during the evaluation of a product quality, certain essential characteristics will have to be considered. Lal (2006:1) states that these characteristics may include: durability, design, shape, size, physical appearance, and salient features such as prestige which comes with the consumption of a product or a service. These descriptions of quality are consonant with the view of Charantimath (2003:2) who asserts that quality refers to the level of customer satisfaction derived from the consumption of a product. Charantimath (2003:2) reiterates the ISO 8402 definition of quality and adds that quality is “the totality of features and characteristics of a product or a service and its ability to satisfy stated or implied needs.” He highlighted that broadly, quality is:

- **Fitness for use:** the ingredients used in the making of a product are concluded to be good quality if they work well during usage;
- **Grade:** the quality of a product is measured by the degree to which it conforms to certain essential characteristics;
- **Degree of preference:** is the extent to which a product or service meets the customers’ tests and causes preference of a particular product over the products of the competitors;
- **Degree of excellence:** is the measure of the extent at which the product is generally regarded as excellent; and
- **Conformance to requirements:** is when the product is regarded as complying with certain specified standards, design and specifications.

The definitions provided by Mohanty and Lakhe (2006:3), Lal (2006:1) and Charantimath (2003:2) though expressed differently, seem to agree that customers are the best judge of a product or service quality. In other words, quality is conclusive once a product is considered to be of good quality, even though managers may have
been doubtful about the product’s certain aspects. These are reflected in quality concept provided by Fasset (2004:6). Fasset (2004:6) states that quality management addresses the questions regarding: what the end user expects from a product or a service, when the end user needs the product or a service, and whether the product or a service is free from defects. Doing these right is therefore referred to as “meeting the needs of the end-users”, and as such, the term quality is not absolute, but involves the meeting of end-users’ needs.

These definitions which consider quality as best judged from the customer’s perspective degrade (need another word) the South African IQMS which emphasises the use of educators as the best evaluators of quality in schools. The ELRC IQMS Document’s (2003:13) section on Self-Evaluation by the Educator states: “Immediately after the initial advocacy and training, each educator should evaluate her/himself using the same instrument that will be used for both Developmental Appraisal and Performance Measurement. This enables the educator to become familiar with the document”. Sub-section 2 states: “ The Educator must undertake self-evaluation of his/her performance, identify his/her personal support group—Developmental Support Group. Develops a Personal Growth Plan and finalises it together with the DSG.” The South African IQMS' concept of quality differs from the cardinal principle outlined by Mohanty and Lakhe (2006:3), Lal (2006:1) and Charantimath (2003:2) that a product or service quality can best be determined by the customer perception.

2.3.2 Historical evolution of the notion of “quality”

Apte (2004:63) states that the mere mention of “service or product quality” in modern days connotes an obvious referral to the quality concepts in private sector- profit-generating organisations. Several theories however, reveal that the use of quality control systems for the management of activities in the public sector is not a recent concept (Giltlow, Oppenheim and Levine, 2005:29). The notion of quality management in the public sector is traceable to 3200B.C when tribal chiefs, kings and pharaohs ruled the ancient Egypt. The first use of the recorded statistics in quality controls was by the ancient Egyptian King, Narmer. Narmer used a palette in which on the left hand side a falcon rested on top of six papyrus plants, which represented a symbol of Pharaoh Narmer’s capturing of 6, 000 enemies. Since according to King Narmer, one papyrus plant represented 1, 000 enemies. On the right hand side, there was a vizier
which was charged with keeping the records of the varying levels of the river Nile, controlling the reservoirs, food supplies, assessing crop production, and consumption.

According to the Association of Business Executives, United Kingdom, (ABEUK) (2008: 243), the other example regarding the use of quality control systems in the public sector during the ancient times is reflected in the Hammurabi Code dating as early as 2000 B.C. Item 229 of the Code stipulated that “If a builder has built a house for a man and his work is not strong and the house falls in and kills the householder, the builder shall be slain.” The Phoenician inspectors eliminated any repeated violations of the prescribed quality standards by chopping off the hands of the one who causes defects. In the thirteenth Century, the use of quality control systems was adapted by the private sector organisations in Europe (Arnauld, Price & Zinkhan, 2002:1; Berry & Pansuraman, 1991:13).

The increased development of craftsmen and traders in Europe was coupled with the emphasis of quality concerns during production, and in order to achieve this, extensive training of employees was undertaken to ensure that they understood and embraced quality as an important concept. European governments constantly developed quality standards against which products and services were inspected. However, as more and more manufacturers joined the industry, ensuring compliance with a uniform government prescribed quality standards became difficult, though the consumers became the judges for the quality of goods and services which they were provided with (Arnauld, Price & Zinkhan, 2002:1; Berry & Pansuraman, 1991:13).

Baker (2003:17) further reveals that the nineteenth century industrial revolution ushered a new epoch for increased competition among firms, and further shifted a way for the need for quality concerns to the private sector firms. According to Baker (2003:17), the anxiousness of the private sector firms to out compete each other led to the recruitment of management experts who were charged with investigating not only new ways of improving management practices generally, but also product and service quality management. In the United States, one of the outcomes of the deployment of such experts was the development of Frederick Taylor’s Scientific management theory (Taylor, 1916:2). Taylor emphasised that work planning should be performed by the industrial engineers instead of workers and foremen, since he considered that engineers are more knowledgeable about quality standards (Taylor,
Although firms which implemented Taylor’s scientific management theory realised not only improvement in productivity, but also quality, the theory was later found to lack the critical element of employee involvement and participation which is essential for effective quality control (Taylor, 1916:2). Mahadevan (2007:19) argues that the application of Taylor’s scientific management theory in the modern empowered employees can turn to be unethical, and is a breach of certain labour practices which may attract several lawsuits and destabilise the employees’ commitment to quality.

Blythe (2004:206) stated that further evolution in quality management initiatives was reflected in the idea of Henry Ford. Ford who emulated most of Taylor’s (1916) scientific management theory introduced the assembly line as a quality control initiative into Ford’s Motor Company manufacturing. The use of the assembly line encouraged the breakdown of complex manufacturing processes into units which could easily be performed by unskilled labour, and resulted into the manufacture of highly technical products at lower costs. In Ford’s assembly line production philosophy, quality concerns were ingrained and considered during the manufacturing process, and operation inspections only assessed whether the desired units were produced within the stipulated time duration. However, just like Taylor’s (1916) scientific management theory, the defects associated with Ford’s assembly line were soon felt in that the employees and the managers were found to be concerned with the need to meet the outlined targets within the prescribed duration, without any consideration of quality.

According to Blythe (2006:206), the defects in Ford’s assembly line highlighted the need for quality controls during and after production. For instance between 1920 and 1940, the Bell system and Western Electric Motors was one of the first manufacturing companies to set up the Inspection Engineering Department to deal with the problems created by the defects in their products and to coordinate activities between the production department and other departments. George Edwards who was placed in charge of the Inspection Engineering department, had this to lament after his study of the situation:
“This approach recognises that good is not accidental and that it does not result from the mere wishful thinking, that it results rather from planned and interlocked activities of all the organisational parts of the company, that it enters into design, engineering, technical and quality planning specifications, production layouts, standards, both workmanship and personnel, and even into training and fostering the point of view of administrative, supervisory and production personnel. This approach means placing one of the officers of the company in charge of the quality control programme in a position at the same level as the controller or as the other managers in the operation. Its objective would be elimination of hunch factors that are present to largely determine the product quality of too many companies. It puts a man at the head of the quality control program in a position to establish and make effective a company-wide policy with respect to quality, to direct the actions to be taken where it is necessary and to place responsibility where it belongs in each instance.”

Buttle (2004:163) pointed out that the World War II quickened the pace at which quality control techniques developed. The need for improvement in product quality hastened the pace of deeper studies into what could be the better quality control measures. Such pressure led to the formation of the American Society for Quality Control in 1946. George Edwards who was elected as its president stated that, “quality is going to assume more and more important place alongside competencies in cost and sales price, and the company which fails to work out some arrangement for securing effective quality control is bound, ultimately, to find itself faced with a kind of competition it can no longer meet successfully”. It was also during this period that W. Edwards Deming, who had worked with George Edwards at Bell System and Western Electric emerged as one of the quality management gurus.

2.3.3 Deming’s quality management principles and their applications in education

Deming’s (1986:3) notion of effective quality control was developed from the criticisms of the western managers who were found to assume that: rewards and punishment are the most effective way of motivating employees; optimisation of every area in an organisation leads to optimisation of the entire organisation; results are achieved by
setting objectives. Quality is inversely related to quantity. Rational decision can be made on the basis of guesswork and opinion. Organisations can be improved by fighting fires, and competition is a necessary aspect of life. Deming (1986:16) then argued that leaders who rely on these assumptions for managing the modern organisations are doomed since they do not know the assumptions required for success in tomorrow’s marketplace. He noted that management must promote joy in work for all the stakeholders because joy “unleashes the power of human resource contained in the intrinsic motivation. Intrinsic motivation is the motivation which an individual experiences from the sheer of joy of an endeavour.” According to Deming (1986:44), there are certain paradigms through which joy in work can be created. These are:

2.3.3.1 Paradigm 1: Use of a Combination of Intrinsic and Extrinsic Factors to Motivate Employees

Deming revealed that a combination of intrinsic and extrinsic factors motivates employees. Intrinsic factors are associated with the joy and happiness which emerge from executing a particular task, and usually inspires the employee to strive to improve his or her performance. Extrinsic factors are more related to rewards and the fear of punishment, and as Deming highlighted, these factors hinder employees’ effective performance since it restricts the employees’ freedom and autonomy to make decisions, and suppresses intrinsic motivation. In other words, Deming (1986) stated that management which is based on extrinsic factors squeezes out the intrinsic motivation from the employees, self-esteem, dignity and builds into the employee fear and self-defence which hinder creativity and quality work. This principle provides that employees work in a system, and the work of the manager is to work on the system and improve it continuously with their help.

Deming (1986) further explains that this principle states that a system consists of components which interact in order to fulfil a common purpose. It is therefore the role of the top management to coordinate activities between the different sub-systems in order to maximise the general organisational performance. This signifies that learners study and learn in a system. The job of the teachers is to work on the system and to continuously improve it with the learners’ help. This however does not depict that learners must determine what they must be taught, but their views can be used as part of the improvement process.
The application of this principle is further illustrated with the aid of Figure 2.2. It illustrates that there are four main systems which must be considered when introducing a quality management system in education. The innermost circle is where work gets done, and it is where the tools and techniques are applied in order to realise improvement in education quality.

The social system is the work place, and this can be a source of hindrance or success to education quality improvement. For instance, a teacher may not introduce a new approach in a classroom if other teachers object. The approaches for the development of wisdom and character must therefore involve the entire department or even sometimes the whole school (Deming, 1986:44). In other words, there must be co-ordinations and consultations since improvements in one taught subject can negatively or positive affect the performance in another subject. It is therefore not possible to consider only the set tools and techniques without considering the social system in which the processes are embedded.

The managerial system outlines protocols, practices, permission, privileges, policies and politics which determine the nature of the social system. In order for quality management in education to be successful, the process must begin with the education of staff which can be accomplished by adopting appropriate change management strategies. The change management strategies must facilitate the development of general awareness of why it is necessary to change, establishment of goals and objectives for change, and the broader understanding of the three systems contained in Figure 2.1.
### 2.3.3.2 Paradigm 2: Management to be based on an Effective Process and Results Orientation

Deming (1986:44) emphasized that management must be based on an effective process and results orientation since this would enable managers to examine the processes and make appropriate improvements in order to realise positive changes in results. A management system which is based on processes also enables assessments to be made for improvement which leads to the future optimum utilisation of the organisation. This theory maintains that variations are inherent in all management processes, and it can be a special variation or common variation. The causes of special variations are usually external, and therefore it is the role of the local people and engineers to determine and resolve the causes of special variations.

The common variations usually arise from the inherent design and structure of the system. It is the responsibility of management to isolate and reduce the common variations. However, there are two types of mistakes which can be made in the management of a system. These are: treating a common cause of variation as a special cause of variation, which is usually also referred to as tampering. This can

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#### Figure 2.1: Quality Function Deployment Matrix

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Bar Chart</th>
<th>Check Sheet</th>
<th>Control Chart</th>
<th>Control Limits</th>
<th>Histogram</th>
<th>Loss Functions</th>
<th>Pareto Charts</th>
<th>Procedures</th>
<th>Process Capability</th>
<th>Common verses Special</th>
<th>Scatter Diagram</th>
<th>Work sampling</th>
</tr>
</thead>
</table>

![Quality Function Deployment Matrix](image-url)

- Students’ evaluation process
- Teachers’ evaluation process

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cause further variability in the system. Nonetheless, he notes that the implication of this principle in education is that principals and teachers must critically examine what excites learners and makes learning interesting. Some of these factors could be inherent in the teaching and learning process itself, or it could be related to the presence or the absence of other features which add educational experience. These features are computers, modern science laboratories, extensive offerings in drama, arts, music, sports and excellent facilities.

2.3.3.3 Paradigm 3: Optimise the Entire Organisation as a System

Deming (1986:45) further argues that this paradigm maintains that managers must optimise the entire organisation as a system so that a significant positive result can be obtained. This is because organisations are built on departments which are interdependent. Therefore, an attempt to optimise only certain departments can lead to sub-optimisation of certain departments, and subsequently reduces general organisational performance. This may require greater coordination of activities and sub-optimisation of every department in order to realise a significant improvement of the organisational results as a whole.

Deming states that information, no matter how speedy or complete it is, is not knowledge. He revealed that knowledge refers to the ability to predict future events with the risk of being wrong and the ability to explain past events without fail. Knowledge is developed by using the present theory to predict future outcomes, comparing the observed outcome with predicted outcome, and revising or abandoning a plan altogether.

In education, this principle would require that emphasis must be placed on improving the teaching and learning process, and not on the achievements in examinations. A study conducted at Mount Edgecumbe High School in the United States on how to improve the teaching and learning process resulted into the development of the “Quality Function Deployment Matrix”. This model, which is presented in Figure 2.3, can be used to demonstrate how quality principle 3 can be applied to improve the quality of learning and teaching.
2.3.3.4 Paradigm 4: Cooperation between Managers, Employees and Departments

According to Deming (1986:45), this paradigm stated that cooperation between managers, employees and departments works better than if competition is encouraged. This is because everybody wins in a cooperative organisation; service excellence and product quality improve, and subsequently excites customers. Tribus (2008:6) described how W. Edwards Demings’ (1986) principles were transposed into the management of education quality in the United States in a sense that quality improvement must focus on all areas of education, is the ability to understand people, the interactions between them, and the interactions of people with the system which they are part of.

In effect, Demings (1986) states that management must understand the difference between intrinsic and extrinsic motivations, and must appreciate that whereas some people may be motivated by intrinsic factors, others are motivated by the extrinsic factors. Understanding such differences in people’s needs may enable managers to apply different motivators in different circumstances, and subsequently experience improvement in general organisational performance.

Despite the application of Deming’s quality management techniques, theories also reveal that there are certain management techniques whose application may enhance education quality improvement.

2.4 QUALITY MANAGEMENT TECHNIQUES

Heizer and Reinder (2006:301) revealed that quality improvement, through encouraging faster and efficient work processes in order to reduce costs and maximise productivity, has been the managerial imperative in the service sector ever since the 1970s. This entailed crafting strategies which enhance better service processes and outcomes in order to improve customer satisfaction. Historically both quality and productivity have been considered as the issues for operation managers (Lovelock & Wirtz, 2004:405). In order to achieve improvements in service quality, Heizer and Reinder (2006:301) pointed out that management executives emphasised the need for better employee selection, training, supervision, renegotiation of labour agreements relating to job assignments and work rules. In effect, human resources and production strategies had to be integrated. Hoffman and Bateson (2002:99) added
that the service quality concept then became strongly linked to customer satisfaction and rendered integrating marketing strategies into the total firm’s strategies.

Generally, the task of the value enhancement requires quality improvement programmes to deliver and continuously enhance the benefits desired by customers (Haywood-Farmer, 1988:29). At the same time, productivity improvements must seek to reduce the associated costs. The challenge is to ensure that these two programmes are mutually reinforcing in achieving common goals rather than operating at loggerheads with each other in pursuit of conflicting goals (Lovelock & Wirtz, 2004:405). In this section therefore, the questions which must be answered include: examining how service quality problems can be diagnosed and addressed, the key tools for improving service quality, and assessing how concepts such as TQM, ISO 9000, Malcolm Bridge Approach and Six Sigma relate to managing and improving service quality.

2.4.1 Measures for diagnosing and improving service quality

Hill and Alexander (2006:161) maintain that the concept of quality in the service sector is derived from the concept of quality in the manufacturing sector. In order to incorporate various perspectives of quality in the manufacturing sector, Hill and Alexander (2006:161) noted that Garvin (1987:100) developed a framework for analysis and strategic planning. The model outlined components which encompass: performance (primary operating characteristics), features (bells and whistles), reliability (probability of malfunction or failure), conformance (ability to meet specifications), durability (how long the product continues to provide value to the customer), serviceability (speed, courtesy, competence and ease of having the problems fixed), aesthetics (how the product appeals to any or all of the users five senses), and perceived quality (associations such as the reputation of the company or brand name). Although these categories were developed from a manufacturing perspective, they also address the notion of “serviceability” of physical goods.

However several researchers agree that the distinctive nature of services requires a distinctive approach to defining and measuring service quality (Kotler & Armstrong, 2006:240; Imrie, Cadogan & McNaughton, 2002:10). As a result of the intangible and the multifaceted nature of many services, it may be harder to evaluate the quality of a service than of a good. This is because customers are often involved in service
production. Especially in people-processing services, a distinction needs to be drawn between the process of service delivery (what Christian Gronroos calls functional quality) and the actual output of the service (what he calls technical quality). Gronroos (1984:43) and other researchers argue that the perceived quality of a service is the result of the evaluation process in which customers compare their perceptions of service delivery and its outcome against what they expect. Zeithmal, Parasuraman and Berry’s (1985:41) shared the same view and developed a service quality model which is discussed in the details below.

2.4.1.1 Zeithmal, Parasuraman and Berry’s (1985) Model (SERVQUAL)

According to Kotler and Keller (2006:244), the most extensive research into service quality is strongly user-oriented. They state that from focus group research, Parasuraman et al. (1985:43) identified 10 criteria which customers use in evaluating service quality. In subsequent research, they found a high correlation between these variables and then consolidated them under five broad dimensions. These five broad dimensions encompass: tangibles (appearance of the physical elements), reliability (dependable and accurate performance), responsiveness (promptness and helpfulness), assurance (competence, courtesy, credibility and security), and empathy (easy access, good communications and customer understanding) (Parasuraman, Zeithaml & Berry, 1988;43; Parasuraman, Zeithaml & Berry, 1985;51; Parasuraman, Zeithaml, Berry, 1991;450). The dimensions are further explained below.

- **Tangibility**: Schiffman and Kanuk (2004:193) assert that tangibility pertains the standard on appearance of physical facilities, equipment, personnel and communication materials. All these would provide physical representation or images or standards of service quality, which customers can use to evaluate service quality. According to Zeithaml and Bitner (2003:98), the appropriate existence of such tangibility aspects usually help bolster the store’s public image, and ultimately the store transforms into a magnet for attraction of more and more customers and subsequently, improved competitiveness.

- **Reliability**: reliability enhances the examination of how the prescribed standards on service delivery are considered in the accomplishment of activities. It also involves customers’ evaluations of whether the organization
delivers on its promises in respect to service provision, problem resolution, and pricing. According to Schiffman and Kanuk (2004:193), reliability is defined as the firm’s ability to perform the promised services dependably and accurately. Therefore, any failure by the company to deliver on such promises would not only generate customer dissatisfaction, but would also generate defects.

- **Responsiveness:** as per Zeithaml and Bitner (2003:97), responsiveness deals with the firm’s willingness to help customers and to provide prompt service. The evaluations of such dimensions would extend to attractiveness and promptness in dealing with customer requests, questions, complaints and problems. According to Hoffman and Bateson (2002:337), responsiveness reflects the firm’s commitment to provide the services in a more timely manner. As such, the responsiveness dimension of SERVQUAL concerns the willingness and/or readiness of employees to provide a service.

- **Assurance:** this is the service quality dimension which customers use to evaluate the organization and its employees' knowledge, courtesy, and ability to inspire trust and confidence in them. Hoffman and Bateson (2003:337) posit that courtesy refers to how the firm’s personnel interacts with customers and the customers’ possessions, as thus it reflects the extent to which the employees are polite, friendly and considerate to the customers. Zeithaml and Bitner (2003:97) elaborates that the nature of the organisation’s physical evidence is one of the determinants of whether customers evaluation of assurance dimension is positive or negative.

- **Empathy:** as Zeithaml and Bitner (2003:337) maintain, empathy is the ability of the organisation to experience customers' feelings as its own. Such a dimension would therefore necessitate striving to understand the individual needs of customers and subsequently individualizing services channeled to meeting such needs.

### 2.4.1.2 Criticisms of Parasuraman et al. (1985) Model (SERVQUAL)

In spite of the fact that SERVQUAL has been widely used by serve companies, Watkins (2002) states that a number of questions still linger about its conceptual
foundation and methodological limitations. He points out that Gerhard, Boshoff and Nel (1996:14) analyzed data sets from banks, insurance brokers, vehicle repair firms, electrical repair companies and life insurance firms. Their findings suggested that in reality, SERVQUAL scores measures only two factors: intrinsic service quality (which resembles Gronroos' (1984:36) termed functional quality) and extrinsic service quality (which refers to the tangible aspects of service delivery and resembles to some extent what Gronroos referred to as technical quality) (Zeithaml, Berry & Parasuraman, 1988:48; Zemke & Schaaf, 1989:1; Zikmund, McLeod & Faye, 2003:22). Nonetheless, Steve Baron and Kim Harris (2004:6) argue that these findings do not undermine the value of Parasuraman et al.'s (1985:41) Model in achieving the identification of some of the key underlying constructs in service quality, but they do highlight the difficulty of measuring customer perceptions of quality. Anne Smith (1986) noted that the majority of researchers using SERVQUAL have omitted from, added to, or altered the list of statements purporting to measure service quality.

According to Palmer (2005:17), comparing performance to expectations works well in reasonably competitive markets in which customers have sufficient knowledge to purposefully choose a service that meets their needs and wants. However, he noted that in uncompetitive markets, or if customers do not have free choice (because, for instance, switching costs would be prohibitive due to time or location constraints), there are risks to defining service quality primarily in terms of customers' satisfactions relative to their prior expectations. If customers' expectations are low and service delivery proves to be marginally better than the dismal level that had been expected, Palmer (2005:17) state that one can hardly claim that customers are receiving good quality service. In such situations, it is better to use needs or wants as comparison standards and to define good service quality as meeting or exceeding customer wants and needs rather than expectations.

Merlin, Woodcock and Machtynger (2001:3) argue that satisfaction-based research into quality assumes that customers are dealing with services that are high in research or experience characteristics. However, they noted that a problem arises when they are asked to evaluate the quality of those services that are high in credence characteristics such as complex legal cases or medical treatments which they find difficult to evaluate even after delivery is completed. In short, they argue that
customers may not be sure what to expect in advance and may not know for years if how good a job the professional did. A natural tendency in such situations is for clients or patients to use process factors and tangible cues as proxies to evaluate service quality.

According to Jha (2004:214), process factors include customers’ feelings about the providers’ personal style and satisfaction levels with those supplementary elements that they are competent to evaluate. For example, he noted that it could be the tastiness of hospital meals or clarity of bills for legal services. As a result, Jha (2004:214) further states that customers’ perceptions of core service quality may be strongly influenced by their evaluation of process attributes and tangible elements of a service that is, the halo effect. In order to obtain credible measures of professional performances quality, it may be necessary to include peer reviews of both processes and outcomes as these relate to service executions on the core product.

2.4.2 Zeithmal, Berry and Parasuraman’s Service Quality Gap Model

Zeithaml and Bitner (2003:16) are of the opinion that having improved service quality entails consistently meeting or exceeding customers’ expectations. As such they add that the manager’s task is therefore to balance customer expectations and perceptions in order to close any gap between the two. According to Zeithmal, et al. (1987:5), as cited in Lovelock (1994:112), there are potentially four gaps within the service organisation which can lead to the final and most serious gaps between what customers expect and what they perceive to have been delivered. Zeithmal, et al. (1987:5) then identified a total of seven types of gaps that can occur at various points during the design and delivery of a service performance. These seven gaps are:

- **Gap 1: The knowledge gap:** is the difference between what service providers believe customers expect and customers’ actual needs and expectations.
- **Gap 2: The standard gap:** is the difference between management’s perceptions of customers’ expectations and the quality standards established for service delivery.
- **Gap 3: The delivery gap:** is the difference between specified delivery standards and the service provider’s actual performance on these standards.
- **Gap 4: The internal communication gap**: is the difference between what the company’s advertising and sales personnel opinion of the product’s features, performance and service quality level and what the company is actually able to deliver.

- **Gap 5: The perception gap**: is the difference between what is in fact delivered and what customers perceive they have received since they are unable to accurately evaluate service quality.

- **Gap 6: The interpretation gap**: is the difference between the service provider's communication efforts of service delivery promise and what a customer thinks was promised by these communication efforts.

- **Gap 7: The service gap**: is the difference between what customers expect to receive and their perceptions of the service delivered.

Gaps 1, 5, 6 and 7 represent external gaps between the customer and the organisation. Gaps 2, 3 and 4 are internal gaps occurring between different functions and departments within the organisation. Gaps at any point in service design and delivery can damage relationships with customers. Koernig (2003:167) pointed out that the service gap is the most critical, and the ultimate goal in improving service quality is to close or narrow this gap in as much as possible. In order to achieve this, service organisations may need to work on one or more of the other six gaps. Improving service quality therefore requires identifying the specific causes of each gap and then developing strategies to close them (Shostack, 1984:139).

### 2.4.2.1 Strategies to address the Service Quality Gaps

Zeithmal, et al. (1987:5), as cited in Lovelock (1994:112) reveal that there are a series of generic steps for closing service quality gaps 1 to 4. In step 1, management must clearly define the customer needs by researching on customers’ needs. Step 2 involves the translation of the defined needs into design and delivery specifications. Step 3 gaps can be closed by executing the design and delivery specifications, and in step 4, the promises and advertisements must meet the service design and specifications.

According to Zeithmal, et al. (1987:5), the gap 5-perception gap recognises that customers usually do not correctly understand what a particular service has done for them. This situation is particularly likely to occur with credence services for which it is
difficult to judge performance even after delivery. Some service personnel make it a point to not only keep customers informed during service delivery, but also debrief them at the end and sometimes offer tangible evidence. Koekemoer (2004:11) elaborates on this view, saying that for instance, a doctor may explain to a patient what took place during medical procedure such as surgery, what was found, if there is anything that differed from what was expected and what the patient can expect for the future. To explain the nature of a complex repair, a technician may give a similar debriefing to the customer who commissioned it and provide physical evidence in the form of showing the damaged components that had to be replaced.

Zeithmal, et al. (1987:8) state that according to the interpretation gap, communication specialists, for instance, in a firm need to pre-test all advertising, brochures, telephone scripts and website contents before they are published in order to reduce gap six. Pre-testing widely used in advertising agencies involves presenting communication materials to a sample of customers pre-publication. Those participating in the pre-test can be asked their opinion of the communications in question and what they interpret the specific or implied promises to mean. If their interpretation is not what the firm intended, changes to text copy or images will be needed. Service personnel who communicate with customers directly, including but not limited to sales and customer-service, should ensure through questioning that customers understand their presentations correctly. In support of Zeithmal, et al.’s (1987:17) theory, Kurtz and Clow (2002:31) argue that the strength of the gap methodology is that it offers generic insights and solutions that can be applied across different industries. What it does not attempt is to identify specific quality failures that may occur in particular service businesses. Each firm must develop its own customised approach to ensure that service quality becomes and remains a key objective.

2.5 TOTAL QUALITY MANAGEMENT

According to Heizer (2006:198), Total Quality Management (TQM) is a management philosophy, a paradigm, a continuous improvement approach to doing business through a new management model. The TQM philosophy evolved from the continuous improvement philosophy in the Japanese automobile industry with a focus on quality as the main dimension of business. Under TQM, emphasizing the quality of the product or service pre-dominates the entire business process. TQM as Jha (2004:214)
noted expands beyond statistical process control to embrace a wider scope of management activities of how we manage people and organizations by focusing on the entire process, not just simple measurements. PHCC Educational Foundation (1996:3) stressed that TQM is a comprehensive management system which; focuses meeting customers/owners' needs by providing quality services at a cost that provides value to the owners/customers, and is driven by the quest for continuous improvement in all operations. Kotler and Armstrong (2001:361) stated that TQM also recognizes that everyone in the organization has owners/customers who are either internal or external, and views an organization as an internal system, with a common aim rather than an individual department acting to maximize their own performances. Finally, Kotler (2003:361) concludes that TQM focuses on the way tasks are accomplished rather simply what tasks are accomplished, and emphasizes teamwork and a high level of participation by all employees.

Charantimath (2004:6) postulates that TQM is a management approach which tries to achieve and sustain long term organizational success by encouraging employer feedback and participation. Satisfying customer needs and expectations, respecting societal values and beliefs, obeying governmental regulations, products, process, system, people and leadership form the pillars of TQM. He added that TQM provides the overall concept that fosters continuous improvement in an organization. Clement and Selvam (2006:22) noted the TQM philosophy stresses a systematic, integrated, consistent, and organization-wide involving everyone and everything. It focuses primarily on total satisfaction of both internal and external customers within a management environment that seeks continuous improvement of all systems and processes. It is the totally integrated effort for gaining competitive advantage by continuously improving every facet of an organization’s activities (Clement and Selvam, 2006:22).

2.5.1 The core concepts of TQM

According to Charantimath (2004:6), Jain and Saakshi (2006:131)and Heizer (2006:198), the following are the core concepts of TQM:
2.5.1.1 Quality for profit

Jain and Saakshi (2006:131) argued that there is a great deal of profit to be made by quality improvements in production and services, business processes, and people. Quality pays for itself in cost reduction. In order to gain an increase in profit through sales increment, Jain and Saakshi (2006:131) noted that a significant increase in operating cost (sales personnel, promotion/advertising, and inventories) is necessary. Making the same increase in profit through quality improvement would require only a fraction of those operating costs, which in any case can diminish over time. They further state that quality pays for itself in sales growth since the more quality increases the more sales increase. As quality reputation grows, marketing can emphasize increasing customer satisfaction as a major element in advertising and other promotions. The long-term effect will be to reduce the expenditure required on advertising in order to maintain a competitive lead.

2.5.1.2 Right First Time

Keillor, Hult and Kandermir (2004:35) are of the opinion that at the heart of TQM is the conviction that it is possible to achieve defect-free work most of the time. This is termed as “right the first time”, “every time” or “zero defects”. The right first time or zero defects is a result of emphasize on prevention and diligent use of measurement, process controls and data driven elimination of waste and error. It serves as a goal for continuous improvement. Prevention is the aim of all quality assurance. Through planned and systematic action such as documentation of work processes or cost of quality audits, Charantimath (2004:6) states that quality assurance prevents quality problems. This can be achieved by encouraging defect free work, prevention culture, and total business quality approach.

2.5.1.3 Acceptable Quality Levels

According to Heizer (2006:198), the acceptable quality levels which evolved after World War II offer a diametrically opposite mindset of total quality. Instead of getting it right first time, Heizer (2006:198) states that by focusing on zero defects, the company encourages defects by setting the Acceptable Quality Levels-AQL. In effect, defects reduce and costs decline as quality improves. AQL is expensive since defects are reduced over time by increasing costs through extensive inspection, checking, and progress chasing.
2.5.1.4 Cost of quality

Lovelock and Wirtz (2007:44) argue that the effective cost component of a manufactured product is attributable to the quality aspect of the product from the point of view of the manufacturing organization which can be called *quality cost*. According to Lovelock and Wirtz (2007:44), this quality cost can be deemed as an aggregation of several component costs known as quality costs. Such quality costs include failure costs, appraisal costs, prevention costs, and hidden costs. Failure costs are associated with the manufacturing and usage of products which fall on quality requirements. Lovelock and Wirtz (2007:44) added that the first kinds of failure costs are associated with the manufacturing of products which fail on quality requirements or specifications. These are also known as internal failure costs. Internal failure costs comprise of manufacturing losses arising out of costs of labour, materials, machine hours, and loss of scrapped items.

They further explain that the other internal failure costs are the costs of rework or reassembly at later stages, cost of reprocessing and loss of worker morale, and costs of failure to meet contracted schedules. The second type of failure costs is the external failure costs. External failure costs are associated with the costs of shipping defective products to customers. These costs relate to costs of attending customer complaints and repairs, cost of replacement, imputed cost of failure to customer in terms of consequent damages or losses/cost of legal liabilities arising out of guarantee or product liability. External failure costs also include cost of loss of customer goodwill, cost of loss of sales due to publicity of failures, and downgrading.

According to Lovelock and Wirtz (2007:47), appraisal cost is the second type of cost of quality. These are costs which arise from the routine quality control and information systems which are designed to provide managerial control through measurement, evaluation and auditing the existing levels of quality of manufactured components, products, and purchased raw materials. Appraisal costs usually consist of costs of inwards, in process and final inspection, cost of destructive test losses, and cost of preparation of reports and audits.

Lovelock and Wirtz (2007:47) note that the other types of appraisal costs are: costs of maintenance and calibration of test instruments and facilities, cost of administrative machinery and organizations for inspection, testing and appraisal, product review cost,
process control cost and quality engineering costs. Prevention costs are the costs incurred in order to ensure that bad quality does not occur in manufactured goods, and hidden costs are costs which include potential of lost sales (Kotler, Hoon Ang, Illeng Leong & Tiong Tan, 2003:3). Total Quality Management also encourages competitive benchmarking as a way for continuous improvement, involvement of everyone in the organization, supporting technology and appropriate reward strategies (Dabholkar, Thorpe & Rentz, 1996:14; David, 2004:1; Graham, 2003:66).

2.6 PERFORMANCE MEASUREMENT AND DEVELOPMENTAL APPRAISAL

A consensus exists among performance management experts that performance refers to the acts done by employees leading to the improving ability to achieve the desired strategic goals and objectives of the organization (Grobler, Warnich, Carrel, Elbert and Hatfield, 2002:314). The striking feature in most of the work by these authors is that performance is considered as a dependent variable. A study by Steyn and Van Niekerk (2002:10) for instance revealed that out of a total of 146 empirical research works carried out over a period of 20 years up to 2001, 72.5% of those treated individual performance as a dependent variable. The implication of this is that performance is dependent on the manipulations of other variables. Such predictor-variables are skills, abilities, attitudes, knowledge, job context, pay and job design. Empirical studies conducted over the past 30 years by different researchers (Grobler et al. 2002:314) postulate that there is a significant direct positive correlation between predictor variables such as employees’ abilities, skills, knowledge, job context and performance. This signifies that the careful manipulations and management of these variables can lead to improved employee performance and subsequently, general organizational performance. The management of these variables has a direct or indirect effect on performance.

Wild (2002:1) stated that early models were vague as to what performance is, since most of them viewed it as function of the individual’s ability and motivation. Although there has been criticism of this view, the idea remains prominent in contemporary theories. Doyle (2006:178) argues that “performance is what the organization hires one to do, and do well.” This definition has got the connotation that performance has to do with organizational goals as prescribed in an employee contract. Behavior which has nothing to do with these prescribed organizational goals is not performance.
However, Balogun (2001:14) suggested that one has to be critical of this definition because it excludes all the other activities which an individual might perform to the advantage of the organization although they are not part of the performance contract. For example, an educator can become a soccer coach and do it well for the good of the institution. Can we conclude that this is not performance just because the educator was not hired to coach soccer?

Wild (2002:1) takes this definition further and bring an angle which encompasses all activity which benefits the organization. They define performance “as the total expected value to the organization of the discrete behavioral episodes that an individual carries out over a standard period of time.” The important aspect of this definition is the term ‘total expected value’. If we follow this definition, employee performance may encompass even those activities which are not prescribed on the performance contract but add value to the organization. An educator who volunteers to coach a soccer team and do it well adds value to the institution and this has to be regarded as performance.

This definition is relevant to the concept of performance, and the researcher will be critical of other views using this angle of thinking. Literature review also reveals that some scholars argue that performance can be equated to task accomplishments, goal achievement or tangible results or output. Schultz, Bagraim, Potgieter, Viedge and Werner (2003:52) simply define performance as “what people say and do.” This definition does not put parameters as to what people should say or do to consider their actions to be performance. Saying anything or doing anything cannot be regarded as performance. People say and do a lot within the work place, especially educators. It is not everything that educators do or say that qualifies to be performance.

If what they do or say adds value to the organization, then it can qualify to be performance. While it is correct that when an organization employs people, it pays them either for their physical work or for what they say, it is also correct to say that it is not everything that people do or say that should be paid for. This brings us to the concept put across by Sonnentag and Frese (2001:6). They argue that performance is multi-dimensional. They distinguish between task performance and contextual performance. According to this perspective, one aspect deals with the proficiency with which an individual performs a given task while another one deals with performance
where an individual does things which support the well-being of the whole organization but have nothing to do with the given tasks. This is a pragmatic approach which recognizes that both task and contextual performance are equally important.

Industrial and organizational psychologist gurus like Campbell et al. (1996:258) look at performance as a goal-related behavior which cannot be measured by outputs all the time. This may be a difficult concept to understand because where there is performance we expect outcomes. Williams (2002:93) suggests that there is a relationship between behavior and output. “Behavior is regarded as one of the causes of output with output being one of the means by which effectiveness of performance (that is behavior) may be judged.” Outcomes can be considered as a measure as to whether performance has taken place or not. Certainly, there are instances where outcomes take time to show like in a school situation where learners get final results at the end of 10 months of teaching.

Throughout the year, there is performance but no tangible outcomes. The absence of these outcomes does not mean that there is no performance. Those who advance this theory are quick to point out that although behavior can be performance, it is not all behavior that can be performance. This perspective is very useful towards understanding the IQMS in the South African schools. It brings the idea that, although schools’ employees may engage in some form of work-related behavior on a daily basis, it is possible that this behavior may have nothing to do with the goals of the institution. This is quite an interesting concept as one tries to understand the causes of poor performance in South African schools. According to the theory of performance put forward by Campbell (1990:687), only goal-relevant behavior counts as performance.

Looking at performance from this perspective means that the school management expects its employees to achieve good results for the students and grow the institution in terms of student number. These are the measures of performance in most South African schools. Williams (2002:94) cautions that we should not regard performance as task accomplishment or goal achievement because of the fact that, “for many jobs results are not necessarily the product of what individual employees do; there are many other contributory factors that have nothing to do with the person doing the job”. Learners may not do well because of their laziness, and this may not be blamed on employees. On the other hand, learners may do well because they put on individual
efforts, and this may not be credited to the employees. The debate may go and on, but there are two important aspects from this theory regarding the issues of performance.

Firstly, there has to be some activity or behavior, seen or not seen for performance to take place. An employee has to consciously engage in some purposeful behavior to accomplish a particular task or achieve intended results. Secondly, the employee has to regulate his behavior and use his abilities to ensure that the intended result or task is achieved. It is therefore possible for an employee to engage into some behavior which has nothing to do with the task at hand. This may be a result of the failure by the employee to understand the task. Grobler, Warnich, Carrell, Elbert and Hatfield (2002:14) point out that this may happen if the employee fails to decipher the correct standards or in a case where “an employee’s perception of good performance may differ markedly from that of the manager.” A lack of capabilities to complete the task or maybe the absence of tools to perform the task correctly may also result in behavior which is not goal-relevant. This concept is quite interesting and central to the investigation of the causes of poor performance in an institution. The question is: do teachers understand the goals of the organization they work for? If not, they cannot engage in goal-relevant behavior.

If they understand the goals of the institution, do they have the capabilities and skills to accomplish the goals of the institution? If not they cannot engage in goal-relevant behaviors. If they have the capabilities, the question is: do they have the tools or support they need to accomplish the tasks they are given? If the answer is no, then they cannot engage in goal-relevant behavior. This shows the complexity of understanding that causes poor performance. A number of related issues have influence on employee performance. This research aims at unearthing these intricacies to try and understand the real issues. Overall, what emerges from the different sources of literature is that there are two views of performance. One view is that performance can be taken as output or results, and the other view is that performance is behavior. These views cannot be used simultaneously lest there is confusion in the definition of performance. For the purpose of this study, performance will be looked at as behavior which is relevant to the goals and which adds value to total growth and performance of the institution. The understanding is that performance
has to do with the well-being and goals of the organization. Any contrary behavior or behavior which may even harm the institution is not performance.

2.6.1 The Purpose of Performance Management in Organizations

Bititci, Nudurupati, Turner and Creighton (2002:87) state that many scholars agree that performance management plays an important role in organization management. According to Noe et al. (2000:280), “the purpose of an effective performance system is to link employee activities with the organization’s strategic goals, furnish valid and useful information for making decisions about employees, and provide employees with useful developmental feedback.” The important elements which emerge from this view are that performance management is all about organizational strategy, the administration of the organization, and its employees and the development of these employees. Bennet and Minty (1999, cited in Nel et al 2004:475) added another dimension - that of culture. They pointed out that performance management, “is a vehicle of cultural change.” Although they do not elaborate on this point, they talk about performance being a vehicle for cultural change. An organization may achieve a cultural change through redefining its goals and reengineering its processes towards a different direction. Employee activities may also be realigned to a new way of doing things within the organization. Below is a brief discussion of each one of these aspects.

2.6.1.1 Strategic Purpose

One major purpose of performance management is to link organizational goals to employees' activities. Noe et al. (2000:347) observe: “Performance management is critical for companies to execute their talent management strategy that is to identify employees’ strengths and weaknesses, link employees to appropriate training and development activity and reward good performance with pay and other incentives.” In doing this, management has to define the behavior and capabilities of employees which are necessary to the attainment of the desired results. Employees have to be managed in a manner that directs their activities towards the maximum achievement of organizational goals. A measurement mechanism in the form of performance appraisal should be in place to ensure and check that the intended results are achieved. Employees have to be given feedback on their performance. Effective performance management plays an important role in aligning employee talent to organizational goals. If properly implemented, performance management is an
important tool which positions the organization for success. Schultz et al. (2003:76) state that “Good performance management means that each person will have goals and measures that are linked directly to the organization’s strategy.” In this way, all employees’ activities will be directed towards the achievement of organizational goals.

2.6.1.2 Administrative Purpose

Performance management can be used for administrative purposes. Noe et al. (2000:279) observe among these: “salary administration, promotions, retention-termination, layoffs, and recognition of individual performance.” If properly administered, these may provide management with the opportunity to recognize and reward individual effort and performance. Management can use rewards to appreciate the skills and inputs the employees make in advancing organizational goals. As management administers the reward system, great care has to be taken to ensure that employees view the whole exercise as equitable. If employees view the system as unfair they may decide to withhold their performance. This may have unintended consequences for an organization.

2.6.1.3 Developmental Purpose

According to Bititci, Carrie and McDevitt (1997:34), one of the important functions of a Human Resource Manager is to develop the human resource of a company. The purpose for such programs is to develop employees and improve performance after identifying areas of weakness among employees or in preparation for future positions or to achieve competitiveness through the labor force. A performance management system is also important in identifying weaknesses among employees - for example lack of skill and capabilities. Once identified, the manager should recommend training for the employee who lacks the skill. While scholars agree that the purposes of performance management should be administrative, developmental and strategic, they also agree that many companies ignore the developmental aspect. The focus, it seems, is mainly administrative and strategic. Noe et al. (2000:343) point out that “less than 25 percent of the companies use performance management to help manage talent through identifying training needs and developing leadership talent.”

This is a worrying revelation, taking into consideration that nowadays work processes evolve to keep up with the technological developments. There is even a greater need
than ever for management to develop their employees to keep up with latest developments. For example, in the education industry, there have been three dramatic changes to the curriculum since 1994 (from Bantu Education to Outcome Based Education to the National Curriculum Statement). During the same period, educators have not gone through serious training for each curriculum. This has negatively impacted on their competencies. In 1994, the use of computers in the classroom was limited. Fourteen years later the use of technology in the classroom forms part of the daily teaching process. Educators who are computer illiterate are challenged when they are confronted by teaching technology in the classroom. This example shows the importance of the developmental aspect of performance management.

2.6.2 THE PERFORMANCE MANAGEMENT PROCESS

Theories reveal that the effectiveness of a performance management process is determined by the use of three major steps: launching process, coaching process, and evaluation process (Nel et al, 2004:417; Bourne and Mike, 2005:113; Bourne, Wilcox, Neely and Platts, 2000:771);

2.6.2.1 Step 1: Launching process

Wilcox et al. (2000:771) revealed that this process involves the alignment of performance management with the organization’s business strategy. From then, the departmental goals are identified and aligned with the individual goals. The actions which the employee has to engage in to ensure the achievement of the set goals are discussed and agreed upon by the employee and management. Wilcox et al. (2000:771) add that this stage is very important because it lays the foundation for employee performance. If employees misunderstand the strategic goals of the organization, then their actions will be irrelevant to the achievement of organizational goals.

2.6.2.2 Step 2: Coaching process

Bourne and Mike (2005:113), on the other hand, noted that coaching involves the day to day monitoring of employee performance in various departments. The manager has to monitor and mentor employees before problems develop. This process involves the correction of any performance which is below standard. Employee weaknesses and deficiencies should be identified and corrected during this coaching stage.
2.6.2.3 Step 3: Evaluation process

el et al. (2004:477) argue that the process of performance evaluation involves the manager assessing the effectiveness of an employee’s activities relative to others or the goals agreed upon by the employee and management. Nel et al. (2004:477) categorize the evaluations into relative judgments and absolute judgments. In the former, employee performance is compared to the performance of other employees while in the latter, employee performance is assessed relative to the agreed upon goals. This performance evaluation process is often referred to as performance review, staff assessment, or performance appraisal (Bourne & Mike, 2005:113).

Despite using the three main steps in the performance management process, Bourne, Neely, Mills and Platts (2003:19) state that the effectiveness of performance management is also determined by the extent to which performance appraisal is integrated in the performance management process.

2.6.3 PERFORMANCE APPRAISAL

It is stated in Bourne et al.’s (2003:19) arguments that all organizations use performance appraisal for various purposes. The main issue hovers around what criteria should be used to appraise performance. Given that all appraisals involve judgments which are not always fair, organizations therefore tend to use multifarious techniques and tools to measure performance as objectively as possible. Besides a good technique, Chang (2005:437) further argues that successful performance appraisal requires a consistent approach, clear standards, measures and bias free ratings. A critical part of the evaluation process is the preparation of the rater. Raters must be trained on the system being used and its purpose to ensure consistency and accuracy. Finally, if the employees’ performance is to improve, they must be provided with feedback on their performance and advised on how to make improvements (Rao, 2006:335).

Tripathi and Reddy (2006:218) state that in today’s competitive business environment, assessing employee activity is an important human resource management function in both large and small organizations. They also maintain that the necessity of assessing employee performance is brought about by the realization that employees are an important resource in advancing organizational goals. Nel et al. (2004:486) observe
that “the product of successful performers is a high-performance company with an unmistakable profile that distinguishes it from the mediocre.” It is for this reason that organizations have to conduct performance appraisals. Nel et al. (2004:486) argue that when properly implemented, an appraisal system may, among other things, ensure that an organization achieves high performance. A review of the literature shows that employee appraisals can either be formal or informal. It is important to mention that many companies, especially large ones, prefer formal assessments for the purpose of development, training, and compensation. The whole exercise of assessing and evaluating employees takes place under the function of performance management and is termed ‘performance appraisal’.

Swanepoel et al. (2000:372) define performance appraisal as “a formal and systematic process by means of which the job-relevant strengths and weaknesses of employees are identified, observed, measured, recorded and developed.” According to this definition, the main purpose of assessing employees is to identify their weaknesses and then help them overcome these weaknesses. The ultimate goal of a performance appraisal is to develop employees and improve their performance. A similar view is expressed by Hellriegel, Jackson, Slocum, Staude, Amos, Klopper, Louw and Oosthuizen (2004:247) who posit that “performance appraisal is the process of systematically evaluating each employee’s job related strengths, developmental needs, and progress toward achieving goals and then determining ways to improve the employee’s job performance.”

According to Bourne et al. (2003:19), this definition brings out three distinct dimensions about a performance appraisal process. It seeks to unearth an employee’s strengths and weaknesses relative to agreed-upon performance and organizational goals. It goes on to establish the developmental and training needs of each employee to assist him or her to improve performance. These core functions of an appraisal process are meant to uplift both the employee and the organization. However, literature review reveals a disturbing trend among organizations. Noe et al. (2000:343) point out that recent research reveals that many companies ignore the developmental role of performance appraisals but use appraisal to determine rewards and promotions. This revelation is disturbing because if pay rises are based on performance an employee whose development and training needs are ignored, that employee will always perform poorly and get less pay. At the same, time such an employee will never get promoted.
Above all, ignoring the developmental aspect of employees means that an organization will find it difficult to improve its performance.

Going back to the definitions of performance appraisals words such as ‘formal’, ‘systematic’ and ‘job-relevant’ are noted. These have far-reaching implications in the design and implementation of performance appraisal systems. The words ‘formal’ and ‘systematic’ emphasize that an appraisal system should be properly planned and implemented. It should not be an after-thought whereby management thinks of appraising employees when there is a performance problem or when it is time for pay raises. The process should also be systematically implemented to make sure that both management and employees get the best results out of it. Many organizations are found wanting when it comes to these aspects. For example, most schools do not have a formal and systematic performance appraisal system. The so called ‘appraisal’ at the present moment is just a score sheet which is done at the end of the year to determine salary raises. In a year where there are no salary increases, the system is shelved. This haphazard approach has rendered the whole system ineffective and has not benefited employees in their career development.

Employee development should always match the ever-changing demands of jobs. While the above definitions deal with some of the important aspects of an appraisal system which many authors agree on, it lacks clarity on some aspects which Gomez-Mejia et al. 2001(cited in Swanepoel et al. 2000:372) deal with. Writing about the purpose of performance appraisal they point out that, “the overall purpose of appraisal, naturally, is to provide information about work performance”. This information can serve a variety of purposes, which generally can be categorized under the two main headings of administrative purposes and developmental purposes. The administrative and developmental purposes were earlier dealt with in detail under the section of performance management. A well-designed and administered performance appraisal system has to support administrative work and also ensure that employees are developed with the aim of improving their performance. Schultz et al. (2003:77) concurs with this view and states that, a “good performance appraisal should aim towards developing the individual so as to improve his or her performance in future.”

South African schools need to have a well-designed performance appraisal system which focuses not only on the salary issues but the development of employees. There
should be systematic identification and recording of employee weaknesses. Literature review reveals that an organization that ignores the developmental needs of its employees does so it at its own peril. The training and development of employees is fundamental to performance management. Employees who are not constantly developed or trained in new processes cannot keep up with the ever-changing business world. This is the function of performance appraisal and is vital in improving performance in organizations. The section that follows discussed features of a well-designed performance appraisal system.

2.6.3.1 The performance appraisal system

According to Swanepoel et al. (2000:326) a performance appraisal system has to meet certain criteria for it to be successful. These are discussed below;

2.6.3.1.1 Relevance

An appraisal system has to be relevant to the organizational goals and the job specifications of employees. Noe et al. (2000:351) term this ‘strategic congruence’ and point out that strategic congruence “emphasizes the need for the performance management system to guide employees in contributing to the organization’s success.” For example, in the case of schools, the appraisal system has to encompass all the important goals of the National and Provincial Departments of Education and then the goals of the individual schools. Each department within the institution has to have an appraisal system with relevant departmental goals. The different departments comprising of the academic, boarding, and catering departments should have appraisal systems which address the goals of the institution first and then the goals of each department.

2.6.3.1.2 Reliability

Noe et al. (2000:353) state that reliability “refers to the consistency of a performance measure.” Many scholars agree that reliability is a pre-requisite for an effective appraisal system. An appraisal system has to measure what it is intended to do at different times and all the time. This requires that Human Resource practitioners who are responsible for implementing an appraisal system should be competent and impartial in the execution of their duties.
2.6.3.1.3 Sensitivity

Swanepoel et al. (2000:376) argue that “despite being highly relevant and reliable, a system will still be of no use if it is unable to distinguish between good and poor performers.” They recommend that an appraisal system should be designed in such a manner that it has sufficient categories to bring out effective and ineffective performers. Noe et al. (2000:354) use the term ‘specificity’ to describe these criteria and argue that “if the measure fails to point out employees’ performance problems, it is almost impossible for the employees to correct their performance.” Great care has to be taken in the design and inclusion of different categories within an appraisal system. For example, an appraisal system for schools should have categories which address issues like knowledge of subject, classroom control, participation in co-curricular activities, delivery of content, and attitude towards authority, parents and learners.

2.6.3.1.4 Freedom from contamination or validity

A good performance appraisal system should be free of contamination of factors which are outside the control of employees. Noe et al. (2000:352) recommend that a good performance appraisal system should assess “all the relevant- and only the relevant-aspects of performance.” For example if a school has not provided educators with the latest technology to use in the classroom it cannot include a category which assesses employees’ effective use of technology in the classroom. A contaminated appraisal system may skew employee-assessment results to the disadvantage of the employees involved.

2.6.3.1.5 Practicality

Swanepoel et al. (2000:377) recommend that an appraisal system should “be user friendly and manageable in terms of the amount of administration it requires and in terms of its cost-effectiveness.” An organization should ensure that it designs an appraisal system which is easy to implement and administer. A cumbersome appraisal system will render the whole exercise difficult and costly to implement.
2.6.3.1.6 Acceptability

Literature review reveals that it is highly recommended that management has to involve employees in the development and execution of an appraisal system in order to give it legitimacy. Swanepoel et al. (2000:377) argue that the “perceived legitimacy system received from both managers and employees will probably carry more weight in determining its success than its inherent technical soundness.” After developing the system, employees should also be involved in its implementation and continuous improvement. If this approach is ignored, it may open the system to a lot of criticism and ultimately, its rejection. Noe et al. (2000:354) warns: “Performance management systems that are perceived as unfair and are likely to be legally challenged, be used incorrectly, and decrease employee motivation to improve.” Any prudent manager has to ensure that such unintended results are avoided.

2.6.3.1.7 Legal Compliance

Scholars agree that performance appraisal systems should be compliant with the labor laws of the country. A similar view is expressed by Swanepoel et al. (2000:377) who advise that a “performance appraisal system should be tested for compliance with the requirements of relevant labor legislation.” The argument put forward by a number of scholars for this requirement is that an appraisal system is used to determine promotions, rewards, and even dismissals. The system should therefore be designed within the frameworks of relevant labour laws of the country. A system which is non-compliant with the relevant labour laws will be open to legal challenges.

2.6.4 SETTING PERFORMANCE APPRAISAL STANDARDS

Swanepoel et al. (2000:144) argue that standards of performance are written statements describing how well a job should be performed. Performance standards are usually developed collaboratively with the employees, whenever possible, and explained to new employees during the first month on the job. The performance standards provide the benchmark against which to evaluate work performance. While the job description describes the essential functions and the tasks to be done, the performance standard defines how well each function or task must be performed in order to meet or exceed expectations.
2.6.4.1 The process for developing performance standards

Swanepoel et al. (2000:144) further note that when performance standards are in place, both the managers and employees will know what the expectations are for the performance of essential functions and related tasks. This common understanding provides the basis for ongoing feedback and performance counseling between appraisals as well as for the formal performance appraisal process.

2.6.4.2 Collaborative or Consultative Approach

Courty, Heinrich and Marschke (2006:347) are of the opinion that there are a number of approaches to developing performance standards. One is the consultative approach and the other is the collaborative approach. Courty et al. (2006:347) elaborate that in a consultative approach, the manager prepares the performance management standards in consultation with the Employee Relations Representative in his or her department. The standards are then shared with the employees affected for their information and to address questions which they may have. A collaborative approach requires working together of the employees and the managers to develop the standards for the individual positions. Courty et al. (2006:347) further purport that while it is a legitimate option to develop the performance standards without the employees’ input, the benefits of a collaborative approach are important in that both the manager and employees bring valuable information to the process, and the end result is more likely to be supported by everyone involved. However, the final decisions about the appropriateness of the agreed performance standards can only be decided by the managers. According to Bhattacharya (2006:279), before the meeting, it is important to explain to everyone involved exactly what performance standards are, why they are important, and how they will be used. It is also important to ensure that the employees understand the process and if so required, solicit comments and questions. In addition, it is essential that the prescribed performance standards meet certain standard guidelines.
2.6.4.3 The guidelines for performance standards

Bhattacharya (2006:279) noted that the followings are the guidelines for writing effective performance standards:

- Performance standards should be related to the employees' assigned work and job requirements;
- Reporting systems should be adequate to measure and therefore should have more quantitative data;
- Quantifiable measures may not apply to all functions. Characteristics of performance quality that are verifiable and that would meet or exceed expectations should be described in clear and specific terms;
- Accomplishment of organizational objectives should be included where appropriate. Examples of these are cost control, improved efficiency, productivity, project completion, process redesign or public service.

2.6.4.4 Checklist for performance standards

Bhattacharya (2006:229) further state that there must be checklist against which the designed standard can be measured against. The contents of such a checklist must be:

- **Realistic**: The question which must be answered is whether the set performance standards are realistic. This is because standards must be attainable and consistent with what is necessary to get the job done. Standards for performance, which meet expectations, represent the minimum acceptable level of performance for all the employees in that position;
- **Measurable**: This should deal with the question whether the standards are based on measurable data, observation, and verifiable information. Performance can be measured in terms of timeliness, cost, quality and quantity;
- **Congruent with goals**: This checks whether the performance standard is consistent with the set goals and objectives. In other words, performance standards must link individual and team performance to the organizational goals and should be consistent with these goals;
- **Challenging**: What must be considered during the formulation of performance standards is assessing whether the performance standards are challenging and
meet or exceed expectations. Recognizing performance which is above expectations or outstanding is crucial towards motivating employees;

- **Clear**: Performance standards must also be clear and understandable. The employees whose work is to be evaluated on the basis of the standards should understand them. Standards should use the language of the job;

- **Dynamic**: The standards must also be dynamic. As organizational goals, technologies, operations or experiences change, standards should also evolve.

In addition to outlining the above discussed standards and complying with these checklists, Courty et al. (2006:347) emphasize that the appropriate performance appraisal methods must be used.

### 2.6.5 METHODS OF APPRAISING EMPLOYEES

Swanepoel et al. (2000:385) and Courty et al. (2006:347) explore mainly two techniques namely, the ‘relative rating technique’ and the ‘absolute rating techniques’. The former compares the employee’s performance with the performance of others while the latter rates an employee according to the job requirements. Noe et al. (2000:355) explores five approaches and twelve techniques of performance appraisals. For the purpose of this study, four approaches, namely the comparative approach, the attribute approach, the behavioral approach, and the results approach are briefly discussed. Under each approach, one or two techniques on which most scholars concur are discussed.

#### 2.6.5.1 Comparative Approach (Relative rating technique)

Amos, Ristow, Ristow and Pearse (2008:293) and Noe et al. (2000:356) express the view that comparative rankings compare an individual's performance with that of others. The technique seeks to rank the individual within a group, and the score is determined relative to the performance of others.

##### 2.6.5.1.1 Forced distribution

This is a technique whereby employees are grouped into high performers, average performers, and poor performers. The high performers are rewarded in the form of bonuses, salary raises, and further career development incentives. Average performers are encouraged to improve on their weaknesses, while the poor
performers get nothing and face the possibility of dismissal if they fail to improve as per management recommendations. The advantage of this system is that it distinguishes between good and bad performers. It eliminates the attitude of entitlement where poor performers want to be awarded pay increases regardless of their performance. Although this technique has some disadvantages in that it can affect the morale of employees which emanates from job insecurity, research shows that it is an effective technique to jump-start performance. Noe et al. (2000:358) observe that “the majority of improvement appears to occur during the first several years the system is used, mainly because of the large number of poorly performing employees who are identified and fired.” It gets rid of the entire deadwood and gives an organization a fresh start. At the same time, it is important to note that the system does not take into consideration employees’ performance versus the organizational goals.

2.6.5.1.2 Attribute Approach

Noe et al. (2000:359) point out that the approach that uses this technique “defines a set of traits such as initiative, leadership, and competitiveness and evaluates individuals on them.” One popular technique under this approach is the graphic rating scale. In this technique, the manager states the desirable traits or attributes which the individual has to possess in order for him or her to perform at the desirable level. The rater then rates an individual employee on these traits focusing on one trait at a time. This rating is done on a continuum with a scale, for example, of one to five. A high performer is rated high while a poor performer is rated low. Noe et al. (2000:360) observe that “the attribute performance methods are the most popular methods in organizations.” Swanepoel et al. (2000:388) express the same view and explain that the popularity of these ratings emanates from their user-friendliness and adaptability to different types of jobs. In addition, the attribute approach ratings can be reliable and valid if more thought is put into identifying the attributes which are relevant to the job. The major weakness of these ratings is that the performance standards are not usually clearly defined, thereby making them open to different interpretations.
2.6.5.1.3 The Behavioral Approach

Amos et al. (2005:296) state that the behavioral approach “sets a behavioral standard against which the individual who is being rated.” The approach defines the type of behavior that an employee must exhibit in order to be effective in the job. An employee who exhibits more of these behaviors is rated higher than the one who does not display the required behavior. The duty of the manager is to assess which employee exhibits the required behavior. One of the techniques used under this approach is the behavioral anchored rating scale. In this technique, performance dimensions are defined through the development of behavioral anchors which are associated with different levels of performance. An employee’s performance is rated along the dimension depending on the behavior displayed.

2.6.5.1.4 The results Approach

This approach puts emphasis on the objectives or measurable results of the job. Noe et al. (2000:367) state that the approach assumes that “results are the closest indicator of one’s contribution to organizational effectiveness.” An employee who achieves the objectives which are set for him or her is rated higher than the one who fails to produce the expected results. One of the techniques under this approach is Management by Objectives. Literature review shows that this is one of the most popular appraisal techniques. It starts with management defining the organization’s strategic goals. The goals are disseminated down the different layers of the organization, and at each level, the responsible manager defines the goals they must achieve in order for the organization to realize its strategic goals. This goal setting ends with the end employees setting their own goals that they have to achieve to help the organization to achieve its goals. The goals are used as assessment standards to determine performance. Research shows that most of the companies which use this technique experience a positive change in employee performance. This makes it one of the most popular techniques which can be used to turn the company around.
2.7 CAUSES OF POOR PERFORMANCE IN ORGANIZATIONS

A general consensus exists among several authors that there is a tendency in organizations to focus on employees when it comes to performance problems and forget that there are some factors which are beyond employees’ control. At the same time, employees tend to blame external factors for their poor performance. Grobler et al. (2002:14) argue, “rather than relying on a gut feeling or hunch, a prudent manager strives to uncover the true causes of poor performance problems and seeks solutions to eliminate or minimize them.” An article downloaded from the internet and entitled ‘What are the most causes of Employee Poor Performance’ states that there are two main causes of this issue. The first has to do with employee characteristics and the second type has to do with the system in which work is done.

The latter has to do with allocation of resources, process systems and a wide range of variables which are beyond employee control. Williams (2002:129) writes that factors such as rules and procedures, organizational policies, co-worker behavior and leader behavior are either enabling or constraining. Williams (2002:129) points out that “work outcomes are seen as being jointly determined by system factors and job-relevant behaviors.” One cannot attribute the work outcomes to only the behavior of employees, but has to understand that these outcomes are also a product of the job context. In this study, the researcher investigated the contributions of the work environment to performance. Williams (2002:129) talks about enabling and constraining factors. Guzzo and Gannet, 1998 (cited in Williams, 2002:129) write that facilitators are the driving forces towards the maximally attainable levels and inhibitors are the restricting forces towards the minimally acceptable levels. The work environment can either aid or disable workers from doing their work.

If workers are not supported properly or are disgruntled because of work conditions, their performance is affected. The emphasis on this variable is on the design of work processes and the organization of the entire workplace. In an article entitled ‘Top Reasons for Poor Performance at Work’, Shweta, lists what he terms the top five reasons which often lead to poor performance. These are boredom at work, hatred for the boss, skills which are not up to the mark, poor health, and lack of resources to manage poor performance. The factors which feature prominently on this article and other sources of literature as causes of poor performance are: lack of skills and
competencies, attitude of employees towards their superiors and work, personal problems such as health issues, and the organizational capacity to aid performance or deal with poor performers. Nonetheless, a number of these factors are examined in the sub-sections below.

2.7.1 Lack of skills, ability and knowledge

Grobler et al. (2002:537) point out that, “on too many occasions, organizations place an employee in a job for which he or she unsuited.” In a situation where there is a mismatch between an employee’s capabilities and the job requirements, the end result is poor performance. The employee may have all the necessary tools and motivation but will fail to achieve the intended goal as long as he does not have the necessary skills and competence for the job. In 1998, Schmidt and Hunter (cited in Borman et al, 2003:50) argue, “cognitive ability, experience and conscientiousness affect job performance through their effects on knowledge and skill”. They concluded that ability is related to job performance because more intelligent people learn job knowledge more quickly and more thoroughly; and conscientiousness is related to job performance because more conscientious people exert greater efforts and spend more time on the task. Employees who are challenged in terms of their abilities are likely to perform poorly. It is therefore correct to conclude that lack of ability affects one’s capabilities to acquire the skill and knowledge necessary to perform a given task. Lack of ability, through its effects on skill and knowledge, may therefore cause poor performance among employees.

Hersey et al. (2001:346) put forward a point that, “Competency is a key ingredient in performance. A person must do more than learn about something - a person must be able to do it.” Competency development is a key factor in the improvement of performance in an organization. An organization should identify the training and developmental needs of employees and embark on a program on equipping employees with the skills and knowledge to help them better execute their tasks. A well-developed appraisal system is very useful in the identification of training and developmental needs of employees.
2.7.2 Lack of motivation

Nel, van Dyk, Haasbroek, Schultz, Sono and Werner (2004:310) state that “a motivated person is always aware of the fact that a specific goal has to be achieved and continuously direct his/her efforts at achieving that goal even in the face of adversity.” Lack of motivation has a direct opposite effect. Grobler et al. (2006:216) point out “no job, regardless of its design, can overcome an employee’s lack of interest or willingness. If the employee does not care about the job, then no effort will be exerted, and nothing else matters- not even a boss who cracks the whip.” Motivation has an effect on an employee’s willingness and effort to perform a given task. Borman et al. (2003:41) argue, “two performers may have exactly the same modal performance level, but if one performs close to his or her minimum level most of the time and the other performs close to his maximum level most of the time, these differences may imply diagnostically useful differences in motivation.” Therefore, lack of motivation may lead to poor performance when employees adopt an ‘I don’t care attitude towards their work.’

While employee motivation is a broad subject which cannot be fairly treated within the scope of this research, one has to mention that a number of issues like job designs, rewards, work processes, and the work environment contribute towards employee motivation. It is important to note that motivation alone does not guarantee employee performance but a lack of it may lead to poor performance. Schultz et al. (2003:53) argue that “it is important for a manager to understand how to motivate his or her employees because we know that high levels of motivation are very important contributors to high performance.” Managers have to establish what motivates each employee and use it to boost employee performance, at the same time eliminating variables which may negatively affect employee morale. It is important to note that, while motivation only does not guarantee high performance, researchers agree that employees who are highly motivated strive to produce at the highest possible level compared to those who are not motivated. Employee-motivation should therefore be implemented as part of a broader strategy to improve performance within an organization.
2.7.3 Lack of respect for rules or counterproductive behavior

Neubert (2004:2) points out that “workplace deviance occurs when an employee voluntarily pursues a course of action that threatens the well-being of the individual or the organization.” Robinson and Bennet 1995 (cited in Borman et al, 2003:48) express a similar view but explain deviant behavior more accurately as “voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members or both.” These views reveal an aspect of harm to the organization. This definition strongly echoes the point of deviance as one of the major causes of poor performance. The implications are that this type of behavior is counterproductive. It culminates in poor performance for the employee involved and those that are affected by this kind of behavior. In a study carried out by Robinson and Bennet 1995 (cited in Borman et al, 2003:48), a sample of 70 participants revealed that they had engaged in some form of counter-productive behavior. These researchers categorized these into four and termed them: production deviance, property deviance, political deviance, and personal aggression. Examples of such behavior include leaving early, intentionally working slow, sabotaging equipment, stealing from company, gossiping about co-workers, competing non-beneficially, sexual harassment, verbal abuse and endangering coworkers. (Grobler et al, 2002:537) point out that such behavior may also include hostile and rude behavior towards other employees or management, violating the dress code, and excessive drinking within the work place. Studies have shown that employees who engage in this type of behavior are likely to perform poorly even if they have all the necessary competencies for the job.

2.7.4 Personal problems

Grobler, et al. (2002:537) point out that “a troubled employee is one whose personal problems are so significant that they prevent the employee from performing satisfactorily at work.” These problems may be emotional, social, physical or financial. One of the prominent personal problems found within the work environment today is abuse of alcohol. An employee who abuses alcohol or is going through some personal problems performs poorly not as a result of lack of ability or motivation but as a result of the constraining effect of substance abuse. Personal problems have the effect of blunting an employee’s sharpness in carrying out a given task resulting in poor
performance. However it is important to note that the effects such problems have on employees is dependent on personality. How an employee manages a personal problem determines the effects the problem will have on the employee. Complete investigation into the causes of poor performance in any organization has to encompass this important aspect. According to Bendix (2001:444), “an employee who, having been given all the necessary assistance and training required, still does not perform satisfactorily may eventually be dismissed.” However, it is vital to point out that dismissing an employee should be the last resort after considering other alternatives, for example, redeploying an employee where he can be best effective.

2.7.5 Organizational Context or System factors

According to Williams (2002:143) “system factors may have a direct effect on production; they may also have an effect on people.” A work system design and management may constrain employees from doing their jobs. Such constrain can actual lead to poor performance. This view has only gained recognition in recent years. Previous scholars believed that the work system could not be viewed as a cause of poor performance. Their argument was that work systems cannot be easily changed and that employees had to plan their work around the system and make sure that goals were achieved within whatever system they find themselves in. However, recent scholars agree that while it is true that employees may work within whatever system they find themselves in the reality is that employees may never reach the levels they would probably reach had the systems been designed differently. Currently, there is a general consensus that the system within which employees operate may be taken as a cause for poor performance if not properly designed or functioning. Poor job designs, poor management, poor policies, lack of tools to perform the job, and poor work processes may have a direct effect on performance. Some of the scholars who agree with this thought are Guzzo and Gannet 1988. In their work (cited in Williams, 2002:137), they point out that “barriers to performance such as shortages of tools and too little time can make it physically impossible to complete tasks effectively. Therefore, individuals may have the motivation and the requisite knowledge and skill, but are constrained by some aspects of the work system from doing what is expected of them- as when rain stops the play for example.” This view points to the relevance of a system as a cause or contributory factor to poor performance. The above discussion on the concept of performance and its causes points to a number of
variables which authors and researchers agree do contribute to poor performance. These variables may be termed inhibitors, constraints or causes. Inhibitors or constraints can be viewed as causes of poor performance because their presence or absence affects the capacity of an employee to perform duties as expected. For the purpose of this study, the term causes will be used synonymous with the terms inhibitors and constraints.

2.7.6 Poor Recruitment Policies

Recruitment is an important function of management. It ensures that the right people are brought into the organization. According to Hellriegel et al. (2004), organizations that take a systematic approach to recruitment, selection and placement are usually less likely to put employees in jobs for which they are not qualified. This ensures that employees perform well. Poor recruitment policies result in the opposite. Management does not always get the right people for the job and ends up placing people in wrong jobs and positions. When this mismatch happens, poor performance is the ultimate result. If this is to be avoided, employee selection should be based on the job knowledge, competency and appropriate qualifications.

Hellriegel et al. (2004:279) point out, “recruiting and retaining employees who are motivated is an important first step in maximizing employees’ performance.” Borman et al. (2003:78) agree with this view and state that an employee “must be both able and motivated to perform well, and if either of these characteristics is low or absent, performance will be inadequate.” The implications of this theory are that an organization should develop an efficient and accurate selection policy and tool to ensure that only capable and motivated employees make their way into the organization. Research shows that there are a number of selection tools, for example, psychometric tests which can be used to check if the applicant is the right candidate for the job. Borman et al. (2003:78) state that the ‘can do’ (declarative knowledge) and ‘will do’ (procedural knowledge) variables are important in determining the right candidate for the job.
2.7.7 Poor Management and Monitoring Policies

Deming (1986) (cited in Walker, 1992:257) argues that “we are all born with intrinsic motivation, dignity, and an eagerness to learn. Our present system of management crushes that all out.” This view emphasizes the importance of management in directing and controlling employee activities in order to maximize performance. An organization with poor management and control policies is likely to experience poor performance. According to Walker (1992:257), “it is a task of management to organize, motivate, equip and direct rather ordinary people to perform at their highest possible levels.” The role of Management in employee performance is as equally important as is the motivation and competencies which employees should have for them to perform well. Monitoring performance is one important management function to ensure that organizational goals are achieved. In an organization where there is little monitoring, standards are not enforced and as a result, employees do not adhere to the quality of service or products.

Scholars agree that failure by management to provide the necessary tools for employees to perform their tasks may result in poor performance. Allen and Grissaffe (2001) raise concerns about ‘situational constraints’. They point out that “situational constraints are assumed to impair job performance directly. For example, when a machine breaks down, one cannot continue to accomplish the task and therefore performance will suffer immediately.” This point emphasizes the importance of providing employees with all the necessary support and equipment to enable them to perform their tasks. Although there is no doubt that the availability of necessary tools may have a direct effect on production and performance, it is vital that employees should have the relevant skills and knowledge to use the equipment. Providing equipment to an incompetent employee will not guarantee performance. For example just putting interactive boards without equipping educators with the skill will not improve performance. It may actually result in further confusion and chaos. Besides these essential characteristics, studies also reveal that the implementation of IQMS is unlikely to be successful, unless all the key success factors are considered. The discussions in the section which follows elucidates on these essential factors.
2.8 KEY SUCCESS FACTORS FOR THE IMPLEMENTATION OF IQMS

Authors such as Charantimath (2004:188), Deming (1986), Marchington (1992), cited in Gennard and Judge (2005:180), Moller, Benschoter and Rohrer-Murphy (2000:66) and Mecalfe (2007: 3) share the view that the successful IQMS implementation can never be achievable unless keen management attention is paid to certain key factors both before, during, and, after implementation.

2.8.1 Consideration of the essential quality management principles

Quality management provides the principles and the methodological frame for operations. It also coordinates activities to management and control an organization on quality initiatives. Quality assurance and quality control are parts of any successful quality management system. Quality assurance focuses on providing confidence that quality requirements will be fulfilled and includes all the planned and systematic activities implemented in a quality system so that quality requirements for a product or service is fulfilled. Quality control is associated with those components used to ensure that the quality requirements are fulfilled and includes all the operational techniques and activities used to fulfill quality requirements.

Charantimath (2004:177) posits that quality management principles are a set of comprehensive and fundamental rules or beliefs for leading or operating an organization. They aim at continually improving performance long-term by focusing on customers while addressing the needs of all the stakeholders (2004:177). He also argues that these principles provide an understanding of and guidance with regards to the application of quality management in an organization. ISO outlines the following eight quality management principles which can facilitate any organization in creating quality work culture and the successful implementation of quality management. According to Charantimath (2004:177), these eight principles are:

- **Customer-focused organization**: Organizations depend on their customers, and therefore should understand their current and future needs in order to exceed their expectations. Customer-focused organizations produce products and services that customers need and provide them with satisfaction. This can be achieved by identifying customers’ needs, designing a product which responds to customers’ needs, produce and deliver the product as per the
design, enhance after-sales service and handle complaints quickly, measure customer satisfaction, and improve quality in order to delight customers;

- **Leadership**: Senior leaders of an organization need to set directions and customer orientation, clear and visible quality values and high expectations. Values, directions, and expectations must address all stakeholders. The leaders need to ensure creation of strategies, systems, and methods for achieving excellence. Strategies and values should help guide all activities and decisions of the organization. The senior leaders must commit to the development of the entire workforce and should encourage participation, learning, innovation and creativity by all the employees. Through their personal role in planning, communications, review or organizational performance and employee recognition, the leaders serve as role models who reinforce values, expectations and build leadership and initiative;

- **People involvement**: The involvement of people is one way of improving quality and productivity. Involving people at all the levels of the organization enable their abilities to be used for the benefit of the organization. This can be done by providing a good corporate work culture, providing an interesting work system, environment, and building the capability of people to perform the assigned tasks in the organization;

- **Process approach**: A desired result is achieved more efficiently when related resources and activities are managed as a process;

- **Systems approach to management**: Identifying, understanding and managing a system of interrelated processes for a given objective contributes to the effectiveness and efficiency of the organization;

- **Factual approach to decision making**: Effective decisions are based on the logical or intuitive analysis of data and information;

- **Mutually beneficial supplier relationship**: The ability of the organization and its suppliers to create value is enhanced by mutually beneficial relationships.

### 2.8.2 Effective coordination of activities

The establishment of a well-coordinated integrated quality management system is one of the perquisites for the successful implementation of IQMS. This is because the cornerstone of a quality organization is found in the capability of the customers and suppliers to work together. In order for this to be effective, the customer-supplier
interfaces must extend beyond the immediate customers and suppliers. As illustrated in Figure 2.3, for organizations to function effectively, Charantimath (2004:188) stated that they must identify and manage numerous interlinked, cross-functional processes whilst at the same time persistently ensuring that customer satisfaction is the target which must be achieved. All these would require effective integration and coordination of different activities.

Charantimath (2004:188) notes that IQMS is defined as a set of co-ordinated activities to direct and control an organization in order to continually improve the effectiveness and efficiency of its performance. These activities interact and are affected by being in the system. Therefore, the isolation and study of each one in detail will not necessarily lead to an understanding of the system as a whole.

According to Charantimath (2004:188), the main thrust of IQMS is defining and coordinating the processes which result in the production of quality products and services, rather than in detecting defective products or services after they have been produced. A well-coordinated IQMS enables the organization to streamline processes and meet customers’ needs effectively. It also reduces wastage, costs, increases market share, facilitates training, creates greater staff involvement, and increases employees’ morale. Charantimath (2004:188) posits that the system must demonstrate a capability to meet customer requirements for products/services and should also provide for the assessment of that capability by internal and external parties. These, however, are not substitutes, but complementary requirements to the specified technical requirements for products and services.
It is not the purpose of this standard to imply uniformity of quality management systems in all organizations, but it is the design and implementation of an organization’s quality management processes and practices employed and the level of competence of the people involved. It does not intend obliging organizations to change the structure of their existing quality management system and/or its documentation to exactly match with the structure of ISO 9001 standard. The documentation of the organization should be defined in a manner that is appropriate to its unique activities (Charantimath, 2004:188).

2.8.3 Selection of effective implementation process models

In the context of Deming’s (1986) interpretation, any activity or operation, which receives inputs and converts them to outputs can be considered as a process. Organizations tend to define and manage numerous interlinked processes. The systematic identification and management of various processes employed in an organization and interaction between such processes may be referred to as the process approach to management. The standard encourages the use of the process
approach for management of the organization and its processes as the means for identifying and managing opportunities for improvements. Deming’s (1986) Cycle of “Plan-Do-Act” postulates that any activity must be planned before it is done. In many organizations, planning is not carried out with as much seriousness as it should be. In such situations, there are no guidelines against which to judge the performance, and hence there is no way of improving the performance either until the customer shouts or just goes away. Once the plan has been agreed upon, the entire team should stick to doing activities as per the plan until it is revised for some valid reason.

However, this is no excuse for not having a plan at all. The activities are being performed and the results have to be checked or measured for their conformity with the requirements at the end of a process. Data is recorded and analyzed at the appropriate intervals using the right statistical techniques. Cause-analysis is an important part of the analysis. Based on the findings, improvement actions, either corrective or preventive, are decided on and carried out again in a planned manner. Such actions should result in amending working procedures in the company so that the improvements get into the system. Thus, it ensures a continually learning organization.

2.8.4 Compatibility with other management systems

This standard shares common principles with ISO14001 and suggests that common subjects in the two series of standards may be implemented in a shared manner without unnecessary duplications or imposition of conflicting requirements. This standard does not address nor does it include requirements from other management systems such as environmental management, occupational health and safety management, or financial management standards. It also does not prevent the organization from developing integration of similar management system subject/areas. This means that the companies may simplify documentation by preparing an integrated management system covering the requirements of different compatible management systems.
2.8.5 Establishment of appropriate employee participation programmes

According to Bhatti and Qureshi (2007:56), the concept of employee participation refers to a process in which influence is shared among individuals who are otherwise hierarchically unequal. Participatory management balances the involvement of managers and their subordinates in information processing, decision-making, and problem-solving endeavours. Gennard and Judge (2005:180) note that employee participation refers to the management process of getting the organization’s workers involved in most of the major decision-making processes of the organization.

Marchington (1992), cited in Gennard and Judge (2005:180), states that employee participation programmes are often principally initiated by management, and are designed to increase employee information about, and commitment to, the organization. It concerns the individual employees and is designed to produce committed workforces who are more likely to contribute to the efficient operation of an organization. Walton (1985), as cited in Gennard and Judge (2005:180) posit that by introducing employee participation mechanisms, management seeks to gain the consent of employees to its proposed actions on the basis of commitment rather than control. According to Moller, Benscoter and Rohrer-Murphy (2000:66), an organization that cares about its employee participation programmes may engage any of the following employee participation programmes: management-led employee participation practices, representative employee participation, and financial participation schemes. Employee participation would render the employees more involved in the quality improvement initiatives. Such involvement reduces the likelihood of sabotage and renders the success of IQMS possible. Besides this, IQMS implementation must also be accompanied by appropriate change management strategies in order to enable smooth transformation in employees’ behaviours and attitudes.

2.8.6 Engaging of appropriate change management strategies

Jack Welch, the former CEO and Chairman of General Electric states: “When the rate of change outside exceeds the rate of change inside, the end is in sight”. The implementation of IQMS in the public service may require a change in the manner that the public service functions, the individual attitudes, behaviors and philosophies.
However, according to ABE (2007; 223), there is bound to be some degree of resistance to change because people either benefit from the status quo or prefer their comfort zone. However, change is necessary if organizations are to thrive and survive. It was therefore, in that respect that Mecalfe (2007: 3) stated that change management strategies must be applied to smoothen the transformation process. The Kotter (1996)’s 8 Stage Model, as cited in ABE (2007: 223) outlines steps that management must take to successfully implement change are as depicted below:

- **Step One - Create Urgency:** Leaders have to create a sense of urgency that change is truly needed. This is required to create the motivation to drive the change;

- **Step Two - Form a Powerful Guiding Coalition:** This requires forming a group of people with influence and sufficient power to guide the change process and create a sense of teamwork;

- **Step Three - Create a Vision and Strategy for Change:** A clear and compelling vision must be created to guide the change effort. This will provide an understanding of why the change is required and allow people to make sense of the directives they’re given;

- **Step Four - Communicate the Vision and Strategy:** Communicating widely and constantly is important to embed the message of change. What is done with the vision for change after it is created will determine its success;

- **Step Five - Empower Employees to Act on the Vision:** Obstacles to change must be eliminated by putting in place structures, systems, and processes to support the new vision and move the change initiative forward;

- **Step Six - Create Short-term Wins:** Nothing motivates more than success. By creating visible performance improvements, implementing them, and celebrating employees who were involved in the accomplishment will keep the momentum of change going. Major change takes time to implement, and people can lose the energy to follow through with the change if gains are not realised within a short timeframe. Without quick-wins in place, critics may gain power and may negatively hurt the progress made on change;

- **Step Seven - Keep Up the Urgency, Tackle Bigger Problems:** Capitalising on short-term wins should be used to tackle bigger problems. For long-term change to be achieved, it must be realised that real change needs to be
embedded in an organisation. New systems, structures, and policies will be required for change to materialise;

- **Step Eight - Anchor the Changes in Corporate Culture:** New values, attitudes, and behaviours are required for employees to view the change not as something new, but as a normal and integral part of how the organisation operates.

The change management process can also take form of the Kurt Lewin’s Three Step Change Model as discussed below:

### 2.8.7 Lewin’s Three-Step Change Model

According to Daft (2008:5), Lewin argues that successful change in organizations should follow three stages: unfreezing the status quo, change to a new state and refreezing the new change to make it permanent:

- **Unfreeze:** To commence with any successful change initiative, one must first start by understanding why the change must take place. The motivation for change must exist before the change can occur. This is the unfreezing stage from which change begins. The organization is prepared for change and the status quo is broken down. This will require challenging the beliefs, values, attitudes, and behaviors that currently define the organization;

- **Change:** After the uncertainty created in the unfreeze stage, the change stage is where people begin to resolve their uncertainty and looking for new ways of doing things. People start to believe and act in ways that support the new vision. Bearing in mind that people take time to adjust to a new way of doing things, even though the change will benefit the organization, people will not embrace it unless they see personal benefit in implementing the change. Time and communication are vital keys to effect change;

- **Refreeze:** When the change is realized, new policies, systems and structure are in place; it is time to refreeze the change for it to be imbedded in the organization. The change will then be internalised and institutionalized. The new stability created will allow employees to feel more confident in applying new ways of working. Without the refreezing stage, the organization could end up in an endless state of transformation, with people not knowing how things
should be done and the motivation required to embed the change will not be there. Celebrating the success of the change is part of the refreezing stage, and people should be acknowledged for their effort in effecting the change.

A general consensus among authors supports the hypothesized IQMS measuring instrument that once all the components of the IQMS, that is, quality, performance management, performance appraisal, and key success factors have been integrated, the next step is to undertake appropriate implementation processes. In the next section and sub-sections, the details of the steps for the implementation of integrated quality management system are discussed.

2.9 THE IMPLEMENTATION, MONITORING AND EVALUATION OF IQMS

ELRC (2003:13) prescribes the three main steps for IQMS implementation to include advocacy, training and planning, evaluation, feedback and discussions.

2.9.1 Advocacy, training and planning

Senior schools management is entrusted with the task of implementing or putting IQMS into action. Basically, the school principals are expected to hold staff meetings in order to explain to the staff what IQMS is, its benefits to the educators, learners, the school and the impact on the South African education as a whole. The ELRC (2003:13) further explains that during training, the following must be addressed: issues relating to how the IQMS should be implemented. The process must enable officials and educators to plan and administer the IQMS in a uniform and consistent manner. The other issue which must be considered is that the process should enable all officials and educators to have a thorough understanding of the purposes, principles, processes and procedures.

2.9.2 Evaluation

Immediately following the advocacy, training and planning, each educator must evaluate him/herself using the same instrument that will be used for both developmental and performance measurement. This enables the educator to become familiar with the instrument. The educators must also familiarize themselves with the performance standards, the criteria of what they are expected to do, and the levels of performance which they are expected to achieve in order to meet the minimum
requirements for pay progression. This self-evaluation must form part of the performance appraisal and developmental appraisal. Since performance measurement is used for determining pay and or grade progression, it must be used to evaluate the performance of educators within the period of a calendar/school year even though the award will only be made in the following year (ELRC, 2003:7).

Under the same evaluation process, the next action which must be performed is the pre-evaluation discussions with the concerned educators. It is unfortunate that the ELRC (2003:13) requires self-evaluation to commence prior to dealing with the pre-evaluations discussions. This could have set the stage for the educator to understand the process of self-evaluation and the entire evaluation even better. Such unsystematic approach is confusing, and could have been one of the reasons why the IQMS was lowly rated among the educators.

Nonetheless the pre-evaluation discussions require DSG to clarify certain things with the educators. These are whether the educator understands what is expected of him/her in terms of the various performance standards and criteria and how he or she will be rated, and whether the educator is given the opportunity to clarify areas of concern. In the pre-evaluation process, the DSG must also inform the educators about the procedures and processes which must be followed throughout the IQMS cycles. The DSG must also explain to the educators that lesson observation involves performance standards 1 to 4 whilst other aspects involve the other remaining performance standards. According to the ELRC (2003:13), the DSG must explain to the educators that the evaluation, in respect of the remaining performance standards, will be based on the general ongoing observation by the DSG and on documentary evidence and other information that the educator may provide to the DSG.

Regarding lesson observation, the educator must be evaluated in order to determine the baseline upon which subsequent evaluations can be hinged and compared to assess progress. Since at this stage the educator will have completed self-evaluation, he/she will be capable of assessing strengths and areas in need of development. The evaluation must be preceded by a pre-evaluation discussion, and must be done by both members of the DSG. Should an educator request for the additional member to serve on the DSG, the request may be granted by the SDT. A reasonable request may, however, not be refused. The purpose of the evaluation by the DSG is to confirm the educator’s perception of his/her own performance as arrived at through the
process of self-evaluation. The evaluation, in respect of other performance standards, is based on general ongoing observation, discussion, and feedback by the DSG. The other basis is the submission of documentary evidence, proof of participation, and other information provided by the educator.

2.9.3 Feedback and discussions

After the feedback, the DSG must discuss their evaluation with the educator and must provide feedback. Differences may need to be resolved in order to smoothen the way forward. ELRC (2003:9) states that feedback on observation must focus on performance not personality, observations and not assumptions, objectivity and not subjectivity, must be specific, concrete, and not abstract. The feedback process must encourage information-sharing and not giving instructions and must provide alternatives and requests from individuals. Most differences of opinion between the educator and the DSG should be resolved at that level. Where agreements cannot be reached, the matter must be referred to the SDT within a week. If there is still no resolution within 5 working days, either party may request for a formal review by the Grievance Committee. The grievance committee can make a recommendation to the Head of the provincial department of education. The Head of the Department will have to evaluate the recommendations and motivation submitted by the Grievance Committees before taking a decision which will be made within 5 working days.

The process for the implementation of IQMS in schools is flawed on a number of grounds. In the first instance, the notion of IQMS raises three issues: performance management, performance appraisal, and the whole school evaluation. However, the prescribed ELRC (2003) is biased towards the implementation of performance appraisal rather than the whole school evaluation. The notion of whole school evaluation, as reflected in the above discussions, incorporates a number of quality initiatives which are standards, techniques, and measures for improvement. The lack of comprehensivity in the prescribed IQMS implementation process causes this important facet of IQMS to be excluded. In addition, the IQMS implementation process does not indicate clearly what actions can be taken if the school performance or the educators’ performances are found to be below-standard.

The existence of the remedial action is one of the predicators for improvement performance in the next phase of the school life. However, instead, the IQMS
implementation process ends with the complaints and dispute resolution mechanisms. The existence of this complaint and grievance committee, if not used well, can easily undermine the effectiveness of the IQMS implementation. Human resource experts have noted that no employee would ever want to be under-rated, have a bad record, and thus affect the possibility for salary upgrade or even promotion. Such a notion may inhibit a situation where each and every employee may complain in case the evaluation process resulted into low rating. This could lead to a floodgate of complaints and the inability to use IQMS to root out bad performers.

Nonetheless, it seems conclusive that the whole process for the IQMS implementation is inconsistent with the process advocated in the theories for the Implementation of IQMS. According to Rasmussen (2007:218), one of the measures for the implementation of an IQMS is the system-engineering approach for implementing IQMS. Whether an organization has an existing formal system or an informal system, it can adopt the system-engineering approach to management system development. This means that the organization can design a system top-down to fulfill a specific objective. The benefits are that one coherent system can be built. Such a system could service business needs and does not tie the organization to a particular standard which is used to identify tasks and processes. In order to achieve these, Rasmussen (2007:218) posits that there are 10 steps which must be followed in a system-engineering approach. These are step 1: model the business, step 2: deploy functions to the model and form process development teams, step 3: analyze processes using flow charts, standards, and failure mode analysis techniques, step 4: formulate operational policies which will govern the processes, step 5: develop procedures to control each business process which defines who does what where, when and how, step 6: capture existing documentation, step 7: identify documentation needs by linking the existing documents to the control procedures, step 8: develop document development plans, step 9: document the system, and step 10: implement the new practices. The IQMS implementation process lacks such coherent and systematic approach.

Pun (1998:1) however offers a seven-stage approach for IQMS implementation. According to Pun (1998:1), the seven implementation stages of IQMS include:
- **Stage 1**: Establishing the Programme and its Goals: This involves defining corporate mission and values, forming a steering committee, developing goals, objectives and success factors;
- **Stage 2**: Setting up Training and Support Initiatives: This is charged with promoting quality awareness, team building, and empowerment;
- **Stage 3**: This deals with work teams’ involvement, and can be done by encouraging work teams to recommend improvement measures;
- **Stage 4**: This deals with planning and Implement Improvement actions;
- **Stage 5**: Evaluation: This deals with the evaluation of the actions and eventually standardizing new or improved processes and procedures;
- **Stage 6**: This deals with recognizing and rewarding the quality efforts actions; and
- **Stage 7**: Attaining excellence through continuous improvement: Not only is it clear that the IQMS implementation process which is prescribed in the ELRC (2003) is contrary to Pun (1998:1), it also seems to be inconsistent with the overall process for quality management.

### 2.9.4 Quality management process

Early and Colletti (2009:3) and Metters Industries Inc (2010:3) share similar views that the use of the appropriate quality management processes influences the effective implementation of the organization’s integrated quality management systems. In order to achieve this, Early and Colletti (2009:3) and Metters Industries Inc (2010:3) prescribe certain processes which are required to ensure that projects meet or exceed customer requirements and expectations to encompass quality planning, quality assurance, quality control and improvement.

### 2.9.5 Quality planning

Early and Colletti (2009:3) posit that the notion of quality planning refers to the process for developing goods and services in order ensure that customers’ needs are met by the final result. Early and Colletti (2009:3) note that quite often, the tools and methods of quality planning are incorporated along with the technological tools for the particular product or service being developed and delivered. In a more illustrative and comparative view, Early and Colletti (2009:3) state that the use of the appropriate tools
and methods for planning influences not only assists in meeting the prescribed technical and quality requirements, but also on meeting of the customers’ needs more effectively. In order to achieve these quality objectives, Early and Colletti (2009:3) maintain that the effective accomplishment of this process would require that the project teams identify quality assurance activities which must be performed throughout the life cycle of the project. In other words, Early and Colletti (2009:3) concur with the Metters Industries Inc. (2010:3) that there must be identification of the prescribed standards and how the compliance is to be monitored and assured so as to ensure that the prescribed strategic quality objectives are effectively achieved. In addition Early and Colletti (2009:3) and Metters Industries Inc (2010:3) also agree that the standards, practices and conventions to be used in the definition, collection and the utilization of data must also be clearly prescribed. Nonetheless, Early and Colletti (2009:3) and Metters Industries Inc (2010:3) note that the effectiveness of the quality management process is significantly predicted by the management’s strict adherence to the quality planning processes that may encompass the following steps:

2.9.5.1 Step 1: Establishing missions and goals

Metters Industries Inc (2010:3) states that a quality planning project connotes an organized work which is needed in order to prepare an organization to deliver a new or revised product or services, whilst following the steps which are associated with quality planning. According to Metters Industries Inc (2010:3), the activities which are associated with establishing a quality planning project include; identify which projects are required to fulfill the organization’s strategy, prepare a mission statement for each project, establish a team to carry out the project and plan the project. However, Metters Industries Inc (2010:3) perceive that quite often deciding which projects to undertake is usually the outgrowth of the strategic and business planning of an organization. Typically, Metters Industries Inc (2010:3) explains that quality planning projects create or update products which are needed to reach specific strategic goals, meet new or changing customers’ needs, fulfill legal or customer mandates or take advantage of a new or emerging technology.

In order to accomplish these, Metters Industries Inc (2010:3) note that the upper management must take leadership in identifying and supporting critical quality planning projects. In other words, Metters Industries Inc (2010:3) tows the line of
Rasmussen’s (2007:218) argument that the management will have to set clear quality goals, nominate and select projects, select teams, and support project teams. Rasmussen (2007:218) states that supporting project teams can be achieved by; providing education and training in quality tools and techniques, training facilitators in order to improve efficiency, review team progress, approve revision of project missions and help with any problems. Nonetheless, Rasmussen (2007:218), Early and Colletti (2009:3) and Metters Industries Inc (2010:3) concur that the other management related actions may include; coordinating related quality planning projects, helping with logistics, providing expertise in data analysis and survey design, providing resources and communicating project results. These authors also interpret that the basis for establishing quality goals can be; technology, market forces, benchmarking, history, and project goals.

2.9.5.2 Step 2: Identifying the customers

In a view supported in Early and Colletti’s (2009:11) assertion, Metters Industries Inc (2010:3) reveals that this step deals with the process of establishing the customers of the organization which include; internal customers and external customers. According to Early and Colletti (2009:3), the external customers refer to those outside the organization and include; purchasers, end users/ultimate customer, merchants, processors, suppliers, original equipment manufacturers, potential customers and hidden customers. Hand in hand with the identification of customers, Early and Colletti (2009:11) posit that the next step involves the process of discovering the customers’ needs.

2.9.5.3 Step 3: Discovering the customers’ needs

Early and Colletti (2009:11) explain that this is the third step of quality planning which requires that the management discover the needs of both the internal and external customers for the product or service. Early and Colletti (2009:11) point out that some of the key activities which are required for effective discovery of customers’ needs include; a plan to collect customer needs, collecting a list of customers’ needs in their language, analyzing and prioritizing the customers’ needs, translating their needs into own language and establishing the units of measurement and sensors. However, Rasmussen (2007:218) reveals that the needs of human beings are varied and
complex with the effect that such complexities can turn to be the source of challenges to a planning team on the basis that the actions of customers are not always consistent with what they say they want. In effect, Rasmussen (2007:218) points out that the challenge for quality planning is to identify the most important needs from the full array of those needs expressed or assumed by the customer so as to ensure that the service or the product delights the customers. Nonetheless, a similarity exists in Rasmussen (2007:218), Early and Colletti (2009:3) and Metters Industries Inc’s (2010:15) theories that the next step involves the determining of the quality of the product or service that must be developed.

2.9.5.4 Step 4: Developing the product or service

Metters Industries Inc. (2010:15) explains that having understood the customers and their needs in the previous steps, the process for product or service development can be undertaken in this step. However, Metters Industries Inc (2010:15) points out that the notion of service or product development is not a new concept since most companies usually have established processes for bringing the product into the market. In effect, Metters Industries Inc (2010:15) notes that the primary purposes which are to be achieved in this step may encompass: determining the service features and goals that can provide the optimal benefit for the customer, and identifying what is needed so that the design can be delivered without deficiencies. In order to achieve these primary objectives, Metters Industries Inc (2010:15) maintains that the six major activities which must be accomplished include: grouping together the related customer needs, determining the methods for identifying product features, selecting high level product features and goals, developing detailed product features and goals, optimizing product features and goals, and setting and publishing the final product design. Metters Industries Inc. (2010:22) and Early and Colletti (2009:12) note that the effective accomplishment of this step leads to the accomplishment of the development process in the next step.

2.9.5.5 Step 5: Develop process

Metters Industries Inc (2010:22) further explains that once the product is developed, it is necessary to determine the means by which the product will be created and delivered on a continuing basis. According to Metters Industries Inc (2010:22), process
development refers to the process of accomplishing a set of activities for defining the specific means which can be used by the operating personnel to meet service or product goals. Metters Industries Inc (2010:22) notes that this implies that large processes can be decomposed into sub-processes and smaller units for both the development and operation of the process. Nonetheless, Metters Industries Inc. (2010:22) also points out that the other major activities in the process development include review of service goals, identifying operating conditions, collecting known information on alternate processes and selecting the general process design. Metters Industries Inc. (2010:22) states that the additional actions which can be taken may include: identifying the detailed process features and goals, designing for critical factors and human error, optimizing process features and goals, establishing process capability, and setting and publishing the final process features, goals and design. Finally, Metters Industries Inc (2010:22) and Early and Colletti (2009:12) reveal that step six is the last step and involves developing processes/control and transfers to operations.

2.9.5.6 Step 6: Developing process/controls/transfers to operations

In this step, Metters Industries Inc. (2010:22) and Early and Colletti (2009:12) posit that planners develop controls for the processes, arrange to transfer the entire service or product plan to the operational forces, and validate the implementation of the transfer. Early and Colletti (2009:12) state that this can be achieved by executing seven major activities which comprise identifying controls needed, designing feedback loop, optimizing self-control and self-inspection, and establishing the audit system. They also suggest that the planners can also demonstrate process capability and controllability, plan to transfer to operations, implement plans and validate transfer.

In a concluding remark, the general evaluations of the theories in this section indicate that authors such Rasmussen (2007:218), Early and Colletti (2009:3) and Metters Industries Inc (2010:15), Mecalf (2007: 3), Marchington (1992), cited in Gennard and Judge (2005:180), and Bhatti and Qureshi (2007:56) note that there is a significant positive correlation between an organisation's well-implemented IQMS and certain benefits. These benefits are improved employee and general organizational performance, improved product and service quality, reduced general operational costs resulting from reductions in duplications, reduced risks and increased profitability,
eliminated conflicting responsibilities and relationships, diffused power system, and employee involvement. It is also highlighted that these authors argue that a well implemented IQMS can also lead to improved communication and coordination of activities, and facilitates skills development. However, studies conducted by DoE (2006d:90), DoE (2008:16), UNESCO; IEB (1996:29) and Crouch (2005:2) on the successes for IQMS implementation in the South Africa show that a number of the benefits which usually accrue from an IQMS implementation are lacking. In effect, the discussions in the next section examine the effects of the IQMS implementation in the South African Department of Education in order to highlight the challenges marring the effective IQMS implementation.

2.10 THE EFFECTS OF IQMS IMPLEMENTATION ON SOUTH AFRICAN SCHOOLS

The following discussion highlights positive and negative effects of IQMS on South African schools:

2.10.1 Improved Internal Efficiency

According to the DoE Document (2009:47), internal efficiency in education refers to the way in which learners flow through the system. This is determined by the repetition and dropout rates. However, the major challenge usually in the calculation of efficiency is the issue of validity and reliability of repeater data which are provided by the schools in the Annual Survey. A number of researchers have pointed out the problem of under-reporting of repeaters data by a number of schools (DoE, 2006d:90; DoE, 2008:16, UNESCO; IEB, 1996 & Crouch, 2005:2). This renders measuring the extent to which IQMS implementation could have impacted on schools’ efficiency difficult. The under-reporting of the failure rate among the South African schools is mainly due to the problems experienced with the interpretation.

Other factors explaining under-reporting are the inclination on the part of the schools to hide the extent and poor compliance by schools when completing the ASS form. The information extracted from the DoE database (2003:24) reveals that the period between 1997 and 2003 experienced the highest failure rates among male learners as compared to female learners in primary schools. In the secondary schools, this has been very high since 1997 and has spread across all grades. The DoE Report
(2003:24) reveals that though there are fluctuations in the dropout rates, the figure was higher in the lower grades as compared to the higher grades.

Part of the explanations for high failure rates are: poor teaching skills, poor educational environment, low learners’ motivation, lack of learners and parental counseling about family problems which may affect the child’s education (Crouch, 2005:2). In a school where the application of IQMS is well managed, De Souza (2003:4) noted that failure rates are bound to be minimal. This is because the schools, through IQMS, may be able to identify the strategies to effectively management factors which can cause repetitions or dropouts. Survival rate by grade is the other criteria for estimating internal efficiency and the success of the IQMS implementation in schools (DoE, 2007). The DoE (2007) reveals that the survival rate by grade refers to the percentage of a group of learners enrolled for a first grade of a given level or cycle of education in a given school year.

The UNESCO (2009:10) also expressed that the statistics on survival rates, though hinged highly among most schools, are also very unreliable. In order to deal with these statistical challenges, the Ministerial Committee calculated the survival rates using birth rates rather than according to the number of learners enrolling for grade one. However, no reasonable conclusion was drawn (DoE, 2008:26) from this approach. Lack of reliable statistics renders the evaluation of teachers’ performance and the entire school evaluation difficult. It is in that regard that the effectiveness of IQMS in improving the South African Schools’ internal efficiency is doubtful.

2.10.2 Learning achievements

The analysis of learning achievements which is conducted by the Department of Education (2008:46) on Grade 3 Systemic Evaluation indicates that the improvement in the quality of learning output remains one of the biggest challenges facing South Africa education system. The achievement of learners in both national and international assessment studies is very poor, and it is the cause for great concern that South Africa performs so disappointedly when compared to its neighbours and to other developing countries. The SCE results show a definite improvement over time, with the number of learners passing the SCE increasing and the gap in achievement between males and females narrowing. However, the quality of the SCE passes is still alarming mainly because of the slow increases. Access to education is high and the
education expenditure is relatively high to the GNP when compared to other countries. However, the return on investment in education at school level has been quite poor. The imbalance between access and quality in the South Africa’s education system was noted by Crouch and Vinjevold (2006:8).

Crouch and Vinjevold (2006:8) developed an achievement index based on the international assessments which South Africa has participated in since 1990. The results were correlated with the index of access of the average of the net enrollment rates in primary and secondary schools during the 1990s and 2000. The authors found that, while the majority of countries had managed to find a balance between enrollment and quality, South Africa was under-performing in terms of the quality provided by its schooling system. In a study on the impact of participation on levels of academic performance in SACMEQ 11, Fleish and Perry (2005:18) found that the relative levels of participation and internal efficiency were critical factors that needed to be taken into account when comparing countries’ achievements in international assessment studies. The analysis indicated that the greater the overall proportion of the child population enrolled in school, the lower the average achievement levels tend to be (Perry and Arend, 2005:8;DoE, 2009). All these analysis cast doubt over the effectiveness of the implemented IQMS towards improving the quality of learning in the South African schools.

2.11 CHALLENGES OF IMPLEMENTING IQMS IN THE SOUTH AFRICAN EDUCATION SYSTEM

Lam and Seekings (2005:62) posit that quality in education is what makes learning a pleasure and a joy. However some measures for improving the performance of learners can be through competition for grades or prizes, though the attachment to learning may be unhealthy. He then noted that it takes quality experience to create an independent learner. Although such a definition seems clear, studies demonstrate that a number of education systems around the world still face challenges regarding the criteria and standards for assessing quality teaching and learning, the quality of equipment, and the learning environment. According to DoE Document “Trends in Education Macro Indicators (2009:4) indicated that it is difficult to have successful implementation of an Integrated Quality Management System in the midst of the following challenges:
2.11.1 Inconsistent Educational Statistics

A major challenge in calculating the efficiency indicators is the quality and validity of the repeater data, provided by the Schools in the Annual School Survey (ASS). A number of researchers have pointed to the under-reporting of the number of repeaters by schools in South Africa (DoE, 2006d:90), as well as in other developing countries (UNESCO; IEB, 1996:9). Under-reporting in the South African schools is mainly induced by the inclination by school authorities to hide the nature of the problem and poor compliance on the part of schools when completing the ASS forms. It is stated by DoE (2009:4) that in a number of instances, there has been inconsistencies and unreliability in the collected educational statistics which renders measurement of areas of failures and achievements difficult. It is cited that most reports often rely on two sources in developing key indicators. These are data officially obtained from schools and data obtained from house surveys. The former is known to produce less optimistic scenarios because it tends to under-report certain key data, and to produce unreliably high estimates of school dropout behaviours. The latter is however considered more reliable. Such inconsistencies are known to create confusion and render quality evaluations quite difficult.

An empirical research conducted by Materu (2007:49) on schools in the Sub-Saharan Africa reveal that issues of human capacity are some of the factors affecting educational statistics and the planning of quality initiatives. The findings of Materu (2007) confirm the findings of the study conducted by DoE (2006d:90), DoE (2008), Crouch (2005:2) and UNESCO (1996:9).

According to Materu (2007:49), effective quality assurance in schools depends largely on the availability of highly qualified school staff and administrators. The successes of accreditation, audits and academics reviews is particularly demanding of human capacity since the legitimacy and credibility of the results is so dependent on the quality, dedication and the integrity of the people who serve as peer reviewers, the administrators and faculty members who prepare the self-assessment and collect needed data at the schools being reviewed. Those who review quality assurance and disseminate them to the stakeholders must be experts in the respective fields, be professional and neutral without personal interest, and must possess the skills and
diplomacy necessary to conduct effective site visits. Studies demonstrate that quality assurance in African countries, including those in stronger economies like South Africa is experiencing severe constraints. These constraints include: difficulties of finding the number of academics who are qualified and available to serve as peer reviewers, lack of appropriate training for those involved in accrediting agencies and at institutions. This negatively affects the ability of the schools to amass data, information, and self-analysis which is needed for the effective self-studies.

2.11.2 Education Expenditure

Successful implementation of IQMS must also be supported by sufficiently allocated budget, however reports indicate that the overall financing of the South African education has declined in the past 12 years. DoE (2008:21) reveals that based on the education spending as a share of the Gross Domestic Product (GDP), financing has dropped from 6.4% of GDP in 1994/1995 to about 5.3% in 2006/2007. This is because spending as a share of GDP has decreased partially because of the steady growth in GDP, and also due to the pace of spending in other social sectors that has increased faster than it has in education. Although South Africa still allocates a healthy proportion of its GDP to the education sector, as compared to other developing countries, such inadequate budget allocations have usually hindered the effective implementation of certain programmes like the IQMS.

Materu (2007:49) added that programme accreditation is the most costly part of a quality assurance system. The broader the sweep, the more time needed for both the preparation of self-studies and for effective peer reviews of that material and of the institution during site visits. A high quality self-study by an institution reduces the time needed for external peer review and thus lowers costs. Other main cost drivers are the number of standards or criteria to be reviewed, quality of data management by the schools, size and competence of peer review team. Other costs determinants are: the extent of the support provided by the peer review team, the bureaucratic complexity of the review process, and the quality of the staff within the national quality assurance who organise the review processes. Of all the countries examined in the Sub-Saharan Africa, South Africa’s quality assurance was found to be the most comprehensive, but complex and costly.
2.11.3 Educators’ Qualifications

Although there has been significant improvements in equipping more educators with more skills, Crouch (2005:21) points out that there is still a lot of shortage with regards to lack of management skills. Crouch (2005:21) is of the opinion that the implementation of IQMS can be rendered not only a success by improving the teachers’ technical teaching skills, but also through management and leadership development programmes for the school principals and the School Management Teams. According to Crouch (2005:21), this would enable the school management to be abreast with how to deal with teachers so that IQMS implementation can be a success.

2.11.4 Educator Ratios and Class Size

Taylor, Muller and Vinjevold (2003:49) stated that a reduced educator/learner ratio is essentail in ensuring the successful implementation of IQMS. Taylor et al. (2003:49) explain that one of the legacies of the apartheid education system was the considerable difference in the provision of educators to schools. Taylor et al.’s (2003:49) assertion is supported in the DoE (2008:149) revelations that in 1994, the educator/ ratio ranged from 39:1. In KwaZulu Natal and Limpopo, to 23:1, in the Western Cape. In 2007, the DoE (2008:149) notes that the ratios were lowered across provinces to 31:1. The DoE (2008:149) states that there is a hindrance to effective teaching and learning arising from high educator/learner ratio.

2.11.5 Educator Attrition

The DoE (2008:149) adds that there is difficulty in implementing a quality initiative in the midst of prevalent educator attrition. This is because of the challenge of getting those teachers who had left the profession for a long time and returning to perform at the desired standards. According to the DoE (2008:149), this limits the effective implementation of IQMS.
2.11.6 Poor Educational Infrastructure

The DoE (2008:151) also notes that there is a challenge of limited education infrastructure on the basis that in certain provinces schools are widely dispersed, thus making it difficult for learners to commute. In addition, the DoE (2008:151) states that poor educational infrastructure which has left some schools housed in grass thatched houses and under trees limits the dissemination of knowledge and renders the evaluation of teaching quality using a uniform standard in certain provinces difficult.

2.11.7 Lack of effective communication

Hand in hand with the challenge of poor educational infrastructure, the DoE (2008:151) also concurs with Crouch (2005:21) that there is a challenge of effective communication which limits consultations. This is very important throughout the process of developing and implementing a quality assurance. In support of the DoE (2008:151) and Crouch’s (2005:21) views, the Department of Education (2003a:52) elaborates that prior to the introduction of accreditation for private institutions, the institutions were given opportunities to provide feedback on the guidelines prepared by the Tertiary Education Commission. According to the Department of Education (2003a:52), this impressed the private institutions and schools and made them feel that the accreditation of their programmes by the TEC enhanced their legitimacy. In South Africa, the DoE (2008:151) reveals that the HEQC spent a great deal of time consulting with stakeholders during preparations of policies and standards. However, the DoE (2008:151) still posits that some critics of the HEQC argued that it spent too much time consulting. On that basis, the DoE (2008:151) states that the Director of the HEQC attached great importance to having an upfront communication strategy. At the same time, the DoE (2008:151) also notes that the HEQC was sensitive to the concerns that while they had communicated well with the Universities and Technikons, they had not done particularly well in the public domain. The DoE (2008:151) therefore posits that the HEQC is currently working to improve its public communication strategy by enhancing the effectiveness of the site visits and by conducting post site visit surveys which have proven helpful in revising their policies and procedures. The DoE (2008:151) notes that this is compatible with the development in several countries in which pre-accreditation visits to institutions are conducted in order to explain the
procedures, and to give staff a chance to ask questions that they feel must be answered.

2.11.8 Legitimacy of the process

Perry and Arend (2003:12) stated that one of the quality assurance agencies reviewed suffers from a crisis of legitimacy. Nonetheless, this issue was close to the surface in several cases and voiced as a major concern by leaders of the accrediting agency, some peer reviewers, vice-chancellor, faculty members, and other interested observers. It was most acute in relation to peer reviewers and the recognition that how they are perceived affects their legitimacy, and in the long run the acceptability and utility of the process. Perry and Arend (2003:13) further noted that the commitments and concerns of some faculty members in the post accreditation survey at Rhodes University speak more about this. A small number of those surveyed had negative reactions to the peer reviewers to what they felt was their lack of preparation and to the amount of work involved for small benefits. While these were minority views, they demonstrate the fragility of the legitimacy attached to the process and the damage that can be caused by peer reviewers who are not experts in their fields, who are unprepared for the site visit, or who are insensitive to the need to be impartial and respectful throughout the process. According to Pullin and Haidar (2003:279), the quality, integrity, and professionalism of peer reviewers are other factors that can compromise the legitimacy of the quality assurance process. Comments from peer reviewers who felt they were neither sufficiently trained nor provided with ample information prior to site visits, suggest additional problems that can interfere with the effectiveness of the review. The case of the former quality assurance agency----Agence Nationale d’ Evaluation in Madagascar failed because it lacked legitimacy, and once legitimacy is lost, it is usually difficult to regain. Thus the training, selection, and training of peer reviewers, their preparation for site visits, and their deportment and integrity during site visit are vital to the legitimacy and long term success of the process (Perry & Arend, 2003:12).

The above discussed factors are not different the factors which theories reveal to usually hinder the effective implementation of an Integrated Quality Management Systems. Such factors are; lack of skills, ability and knowledge, lack of motivation, lack of respect for rules or counterproductive behavior, personal problems, organizational
context or system factors, poor recruitment policies, and poor management and monitoring policies.

2.12 UNDERTAKING APPROPRIATE IMPROVEMENT ACTION

Following considering the hindrances and implementing IQMS, the next step is usually to determine whether the prior set objectives and standards have been met. Although the implementation of IQMS takes an integrative approach, each facet may use certain specific techniques. These techniques have been discussed above under quality management, performance measurement, and performance appraisal. Luthans and Peterson (2003) state that the measuring and comparing standards enable the degree of variations between the actual performance and standards to be determined. Therefore, it is critical to determine the acceptable range of variations. Deviations which exceed this range become significant and need the manager’s attention. In the comparison stage, managers are particularly concerned with size and direction of the variation. Where deviations are identified to have exceeded the acceptable range of variations, management must take appropriate actions (Luthans & Peterson, 2003:243). However, there a number of options; these are that management may do nothing, correct the deviations, or can revise the standards.

2.12.1 Correcting Actual Performance

According to Fletcher (2001:473), if the source of the performance variation is unsatisfactory work, the manager will want to take corrective actions. Examples of such corrective actions might include changing strategy, structure, compensation, training programmes, redesigning jobs or firing employees. A manager who decides to correct actual performance has to make another decision. Should immediate or basic corrective actions be taken? Immediate corrective action corrects problems at once in order to get performance on track. Basic corrective action looks at how and why performance has deviated and then proceeds to correct the source of deviations (Luthans & Peterson, 2003:243). It is not unusual for managers to rationalize that they do not have the time to take basic corrective actions, and therefore must be content to perpetually put out fires with the immediate corrective actions. Effective managers, however, analyze deviations; when the benefits justify it, they take time to pinpoint and correct the causes of variance.
2.12.2 Revision of standards

It is a point that the variance was a result of an unrealistic standard, that is, the goal may have been too high or too low. In such cases, Luthans and Peterson (2003:246) pointed out that it is the standard that needs corrective actions, not performance. The more troublesome problem is the revision of performance standards downwards. If an employee, work team or work unit falls significantly short of reaching its goals, their natural response is to shift the blame for the variance to the goal. It may be true that when standards are high, they can result in a significant variation and may even contribute to de-motivating those employees being measured against them. However, it should be borne in mind that if the employees or managers do not meet the standard, the first thing they are likely to attack is the standard. “If you believe that the standard is realistic, fair and achievable, hold your ground. Explain your position, reaffirm to the employees, team or units and then take the necessary corrective action to turn that expectation into reality” (ELRC, 2003:12).

However, in the IQMS implementation, the ELRC (2003) provides some other measures for improving performance. These are discussed below.

2.12.3 Personal Growth Plan

The ELRC (2003:26) provides some of the improvement measures which can be taken to improve the performance of schools’ staff and the schools as a whole. One of such measures is personal growth plan. PGP, as stated by ELRC (2003:26), is supposed to be developed by the educator in consultation with the members of DSG, and it is used to inform the baseline evaluations and the performance measurement at the end of each year. The PGP also forms an important record of needs and progress of the individual educators. Preparation of the PGP usually takes place following the observation of the educator in practice and the evaluation on which consensus is reached. The educators’ PGP, along with the copies of the completed instruments, are usually sent to the staff development team of the school. The PGP is meant to address growth at three levels. These are: those areas in need of improvement and in which the educator himself is in control, the areas where the DSG or someone in the school is able to provide guidance, and those areas where the District/Local Department office should provide INSET or other programmes like Outcome Based Assessment.
Where the educator is under-qualified or needs re-skilling in order to teach new subject/learning area, this information needs to be fed through to the District/Local Office and needs to feature in the Work Place Skills Development Plan (WSP) of the region or province. Funding needs to be accessed from the ETDPSETA in order to provide the educator with the opportunity to embark on an NPDE or appropriate short courses or skills programme.

2.11.4 School Improvement Plan

The ELRC (2003:12) states that the School Improvement Plan refers to a blueprint of the actions and processes needed to produce school improvement. The School Improvement Plan is an important document which enables the school to measure its own progress through a process of ongoing self-evaluation. This must be done continuously, especially in the years in between the cyclical external WSE. The School Improvement Plan is developed by the SDT and is submitted to the District/Local Department Office. It enables the SDT to monitor progress and improvement. The SIP is usually informed by the PGP of the individual educators as well as the other seven focus areas which are included in the WSE. The School Improvement Plan is a systematic, sustained effort aimed at changing the learning conditions, with the ultimate aim of accomplishing educational goals more effectively. School improvement is therefore about developing strategies for education change which strengthens the school’s organization, as well as implementing curriculum reforms (ELRC, 2003:12).

ELRC (2003:12) further states that the approach to school improvement rests on a number of assumptions. The first one is that the school is the center of change. This means that external reforms need to be sensitive to the situation in individual school schools, rather than assuming that all schools are the same. The second assumption provides a systematic approach to change. School improvement is a carefully planned and managed process that takes place over a period of several years. Under the third assumption, it is stated that the key focus of change is the internal conditions of schools. These include not only the teaching and learning activities, but also the schools’ procedure, role allocation and the resource which support the teaching and learning process. Accomplishing educational goals more efficiently falls under the fourth assumption. Generally, educational goals are what a school is supposed to be doing for its learners and community. Schools also serve the more general
development needs of learners, the professional development of educators and the needs of its community. The fifth assumption prescribes for a multi-level perspective. Although the school is the center of change, it does not act alone. The school is embedded in an educational system that has to work collaboratively if quality is to be achieved. This means that the roles of educators, SMT, parents, SGBs, and support personnel should be defined, harnessed, and committed to the process of school improvement.

Integrative implementation strategies are hypothesized under the six assumptions. These state that the integrative implementation strategies imply a linkage between top down and bottom up approaches. However, the two approaches can apply at a number of different levels in the system. Ideally top-down provides policy aims, an overall strategy, and operational plans (ELRC, 2003:12). This is complemented by a bottom-up response involving diagnosis, priority goal setting, and implementation. The former provides the framework, resources and a menu of alternatives; the latter provides energy and school-based implementation. The last assumption of the school improvement plan provides for the drive towards institutionalization.

2.11.5 District Improvement Plan

ELRC (2003:12) states that once the school development plan which highlights the specific developmental needs have been received by the District/Local Department Office, the Local Office develops its own improvement plan for the District/Circuit. In this plan, schools that have identified similar needs and/or similar aspects in need of development can be clustered together for the purposes of providing INSET and other programmes (ELRC, 2003:12). The District Improvement Plan enables the District/Local officials to plan, co-ordinate and monitor the delivery of support and development opportunities in the schools in their areas. The effectiveness of the District/Local Office can be measured against its ability to deliver in terms of its own DIP. The DIP is informed by and developed from SIPs submitted to the office by schools in its areas. Co-ordination of different programmes, which can run concurrently in different areas and the optimal deployment of officials, should be included in the District Plan (ELRC, 2003:12).
2.13 CONCLUSION

Generally, the review of several theories and empirical studies in this chapter reveals how the IQMS, as postulated by the ELRC (2003) is sub-standard, inaccurate, and ineffective as the model for the improvement of education quality in South African schools. The model does not consider clearly what the whole school evaluation must encompass. Where it does, it does only to a small, unclear, and ambiguous extent. For instance, the model assumes that by evaluating teachers and SMT, the overall purpose of whole school evaluation will be achieved. Literature review, however, reveals that concepts such as “whole school evaluation” are related to the evaluation of quality in a purely service setting. The most celebrated approach for setting service standards, measuring, and improving service quality is the Zeithmal, Parasuraman and Berry’s (1985) Model (SERVQUAL). Parasuraman et al. (1985) model (SERVQUAL) as discussed in this chapter reveals that service quality can be improved if considerations are taken of; tangibility, reliability, responsiveness, assurance and empathy. Instead of the ELRC (2003) following such systematic approach for evaluating schools’ service-quality, it proposes some very unclear approach. It is therefore not surprising that empirical research revealed that some of the educators were confused, lost interest, and considered the implementation of the IQMS implementation in schools as an unserious initiative from DoE. In addition, quality management literature reveals that customers are the best evaluators of services because they are the consumers. The approach to schools’ quality evaluation in which the IQMS Document (2003) excluded parents and learners from participating in whole school evaluation is flawed and inconsistent. The literature review also reveals that the purposes of performance measurement are to enhance strategic, administrative and developmental actions. However, the whole purposes outlined in the IQMS (Document, 2003) seem inconsistent with such purposes. The ELRC (2003) emphasizes that the purpose of performance measurement is for pay progression. This as compared to the general management literature is a complete distortion of the reasons why performance measurement is undertaken in organisations. Not only the ELRC (2003) fail to comply with the prescribed performance management process which usually encompass; launching process, coaching process, and evaluation process, but also entrusts teachers with the tasks of evaluating themes. It is a complete affront to common sense and management literature that teachers would
rate themselves fairly for the purposes which would lead to increased financial rewards. In other words the attaching of the pay progression and the use of self-evaluation as the main technique undermines the overall prescribed purposes of performance measurement. It was revealed in the management literature that performance appraisal must be relevant, reliable, sensitive, free from contamination or validity, practicable, acceptable, and legally compliance.

In light of such practices of IQMS in schools, it can be concluded that the performance appraisal which is currently being is used does not meet the criteria of an effective performance appraisal system. Although there some established process for establishing performance appraisal was outlined in the ELRC (2003), it cannot be concluded that it meets the checklist for effective performance standards, and appropriate methods of appraising employees. The chapter reveals that the IQMS implementation in the South African schools seems to be implemented in silos without appropriate integrative strategies which enable different sub-systems to operate one coherent whole. Finally it was noted that ELRC (2003) does not mention any where the consideration of the key success factors, the effective process for implementation, monitoring and evaluations of the successes and failures of IQMS in schools. Instead, it provides some sketchy incoherent guidelines which do not make sense. Neither, is it also mention anywhere in the ELRC (2003) about the IQM improvement actions.

In whole the model in Figure 1.1 assumes that effective IQMS implementation can only be achieved if the different IQMS sub-systems are clearly specified, and effectively integrated, implemented, monitored, evaluated and appropriate corrective actions undertaken. The presentation in this chapter has confirmed that the proposition in the model is consonant with the general theories for the implementation of an integrated quality management system. However, such assertion is not conclusive that the hypothesized model can be adopted, since it still needs to be validated through the factor analysis using the primary data collected from the sample population in the selected Eastern Cape Schools. The processes followed in the factor analysis are presented in the next chapter which deals with the research methodology.
LIST OF REFERENCES FOR CHAPTER 2


137


CHAPTER THREE: RESEARCH METHODOLOGY (QUANTITATIVE-FACTOR ANALYSIS)

3.1 INTRODUCTION

The theoretical and empirical framework in the previous chapter helped in identifying the underlying constructs and variables for the IQMS implementation Measurement Instrument in Figure 1.1 in Chapter 1 of this Research Report. In this chapter, it is indicated that the principal research design and methodology which was used in the primary data collection was quantitative. Specifically, this chapter demonstrates that factor-analysis was the main quantitative technique which was used in the process of testing and validating the priori IQMS measurement instrument. It is indicated that the first step concerned defining the factor structure, the second step dealt with sampling, data collection method, pilot testing and data collection which is indicated to have been through personal administration. The next step in the factors-analysis was data analysis whereby the process followed included: measuring inter-correlation of the correlation matrix, choosing factor models and number of factors, and factor rotation and interpretation. Thereafter, a better-defined factor restructure was produced, and its fitness with the observed sample data was tested using confirmatory factor analysis. The chapter also explains how validity and reliability were accomplished. Finally the chapter examined ethical considerations and limitations of the study.

3.2 RESEARCH APPROACH (USE OF DEDUCTIVE APPROACH)

In a more general approach, Leedy and Ormrod (2005:2) posit that research refers to the systematic process of collecting, analyzing and interpreting information in order to enhance the understanding of the phenomenon being researched. Despite concurring with Leedy and Ormrod (2005:2), authors such as Saunders, Lewis and Thornhill (2007:117), Walliman (2009:16) and Singh and Bajpai (2008:11) point out that the two main approaches through which a research process is be accomplished include the deductive approach and inductive approach. Monette (2005:34) explains that as distinguished from the inductive approach, in a deductive approach, the researcher while relying on existing theories, formulates a priori theory or hypothesis and determines the data collection method in order to collect the data against which the formulated theory or hypothesis is tested. Monette (2005:34) notes that in a deductive
research approach, the formulated hypothesis or expected patterns of behaviours is tested against the observation in order to arrive at a logical conclusion as to whether such tentative proposition is true or false. Whereas, a deductive research approaches commences with theory formulation and concludes with observation, Lodico (2010:10) and Neuman (2003:51) point out that the inductive research approach starts with observation which involves topic formulation, review of literature, and observations of the natural patterns of the organizational setting in order to arrive at a logical conclusion in terms of theory postulations and solutions for the phenomenon being researched. Despite the two approaches, this study used the deductive approach on the basis that after the formulation of the IQMS Implementation Model in Figure 1.1 using the existing theories on integrated quality management, primary data was collected in order to determine whether the specified IQMS implementation theory perfectly reproduces the observed sample data with the overriding effect of influencing the processes for the IQMS implementation in the South African schools. Despite the fact that the research approach is deductive, the study mainly uses the exploratory research design.

3.3 Research Design: Exploratory

Saunders et al. (2007:117) posit that a research design refers to the outline or sketch of the processes prescribing techniques, methods and tools which are used in the primary data collection, analysis, presentation and interpretations. Saunders et al. (2007:117) construe that the main objective of a research design is usually to determine the extent to which the chosen method can lead to the eliciting of information which is relevant to the issue raised in the research objectives and questions. Authors such as Bell, Davis and Linn (1996:15), Berg and Latin (2000:112), Locke, Silverman and Spirduso (1998:89), and May (1998:12) concur that the different kinds of the research design include case study, exploratory, cross-sectional descriptive research design and co relational research design. However, this study uses the exploratory research design on the basis that the main purpose of this study is not only to explore the kind of the model that would significantly influence the successful IQMS implementation in the South African schools, but also the kinds of the variables that determine the effectiveness of such a model. Nonetheless, Lambin (2000;143) explains that the exploratory research design refers to a system of inquiry in which the obtained information does not provide conclusive evidence or answers to
the research questions, but merely provides information that can be used to enhance the understanding of the nature and complexity of the problems being investigated and the possible solutions. In order to effectively explore the constructs and the variables that influence the effectiveness of the IQMS Implementation Model in Figure 1.1, this study used the quantitative research method.

### 3.4 Quantitative Research Method

Authors such as Bell, Davis and Linn (1996:15), Berg and Latin (2000:112), Locke, Silverman and Spirduso (1998:89), and May (1998:12) concur that a number of philosophical and epistemological studies have been undertaken with the overriding objective of discovering the best approach for data collection, analysis and interpretation. In effect, Welman, Kruger and Mitchell (2005:6) reveal that for decades, debates have raged over the two contrasting views on the approaches to conducting a research. One of the views advocates for the positivist approach (quantitative approach), and the other argues for the use of anti-positivist approach (qualitative approach). Positivists or logical positivists stress the importance of the use of natural scientific method in human behavioural research. Neuman (2006:83) states that positivists solicit for more structured and quantifiable data in a research process and use quantitative techniques encompassing hypothesis, correlation, inter-co-relation (co-relation co-efficient), factor analysis and a number of other techniques in order to arrive at conclusions about the “cause-effect” relationship between variables. Anti-positivists, also referred to as Phenomenologists, on the other hand, oppose the use of natural scientific method in human behavioural research and argue that it is inappropriate to follow the strict natural scientific methods when collecting and interpreting data (Welman, Kruger and Mitchell, 2005:6).

Phenomenologists maintain that natural scientific methods are suitable for pure laboratory scientific studies such as the analysis of molecules or organisms and therefore are unsuitable for analyzing phenomena being studied in the human behavioural sciences (Neuman, 2006:85). Despite the debates between the positivists and anti-positivists, studies demonstrate that the use of either approaches have yielded positive results in resolving organizations’ problems, and none of the opposing views have failed to prove that the use of the alternative views would have led to the invention of better improvement measures. In addition, the advocates of the opposing
views have continued to cite previous studies to support their opinions irrespective of the methodology which was used in the study. This is a clear indication of the fact that the method used does not create a significant difference in the results. In a number of cases, some studies conducted using qualitative research methods have usually confirmed previous studies which had different approaches. In that regard, one would certainly agree with Locke et al. (1998:122), who postulated that the selection of the research paradigm must be dictated by the circumstances of the research, its nature, and the ability of the research to apply the respective techniques competently. The exception is that Locke et al. (1998:122) failed to add that the selection of a research methodology can also be dictated by the preference and training of the researcher. Since this study opts for a deductive research approach, it is fathomed that the application of the quantitative research paradigm or positivist approach would enhance the effective assessment of the causal relationship between the latent constructs and the underlying variables which are hypothesized by the study in the IQMS measurement model in Figure 1.1. By accomplishing this, the study would subsequently fulfill its underpinning assumption and the primary research objective which is to develop a model for the effective measurement and implementation of the Integrated Quality Management Systems (IQMS) in the selected Eastern Cape Schools. While drawing from authors Decoster (1998:2), Amonini et al. (2010:55), and Hair et al. (2010:94), the extent to which this study would be able to effectively measure the relationship between the specified constructs and the measuring variables is significantly influenced by the kind of the quantitative research method and technique that a study uses. In this instance, the study used a combination of exploratory factor analysis and confirmatory factor analysis in the testing and validating the IQMS Implementation Model in Figure 1.1.

3.4.1 QUANTITATIVE RESEARCH TECHNIQUE: FACTOR ANALYSIS

In line with Hair et al.’s (2010:94) definition, factor analysis refers to an interdependent multivariate technique whose primary purpose is usually to define the underlying structure among the variables in the analysis. Factor analysis is a more general model in that it can identify the structure of the relationships among either variables or respondents by examining either the correlations between the variables or correlations between the respondents. Amonini et al. (2010:55) point out that factor analysis is one
of the methods of examining a correlation or covariance matrix. In other words, it is a quantitative procedure which searches for groups of variables which are significantly correlated with each other, whilst not maintaining high correlations with other variables. Such groups of variables are called “factors” or “dimensions” or “constructs”. According to Decoster (1998:2), there are two types of factor analysis. These are the Exploratory Factor Analysis and Confirmatory Factor Analysis. Exploratory factor analysis attempts to discover whether the natures of the constructs are influencing a set of responses. In an exploratory factor analysis, there is no pre-specified or conceived measurement model. Exploratory factor analysis is used to explore the possible underlying factor structure of a set of observed variables without imposing a pre-conceived structure of the outcome. Confirmatory factor analysis tests whether a specified set of constructs is influencing responses in a predicted way. Bagozzi (2007:237) stated that in a confirmatory factor analysis, the process is intended to verify and confirm the structure of a preconceived model. It allows the researcher to test the hypothesis that a relationship between the observed variables and their underlying constructs exists. Although in this study, the main objective is to measure and validate the hypothesized IQMS Implementation Model in Figure 1.1, exploratory factor analysis was first used in order to further define the structure of hypothesized model in Figure 1.1 with the effect that later, confirmatory factor analysis would be applied to confirm its validity. Since confirmatory factor analysis was involved, in the context of Decoster (1998:2), Amonini et al. (2010:55), and Hair et al.’s (2010:94) interpretation, the structuring of how the research must be accomplished took the confirmatory factor analysis outline that involved the application of the four main steps. These are: Step 1- Postulation of the Measurement Theory, Step 2- Target Population and Sample Size Determination, Step 3- Data Collection Process, Step 4- Data Analysis and Interpretation of Indices. After data collection, exploratory factor analysis was integrated in the data analysis process in order to further define the factor structure prior to the final application of the confirmatory factor analysis indices. The processes and steps which were followed were as described in the subsequent sections.
3.4.1.1 Step 1: Postulation of the IQMS Measurement Theory - Designing the underlying constructs and variables

It is noted in Chapter 1 of this research report that the IQMS Implementation which is prescribed in the ELRC (2003:12) is limited by the shortfall that it only prescribes that the effectiveness of the process for IQMS implementation is measured by the three constructs. These are the Developmental Appraisal, Performance Management and Whole School Evaluation. However, it is pointed out in Chapters 1 and 2 of this research report that the evaluations of the theories that are postulated by the authors such as Parasuraman et al. (1985:16), Rao and Krishna (2002;106), Rudduck (1999:47), Schiffman and Kanuk (2000:318), Schultz (2003:116), Shostack (1984:39), and Steve and Harris (2004:69) imply that the effectiveness of an organization’s integrated quality management systems is measured by five key constructs. These are: quality, performance management and developmental appraisal, integration of the key success factors, the adoption of the appropriate processes for IQMS implementation, and the application of the appropriate corrective and improvement measures. On that basis, it is clear that this research uses the theoretical interpretations and posits in its overriding hypothesis in Figure 1.1 (replicated from Chapter 1) that the five main constructs determining the successful IQMS implementation include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Constant Monitoring, Evaluations and Application of Improvement Actions.
In the context of the discussions in Chapters 1 and 2, the postulation in Figure 1.1 is also construed to significantly differ from the results of the studies that are conducted by Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) on the IQMS implementation in South African schools. This is on the basis that most of the research by most of these authors did not result into prescribing a comprehensive framework for measuring and improving IQMS implementation in South African schools. In addition, in the context of the literatures that are discussed in Chapter 2 of this research report, the study also hypothesized that the key variables that significantly measure the five constructs that are outlined in Figure 1.1 are as detailed in the following discussions.
3.4.1.1 Construct 1: Considering the Notion of “Quality” and Whole School Evaluation

The postulation in this construct is linked to the first research hypothesis which reads:

**H0:** Considering the essential service quality dimensions would significantly influence the successful IQMS implementation in the selected schools in the Eastern Cape Province

**H1:** Considering the essential service quality dimensions would not determine the successful IQMS implementation in the selected schools in the Eastern Cape Province

A critical analysis of the theories in Chapter 2 of this research report would imply that the effective implementation of the organization’s IQMS cannot be successful on three tenets only. In other words, the DoE’s introduction of whole school evaluation as one of the key IQMS’ tenets ignites a number of quality related issues on the basis that the notion of whole school evaluation would deal with the assessment of the education services, facilities, staff and the general environments of schools. On that basis, it is maintained in this research that the use of Parasuraman et al.’s (1985:41) SERVQUAL Model would significantly influence the effectiveness of the whole school evaluation and education quality management in most of the South African schools. This study posits that considering the notion of Quality and Whole School Evaluation is the first construct that would significantly determine the successful IQMS implementation in the South African schools.

In order to effectively accomplish the notion of quality and whole school evaluation, the study, within the context of the illustration in Figure 3.1, suggests that the school quality evaluators must examine the five key sub-constructs and the associated variables that include: Tangibility (Physical aspects of schools), reliability, responsiveness, assurance and empathy. In terms of the measuring variables, Figure 3.1 illustrates that Tangibility is determined by classroom availability and size, sports equipment and facilities, scholastic materials, appearance of teachers and learners, and the general school environment. Figure 3.1 also notes that the determinants of reliability are knowledge and skills of teachers, teachers’ preparations for lessons, and the management skills of SMT. Under responsiveness, the determinants are whether
teachers and learners arrive on time, SMT's quick response to problems, and whether principals respond quickly to problems.

**Figure 3.1 First Construct (Factor) - Quality and Whole School Evaluation**
Finally, it was construed in Figure 3.1 that empathy is assessed by analyzing whether teachers and learners are sensitive to one another’s feelings, and whether learners and teachers also express humility towards each other. It is also noted in Figure 3.1 that assurance is dependent on the willingness of teachers to teach, willingness of learners to learn, humility of learners and teachers, and the level of teachers’ interactions with learners. The second construct of an effective IQMS implementation model is considered in the hypothesis to be the existence of an effective developmental appraisal and performance management.

3.4.1.1.2 Construct 2: The Effective Accomplishment of Performance Management and Developmental Appraisals

The second construct is aligned to the second research hypothesis which reads:

\( H_0: \) The effective undertaking of performance management and developmental appraisals is a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

\( H_1: \) The effective undertaking of performance management and developmental appraisals is not a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

While deriving from the theories in Chapter 2 of this research report, it is postulated in this research that the effectiveness of developmental appraisal and performance management is measured by the variables that include the existence of; well outlined purposes, appropriate process, suitable criteria, appropriate standards, appropriate methods, and measures for minimizing hindrances. The details are contained in Figure 3.2.
3.4.1.1.3 Construct 3: Considering Key Success Factors for IQMS Implementation

The postulation in the third construct is transposed into the third research hypothesis which reads:

**H0**: The successful IQMS implementation in the selected Eastern Cape schools would be predicted by the extent to which the essential IQMS key success factors are considered.

**H1**: The successful IQMS implementation in the selected Eastern Cape schools is not predicted by the extent to which the essential IQMS key success factors are considered.

The third construct deals with the Incorporation of the IQMS Key Success Factors. These factors were considered in the IQMS Manual to be constant. In other words, their existence was ignored. On that basis, it is illustrated in Figure 3.3 that the IQMS measurement model which this study prescribes, posits that the implementation of...
IQMS can never be successful unless keen attention is paid to ensure that these factors are constantly considered in the implementation of IQMS in the Eastern Cape Schools. Figure 3.3 further illustrates that the variables which must be considered under this construct include: quality management principles, effective coordination of activities, supporting information systems, stakeholders’ involvement, budget allocation, training and education, and change management strategies.

**Figure 3.3: The Third Construct - Incorporating Key Success Factors for IQMS Implementation**

3.4.1.1.4 **Construct 4: The Use of Appropriate Implementation Processes, Systems and Methods**

The postulation in the fourth construct was transposed into the fourth research hypothesis which reads:

**Ho: The undertaking of appropriate implementation, monitoring and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools**
H1: The undertaking of appropriate implementation, monitoring and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools

As it is illustrated in Figure 3.4, the fourth hypothesized construct is the IQMS implementation, monitoring and evaluation. In order to successfully implement, evaluate and monitor IQM, it is construed in Figure 3.4 that schools must adopt systematic implementation process, establish monitoring mechanisms establish evaluation mechanisms, and examine benefits and whether objectives and goals have been achieved.

Figure 3.4 The Fourth Construct: IQMS implementation, monitoring and Evaluations

The next discussions examine the postulations of the measuring variables in the fourth construct.

3.4.1.1.5 Construct 5: Constant Monitoring, Evaluations and Applications of the Improvement Actions

This construct was transposed into the fifth research hypothesis which states:

Ho: The use of appropriate corrective actions can result in the successful IQMS implementation in the selected Eastern Cape Schools.
**H1: The use of appropriate corrective actions may not result in the successful IQMS implementation in the selected Eastern Cape Schools.**

As it is illustrated in Figure 3.5, the final and the fifth construct concerns the corrective actions which can be undertaken by the management. In order to achieve this, the measurement model prescribes that management must review processes, objectives, and redesign the implementation strategies. However, in the context of Figure 3.5, this is done on the assumption that the fourth construct which deals with implementation, monitoring and evaluation informs the actions that must be taken by management in this last construct. This is explained by the arrow which flows from the fourth construct to the fifth construct.

**Figure 3.5 The Fifth Construct - Undertaking Corrective Actions**

Within the arguments presented by Bentler (2009:143), the above process for the development of the IQM measurement model indicates that the factor analysis is not only exploratory, but it is also reflective. It is a reflective factor analysis in that it is postulated that the Model determines the underlying constructs, and the constructs predict what should be the underlying variables. In other words, if the factor analysis was formative, it would have been the reverse. This means that the underlying variables would determine the constructs and subsequently converge to form a model. Nonetheless, when the determination of the hypothesized measurement instrument was complete, the process for the determination of appropriate sample size was as discussed in the next section.
3.4.1.2 Step 2; Target Population and Sample Size Determination

A target population refers to the subjects within an organization who are the focus of the study (Leedy, 1997:208). The target population is usually too large to be studied, and therefore the determination of a sample at a specified significance level is necessary (De Vos et al, 2002:210). The target population for this study constitutes all the high schools in the Republic of South Africa. South Africa has a 3 tier education system with primary schools, secondary schools, high schools and tertiary education in the form of universities and universities of technology. According to the 2010 Report by the Department of Education, the country has 12.3 million learners, 386 000 teachers and 48, 000 schools in general, including 390 special schools and 1, 000 registered private schools. It is posited by Hair et al. (2010:102) that in a factor analysis research, the researcher would generally not factor analyze a sample of fewer than 50 observations, and therefore the sample size should be 100 or larger. In line with Hair et al.’s (2010:102) postulation, this study notes that from the 48, 000 schools, 807 are high schools. In order to determine the appropriate and valid sample size for this population size, the South African high schools were clustered according to the nine provinces that are presented in Figure 3.5 below.

Figure 3.5; The clustered high schools in the Republic of South Africa

![Chart showing the clustered high schools in South Africa](chart.png)

After clustering, the 53 high schools in the cluster of Eastern Cape Province were chosen as the sample population for the study. Wegner (2010:219) argues that cluster
random sampling can be applied where the target population can be naturally divided into clusters. That is, where each cluster is similar in profile to every other cluster. This argument motivated the use of cluster random sampling in this study in that the target population is homogeneous, and therefore it would have been unnecessary to use either stratified or simple random sampling to obtain responses from different provinces. The use of cluster random sampling meant that the selected cluster would be able to provide views which are representative of the views of all the high schools in the Republic of South Africa. The section below describes the research instrument which was used in the primary data collection process.

3.4.1.3 Step 3: Questionnaire Design and Data Collection Process

This step was accomplished according to the two main processes that include the data collection method (Questionnaire Design) and data collection process.

3.4.1.3.1 Data Collection Method (Questionnaire Design)

Welman et al. (2005:52) reveal that the common data collection methods and techniques include; case study, observation, structured and unstructured open-ended questionnaires, interviews, and closed Likert Style Questionnaires. The data collection method for this study was accomplished using a five Point-Likert-Scale-Style Questionnaire that comprised of the scales that included: Strongly Disagree--1, Disagree--2, Unsure--3, Agree--4, and Strongly Agree--5. In the design of the questionnaire, the study ensured that the sentences and the words which were used in the statements and questions in the questionnaires could easily be understood by all the respondents. This was achieved by drafting the statements and questions in the questionnaires in shorter sentences so as to ensure that the statements contained only a single meaning which could easily be understood and interpreted by the respondents. Despite the fact that there are a number of previous studies on the concept of IQMS in the educational setting and other industries, the researcher found that there was no questionnaire which was in tandem with issues that concerns the process for the investigation of this study. The questionnaires were therefore designed by the researcher in conjunction with the initiative of ensuring that the process and the key sections are aligned with the five key constructs that are outlined in the overriding hypothesis which is postulated in the IQMS Implementation Model in Figure 1.1. As noted in the IQMS Implementation Model in Figure 1.1, the five constructs that would
significantly influence the successful IQMS Implementation in the South African schools include: Quality and Whole School Evaluation, Performance Appraisal and Performance Management, IQMS’ Key Success Factors, IQMS’ Implementation, Monitoring and Evaluation, and IQMS Corrective Actions. These key five constructs were transposed into the sections in the questionnaires to include Section A: The concept of quality and whole school evaluation, Section B: The concept of Performance Appraisal and Performance Management, Section C: The IQMS’s key success factors, Section D: The Processes for IQMS’s implementation, Monitoring and Evaluation, and Section E: The Applications of the IQMS’ corrective and Improvement Measures. These sections were also aligned to the hypotheses and the secondary research objectives of the study.

The general assumption of formulating the questionnaire along these lines was that it would lead to the solicitation of the desired information which could be used to test whether the estimated IQMS Implementation Model in Figure 1.1 would perfectly reproduce the observed 53 sample data. Nonetheless, after the questionnaire design, a pilot test was conducted on 10 respondents in order to further review and identify the errors and defects in the questionnaires. Most of the commonly identified errors were the use of certain technical terms which the respondents were not able to easily understand and interpret in the manner that would enable them to provide the answers that would accurately respond to the issues in the research questions, objectives and hypotheses for the study. All these were corrected prior to commencing the actual data collection process.

In addition, in the process of pilot-testing, the testing of the validity and reliability of the Five Point Likert Scale Questionnaire was accomplished using Cronbach Alpha’s formula: 
$$a = \frac{rk}{1 + (k - 1)r}$$
where k is the number of items considered and r is the mean of the inter-item correlations the size of alpha which is determined by both the number of items in the scale and inter-item correlations. The Statistical Programme for Social Sciences (SPSS) was also used, and the result was 0.9. The interpretation was that the result of 0.9 signified that the questionnaire (measurement instrument) was valid and reliable. According to George and Mallery (2003:1) state that if the result is > .9 – excellent, > .8 – good, > .7 – acceptable, > .6 – questionable, > .5 – poor, < .5 – unacceptable. The next issue during the pilot testing was about examining whether the wordings and the sentences in the questionnaires could easily be understood by
the respondents. This was accomplished by distributing the questionnaires randomly to 20 respondents comprising of High School Principals, HoDs and Teachers in Randfontein, Johannesburg. This is because at the time of the design of the questionnaire, the researcher was based in Johannesburg. Although, most of the respondents demonstrated that they were able to complete the questionnaires with less difficulty, some stated that they were unable to understand certain questions due to some difficult words. Reviews were therefore undertaken to ensure that the identified questions could easily be understood. In addition, the pilot testing also enabled the researcher to assess the perceptions educators about the study on IQMS. Most of the educators however, were appreciative of the study being taken due to the confusion which has led to the failures of IQMS. Most of the respondents therefore stated that they expected this study to lead to the streamline and the successful implementation of IQMS in schools. This was a source of motivation to the researcher.

3.4.1.3.2 Data Collection Process: Personal Administration of the questionnaires

When the researcher was done with pilot testing, arrangements and contacts were made with the principals of the 53 high schools in the cluster of the Eastern Cape Province to have the questionnaires personally administered. The researcher opted for personal administration to other data collection methods such as a mailed questionnaire, panel groups, and telephonic interviews, on the basis that personal administration would enable the researcher create the necessary rapport with the respondents and induce the interpersonal relationship that would convince the respondents to participate in the study. In addition, through personal administration, the researcher was able to interact freely with the 53 principals, get some sort of background information, and influence the respondents to provide more details about the problems limiting the effective IQMS implementation in the selected Eastern Cape Schools.
Despite the fact that such approach resulted into the unearthing of the information that enhanced the researcher’s knowledge, the researcher also ensured that prior to questionnaire completion, appropriate explanations were provided to the respondents about the purpose of the study. Once they understood, they were provided with questionnaires to complete in isolation, and the researcher advised that if there is any uncertainty, they must feel free to ask him. Where clarity was needed, the researcher provided explanations without suggesting or influencing the kind of response expected. The process was similar for all schools up to the point when the desired questionnaires from the 53 high schools were obtained. The obtained data was used in both the exploratory and confirmatory factor analysis in order to test and validate the postulated IQMS implementation model in Figure 1.1.

3.4.1.4 STEP 4: DATA ANALYSIS AND INTERPRETATION OF INDICES

After all the questionnaires were returned, they were captured into the SPSS spreadsheet, edited, and cleaned prior to the actual analysis that comprised of exploratory factor analysis and confirmatory factor analysis.

3.4.1.4.1 Exploratory Factor Analysis and Interpretation of Indices

Exploratory factor analysis was accomplished according to the three main steps that encompass: Step 1 - Assessment of the Factorability of the Correlation Matrix, Step 2 - Choosing Factor Models and Defining the Factor Structure, and Step 3 - Factor rotation and interpretation.

3.4.1.4.1.1 Step 1: Assessment of the Factorability of the Correlation Matrix

The analysis focused on obtaining the percentages, mean, and standard deviations for the variables. This enabled the researcher to assess the conceptual issues arose from the obtained data, especially with regards to whether the data can lead to the logical conclusion about the model being suggested. The second step led to the development of the correlation matrix and it was used to determine whether the variables are sufficiently correlated to justify the application of factor analysis. Diagnosing of the factorability of the correlation matrix was accomplished by examining whether all the correlations are low or equal and denoting that no structure exists to group variables.
Using Bollen and Davis (2009a:536) such a result which would have led to the cancellation of factor analysis was not realized, since the visual inspections of the correlation matrix revealed that a significant number of the correlations were greater than .30. (meaning unclear) The partial correlation which is the correlation unexplained when the effects of the other variables were taken into account was too small, and according to Comrey (1978:659), this depicted that true factors existed in the data. The rule of thumb provides that a partial correlation above .7 is not practical and statistically significant. The other technique which was used in assessing the factorability of the correlation matrix was Bartlett's test of sphericity.

Table 3.1: KMO and Bartlett's Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.574</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>1594.800</td>
</tr>
<tr>
<td>df</td>
<td>703</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

The obtained result was greater than .50, and using Harman's (1976:11) interpretation, it was concluded to have statistically signified that there was sufficient correlation among variables in order for factor analysis to be done. Measure of Sampling Adequacy (MSA) was also done by ensuring that the value for the overall test and individual variables exceeded .50. Variables with values less .50 were omitted from factor analysis.

3.4.1.4.1.2 Step 2: Choosing Factor Models and Defining the Factor Structure

Humphreys and Ilgen (1969:578) stated that there are two methods for choosing a factor model. These are Component Factor Analysis and Common Factor Analysis. The component factor analysis was used in this study because data reduction was the main objective of the analysis. In addition, the software used (SPSS) only had component factor analysis. The common factor analysis model was left out because it is best in well specified theoretical applications. This was not the case for this study. In order to determine the number of factors to extract, latent root criteria or eigen values greater than 1 was used. Kenny (1970:1) states that the rationale behind the
latent root criterion is that any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation. Factors with latent roots less than 1 are considered insignificant and are disregarded. However, in this study most of the factors had latent roots greater than 1, and therefore were statistically significant for retention. A priori criterion was also applied because the researcher as reflected above already had prior knowledge of the number of factors which are based on the research objectives. The percentage of variance criterion was used by ensuring that factoring procedure is not stopped until the extracted factors account for at least 95% of the variance or until the last factor accounts for only a small portion (less than 5%) (Bollen & Davis, 2009b:536).

Table 3.2: Factor Extraction and Total Variance Explained

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>3</td>
<td>3.994</td>
<td>10.512</td>
</tr>
<tr>
<td>4</td>
<td>2.868</td>
<td>7.548</td>
</tr>
<tr>
<td>5</td>
<td>1.750</td>
<td>4.606</td>
</tr>
<tr>
<td>6</td>
<td>1.554</td>
<td>4.089</td>
</tr>
<tr>
<td>7</td>
<td>1.385</td>
<td>3.646</td>
</tr>
<tr>
<td>8</td>
<td>1.267</td>
<td>3.334</td>
</tr>
<tr>
<td>9</td>
<td>1.190</td>
<td>3.133</td>
</tr>
<tr>
<td>10</td>
<td>.991</td>
<td>2.608</td>
</tr>
</tbody>
</table>
Finally there was application of the Screen test criterion in which the factors before the reflection point were included (Bollen & Davis, 2009b:536). The details are explained in Figure 3.6.

**Figure 3.6: Factor Extraction and Scree Plot**

![Scree Plot]

The end result of all these criteria was the extraction of a five dimensional factor model comprising of: Factor 1: Quality and Whole School Evaluation, Factor 2: Performance Appraisal and Performance Management, Factor 3: IQMS Key Success Factors, Factor 4: Implementation, Monitoring and Evaluation, and Factor 5: Undertaking Corrective Actions.

**3.4.1.4.1.3 Step 3: Factor rotation and interpretation**

Despite the fact that the un-rotated factor analysis achieved the objective of data reduction, it did not provide the information which offers the most adequate interpretation of the variables being assessed. This is because the first factor in the
un-rotated factor analysis accounted for most of the high loadings and successively reduced with the second, third, fourth and fifth factors. In order to simplify the structure of the factor model, orthogonal rotation using varimax was done. There are two criteria for judging the significance of factor loading. These are the practical significance criterion and the statistical significance (Bollen, 2002:605).

In a practical significance, the loadings are assessed by ensuring that factor loadings in the range of ±.30 to ±.40 are considered in the interpretation of the factor structure, loadings of ±.50 or greater are considered practically significant, and loadings of 1.70 are considered indicative of a well-defined factor structure (Bollen, 2002:605). The statistical significance criterion is where the interpretation of the factor loadings is based on the sample size. Table 3.1 below provides the details:

**Table 3.3: Guidelines for Identifying Significance Factor Loadings Based on Sample Size**

<table>
<thead>
<tr>
<th>Factor Loading</th>
<th>Sample size needed for significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>.30</td>
<td>350</td>
</tr>
<tr>
<td>.35</td>
<td>250</td>
</tr>
<tr>
<td>.40</td>
<td>200</td>
</tr>
<tr>
<td>.45</td>
<td>150</td>
</tr>
<tr>
<td>.50</td>
<td>120</td>
</tr>
<tr>
<td>.55</td>
<td>100</td>
</tr>
<tr>
<td>.60</td>
<td>85</td>
</tr>
<tr>
<td>.65</td>
<td>70</td>
</tr>
<tr>
<td>.70</td>
<td>60</td>
</tr>
<tr>
<td>.75</td>
<td>50</td>
</tr>
</tbody>
</table>

**Source:** Adopted from Hair *et al.* (2010:102)

This study used the statistical significance for determining the significant factor loading. The sample population for this study is 53 respondents, and according to the above Table 3.1, for a sample population of 53, a factor loading of 0.75 and above is significant for identifying the common variables underlying the specific constructs. A
factor loading of .75 and above was therefore used for identifying the common variables under each constructs of the above devised model (Bollen, 2002:605). However, as multivariate analysis experts agree, there were adjustments based on the number of variables in order to edge out the disadvantages which arise from prior approaches where the number of variables being analyzed and the specific factors being examined are not considered. It has been shown in the above analysis that as the researcher moves from the first factor to later factors, the acceptable level for a loading to be judged significant should increase. The fact that unique variance and error variance begin to appear in later factors may mean that some upward adjustments in the level of significance should be included. The number of variables being analyzed is also important in deciding which loadings are significant (Hair et al., 2010:102). As the number of variables being analyzed increases, the acceptable level for considering loading decreases. In this study, there was a decrease and thereafter confirmatory factor analysis was applied in order to confirm the structure of the IQMS Model which was defined during the exploratory factor analysis.

3.4.1.4.2 Confirmatory Factor Analysis

While using Spearman (1904:461), Albright and Park (2009:3), Suhr (2010:1), Bollen (1993:1), Brown (2006:2), and Steiger and Lind’s (1980:3) theories, this study also used the confirmatory factor analysis techniques and/or indices’ analysis to test the five hypotheses (constructs) that are illustrated in the IQMS Implementation Model in Figure 1.1. Through this processes of testing the hypothesis, the study was able to arrive at statistically logical conclusion on whether or not the postulated IQMS Implementation model in Figure 1.1 is valid, and perfectly reproduces the observed 53 sample data.

In order to accomplish these, the obtained data was analyzed using the AMOS Version 21 of SPSS. In the first instance, the obtained data was captured into the SPSS Spread-Sheet and imported into the AMOS Programme. Thereafter, each of the five constructs that are hypothesized in Figure 1.1 and their associated measuring variables were drawn in the drawing space of the AMOS Programme.

After the drawing of each construct and the associated measuring variables, the analysis of estimates was accomplished in order to determine the model fitness. Chi-Square ($x^2$) in conjunction with the CMIN/DF (Chi-Square ($x^2$)/Degree of Freedom) were in the context of the Wegner’s (2011:345) interpretation used in the assessment
of the model fitness, but since it is usually influenced by sample size, other modification indices were also be used. The modification indices which were used include: the Root Mean Residual (RMR), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA). Hu and Bentler’s (2006:22) interpretation was used in determining whether the results of GFI, PNFI, TLI and CFI were within acceptable limits of 0 and 1. Wheaton’s (1987:2) and Carmnines and McLver’s (1981:1) argument was applied for assessing whether RMSEA (Root Mean Square Error of Approximation) were in the acceptable limit of 0.05 and 0.08. In other words, after the calculation of estimates and assessments of all the indices, the findings were analyzed and interpreted not only in the context of the five constructs in the IQMS Implementation Model in Figure 1.1, but also according to the five hypotheses that are illustrated in section 1.6. (Hypotheses Section).

Hand in hand with the application of the Chi-Square (χ²) value and modification indices, the study also used the Standardized Regression Weights (Factor Loadings) and the Square Multiple Correlation Coefficient (R²) in order to determine how each of the hypothesized variables significantly load onto the hypothesized constructs. Within context of Bollen and Davis’ (2009a:536) criterion of ±.30 to ±.40, a variance was considered to be significant if a factor loading falls at ±.30 to ±.40 or above. The Square Multiple Correlation Coefficient (R²) was used to assess the extent to which the variance in the common factor is explained by the existence of each of the measured variable. In addition, in accordance to Bollen and Davis (2009a:536), a score of 30% was considered to be significant. These processes were followed throughout the processes of analyzing and testing the five hypotheses that are raised by the postulations of the five constructs in the IQMS Implementation Model in Figure 1.1.

The conclusion arising from the applications of both the exploratory factor analysis and confirmatory factor analysis indicated that the application of the postulated IQMS Implementation Model in Figure 1.1 would significantly influence the successful implementations of the integrated quality management systems in the South African schools.
3.5 VALIDITY AND RELIABILITY OF THE FACTOR ANALYSIS

A number of multivariate techniques were used in order to ensure validity and reliability during the factor analysis process. During the determination of the sample size, Hair et al’s (2010:102) view is that in a factor analysis research, the researcher would generally not factor analyze a sample of fewer than 50 observations was considered. In effect, the researcher used cluster sampling which is one of the valid means for determining a sample size where the target population is homogeneous. The target population for this study is homogeneous, and therefore the views of the 53 respondents who were chosen from the cluster of Eastern Cape Province are deemed representative of the views of the entire target population. Since the sample size is important in a factor analysis, choosing 53 schools was one of the approaches for ensuring validity and reliability.

When the questionnaires were designed, Cronbach’s analysis and Spearman Brown’s homogeneity testing were done. The collected raw data was screened prior to the analysis by examining missing data. This was accomplished by checking if patterns exist, dropping data case-wise, dropping data variable-wise, and imputing missing data. There was also assessment of the outliers in order to ensure that it did not interfere with data analysis. The criterion used was to analyze whether the p-value is < .001. Outliers were treated by dropping the case, reporting two analyses (one with outlier and the other without).

Normality testing was done by ensuring that skewness and kurtosis are equal to 0 for a normal case and not normal if p-value is < .001 (MacCallum, 1983:231; Suhr, 2008; Glass & Taylor, 1966:87). Further tests were undertaken to ensure that the scatter plots were elliptical and that each variable was normal. Linearity testing was done by the residual plot in regression and scatterplots. The objective was to assess whether there is linear combination of variables which make sense.

Homoscedasticity testing was to examine whether the covariance matrices are equal across groups and Levene’s test was used. When these checks were complete, the factor analysis process commenced in order to extract factors and subsequently create a model (Harris, 1967:379; Kim & Mueller, 1978). However, even after the factor structure had been determined, there was a summated scale analysis in that all the variables with high loading on a factor were combined and the total or more commonly
the average score of the variables was used as the replacement variable (Bollen & Davis, 2009b:536, Browne, 1968:334). The purpose of the summated scale was to overcome the measurement error and to represent the multiple aspects of a concept in a single measure.

During the summated scale, uni-dimensionality, which is the extent to which a single variable is linked to only one construct or factor, was analyzed using exploratory factor analysis. Once the summated scale was deemed uni-dimensional, its reliability score was measured by a Cronbach Alpha which requires that it should not exceed .70. The validity of the scale was assessed in terms of convergent validity which refers to the extent that scale correlates with other like scales. Discriminant validity scale, which measures how the scale is sufficiently different from other related scales, and nomological validity scale that predicts as theoretically suggested were also used (Zhang, 2010).

### 3.6 ETHICAL CONSIDERATIONS

Cooper and Schikder (2001:112) state that “ethics is made up of norms and standards of behavior that guide moral choices about our behavior and our relationship with others. The goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities.” Ethical issues have to guide and regulate every researcher’s activities and engagement with other individuals especially respondents whose input form the core of research work. Coldwell and Herbst (2004:18) point out that although ethics are philosophical in nature and there is no consensus among philosophers as to what should be considered ethical or unethical, “the rights and obligations of individuals are usually dictated by societal norms.” These rights and obligations should act as a guide to what is ethical or unethical. A number of issues were taken into consideration to ensure that ethics are taken into consideration throughout the research process. These issues are: rights and obligations of the researcher, purpose of business research, fairness, distortion of research findings, and confidentiality. There was also non-disclosure of defective information.
3.7 CONCLUSION

From the above presentation, it is clear that the principal research design and methodology which was used in the primary data collection was quantitative. The chapter demonstrates that factor analysis was the main quantitative technique which was used in the process of testing and validating the priori IQMS measurement instrument. It is indicated that the first step concerned defining the hypothesized factor structure, the second step dealt with sampling, data collection method, pilot testing and data collection which is indicated to have been through personal administration. The next step in the factors analysis was data analysis whereby the process followed included: measuring inter-correlation of the correlation matrix, choosing factor models and number of factors, and factor rotation and interpretation. The chapter also explains how validity and reliability were accomplished. Finally, the chapter examined ethical considerations and limitations of the study. The next chapter deals with data analysis and interpretation of findings.
LIST OF REFERENCES FOR CHAPTER 3


CHAPTER FOUR: FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

Whilst pointing out the IQMS implementation challenges, it was noted in chapter one and three that in the overriding hypothesis of this study, successful IQMS implementation is determined by a five-construct’ priori multidimensional IQMS implementation model in Figure 1.1 (as replicated from Chapter 1).

Figure 1.1: IQMS Implementation Model (as replicated from Chapter 1)

As it is illustrated in Figure 1.1 (as replicated from Chapter 3), these five constructs encompass: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes,
Since the primary research was guided by these five constructs, the presentation and discussions of the findings in this chapter are guided by the same five constructs. The discussions in each construct were not only aimed at determining whether the research objectives and questions have been fulfilled, but also at assessing whether the assumptions or hypotheses in the study had been proved. Exploratory and confirmatory factor analyses were used in the hypothesis analysis, and model validation or fitness determination. The discussions also examined the percentages of the variables in each construct in order to enhance the understanding of the kinds of IQMS implementation challenges. The details were as follows:

### 4.2 SECTION A: QUALITY AND WHOLE SCHOOL EVALUATION

It is argued in the secondary findings that quality and whole school evaluation is one of the IQMS’ key tenets. Since it is one of the key tenets, it not only guided the formulation of the research objectives and questions, but also the research hypotheses of this study. The first research hypothesis reads:

**H0:** Considering the essential service quality dimensions would determine the successful IQMS implementation in the selected schools in the Eastern Cape Province

**H1:** Considering the essential service quality dimensions would not determine the successful IQMS implementation in the selected schools in the Eastern Cape Province

The details of the first hypothesis are illustrated in Figure 4.1. The formulation of this first research objective was guided by the ELRC’s (2003) description of the whole school evaluation concept. The ELRC (2003:5) postulated that the purpose of the Whole School Evaluation (WSE), is to evaluate the overall effectiveness of a school as well as the quality of teaching and learning. This description of quality implies that the effectiveness of whole school evaluation may not be realized without the total application of quality management concepts and principles. This is because the notion of whole school evaluation may encompass the examining of the nature and quality of schools’ management, facilities, teaching and learning. Although ELRC (2003)
excludes learners and parents from participating in the whole school evaluation. Fasset (2004:6) argues that the effectiveness of a quality management is determined by the extent to which it facilitates a firm’s ability to answer questions encompassing: what the end user expects from a product or a service, when the end user needs the product or a service and whether the product or a service is free from defects. This can be construed that the notion of quality evaluation is accomplished by both the internal managers and the customers.

**Figure 4.1 First Construct (Factor) - Quality and Whole School Evaluation**
In terms of quality management in a typical service setting, a consensus exists that the application of Gronroos’ (1984:102) and Parasuraman et al.’s (1985:41) Models may enhance a firm’s ability to effectively respond to such questions. Gronross (1984:102), on the other hand, argues that a firm’s service quality is determined by functional and technical quality. Parasuraman et al.’s (1985:41) Model states that service quality in a pure service setting is determined by tangibility, reliability, responsiveness, assurance and empathy. It was therefore against such a theoretical background that the researcher hypothesised in the Figure 4.1 that the extent to which the IQMS Implementation model is effective is determined by whether the notion of quality and whole school evaluation is considered as one of the first and essential constructs. The primary research examined these service quality dimensions in the context of service quality in a typical public education setting and the findings were as follows.

4.2.1 Tangibility

It was further hypothesized that the effectiveness of quality and whole school evaluation depends on other sub-constructs such as Tangibility, Reliability, Responsiveness, Empathy and Assurance. In terms of tangibility, the researcher argues that it is determined by variables encompassing the availability of scholastic materials, sports equipment and facilities, classrooms’ availability and size, and appearance of teachers and learners. The details are illustrated in Figure 4.1.1.

**Figure 4.1.1: Tangibility**
The results of the exploratory factor analysis confirm and prove that tangibility is one of the essential sub-constructs that must be considered under the quality and whole school evaluation. In other words, the exploratory factor analysis results seem to suggest that without considering tangibility, it is unlikely that the notion of the IQMS’ quality and WSE can effectively be accomplished. This is because in the above Table 4.1, it is indicated that variables measuring tangibility load strongly under factors 4, 5 and 7. It is demonstrated that the availability of scholastic materials loads at (.502), teachers’ exhibition of professional appearance (.772), neatness and cleanliness of learners (.551), suitability of the school environment for learning (.450), sufficient number of classrooms (.728), classrooms must have adequate size (.806), appropriate classroom structures (.435), and availability of sporting equipment and facilities (.756). Such interpretation is in line with the arguments of Hair et al. (2006) that when using the statistical significance criteria, the factor loadings of .50 is considered statistically significant.

Table 4.1; Tangibility: Results of Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Observed Variables for Tangibility as a Common Construct</th>
<th>Common Factor: Tangibility</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; The Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scholars must be provided with sufficient scholastic materials</td>
<td></td>
<td>.502</td>
<td>± .40</td>
</tr>
<tr>
<td>Teachers must exhibit appropriate professional appearance</td>
<td></td>
<td>.771</td>
<td>± .40</td>
</tr>
<tr>
<td>Learners must be neat and clean</td>
<td></td>
<td>.551</td>
<td>± .40</td>
</tr>
<tr>
<td>School environment must suitable for learning</td>
<td></td>
<td>.450</td>
<td>± .40</td>
</tr>
<tr>
<td>There must be sufficient number of classrooms</td>
<td></td>
<td>.728</td>
<td>± .40</td>
</tr>
<tr>
<td>Classrooms must have adequate size</td>
<td></td>
<td>.806</td>
<td>± .40</td>
</tr>
<tr>
<td>There must be appropriate classroom structures</td>
<td></td>
<td>.435</td>
<td>± .40</td>
</tr>
<tr>
<td>There must be sufficient sporting equipments and facilities</td>
<td></td>
<td>.756</td>
<td>± .40</td>
</tr>
</tbody>
</table>

Findings that tangibility is one of the constructs determining the effectiveness of quality and whole school evaluation in the IQMS implementation echo the assertions of Parasuraman et al (1985:41), cited in Schiffman and Kanuk (2004:193) that tangibility
of a firm is one of the key elements which significantly determine a firm’s service quality. According to Parasuraman et al (1985:41), cited in Schiffman and Kanuk (2004:193) tangibility deals with the physical appearance and environment of a firm’s facilities. The variables which are found to be statistically significant for measuring the effectiveness of tangibility either deal with the physical environments or the physical appearance of the selected schools in the Eastern Cape Province. For instance, variables such as the teachers’ exhibition of professional appearance and neatness together with cleanliness of learners can be construed to be what Parasuraman et al (1985) referred to as the physical appearance of the environment within services that are offered. This is also not different from what Gronross (1984:104) called the firm’s functional quality. In other words, successful IQMS implementation means that schools must be able to consider matters concerning tangibility. Despite the fact that the results of exploratory factor analysis illustrate that tangibility and its associated measuring variables determine the successful IQMS implementation, the fact still remains that a detailed analysis of the obtained percentages, mean, and standard deviations would reveal that the way the IQMS is being implemented in the Eastern Cape schools is not effective. In any perfect educational system, the number of classrooms is used to estimate the extent of that educational programme’s effectiveness. So far, the empirical findings reveal that a number of schools in the rural areas in the Republic of South Africa are conducted under grass thatched houses, and in certain cases, under the trees (Sunday Times, 23, July, 2010; 19). Such a setup would defy the logic of what Parasuraman et al. (1985:41) call tangibility.

Even in the midst of such secondary findings, in Figure 4.1, it is indicated that a significant number of the respondents (78%) stated that there are sufficient number of classes in most of the Eastern Cape schools. However, such a finding cannot be used to conclude that all the schools in the Eastern Cape have sufficient number of classrooms. This is demonstrated in the fact that 20% of the respondents disagreed and 2% were unsure. The mean score of 3.7 when interpreted using Pearson’s Skewness Coefficient $sk_p = \frac{n \sum (x_i - \bar{x})^3}{(n-1) (n-2) s^3}$, can be stated to be skewing towards agree, and therefore support the 78% of the respondents who agreed. According to the Pearson’s Skewness Coefficient formula; $sk_p = \frac{n \sum (x_i - \bar{x})^3}{(n-1) (n-2) s^3}$; Where by if $sk_p = 0$, there is complete asymmetry, and the finding neither supports 1 & 2, the disagree
categories, nor 4 & 5, the agree categories. If \( k_p > 0 \), there is a positive skewness, it means that the \( \text{mean} \) is greater than 3, which is the neutral figure, and therefore supports 4 & 5 the agree categories. If \( sk_p < 0 \), implies negative skewness. The \( \text{mean} \) is lesser than 3, and supports 1 & 2, which is the disagree Categories (Wegner, 2007:133). In this instance, the mean score was greater than 3, and using Pearson’s Skewness Coefficient formula, \( sk_p = \frac{n \sum(x_i - \bar{x})^3}{(n-1)(n-2)s^3} \), it can be interpreted that the mean score of 3.7 strongly supports the 78% of the respondents who agreed.

**Figure 4.2: Frequencies and Percentages on Tangibility**

Although, it might be the case that a significant number of the respondents agreed, the fact still remains that the 20% of the respondents who disagreed signify that the number of classrooms are not considered as one of the essential elements for assessing quality and whole school evaluation during the IQMS implementation. Besides failure to effectively consider the number of classrooms as essential for
evaluating education quality in the Eastern Cape Province, it seems that considering the adequacy of classroom sizes is another challenge. In Figure 4.3, it is revealed that 14% of the respondents disagreed that the adequacy of classrooms sizes is considered as one of the essential tangibilities which determine the quality of education, WSE and the successful IQMS implementation. The same Figure 4.3 also indicates that 82% of the respondents agreed, and 4% were unsure. Although the mean score of 3.8 when interpreted using Pearson’s Skewness Coefficient,

\[ sk_p = \frac{n \sum (x_i - \bar{x})^3}{(n-1)(n-2)} \]

can be stated to be supporting the 82%, one may still disagree that the nature and adequacy of classrooms’ sizes are considered as essential for assessing not only the education quality, but also whole school evaluation in the Eastern Cape province. Failure to pay attention to classrooms sizes implies that the students or learners may not be comfortable, and their ability to grasp what is being taught may also be significantly affected. Such interpretation is consonant with the arguments presented by quality management experts that the extent to which the organization’s physical environment facilitates customers’ comforts also predicts their perception of the quality of the services consumed.

If their perceptions meet their expectations, then the service consumed can be regarded to be of good quality. In that regard, leaving out the notion of classrooms sizes’ adequacy during IQMS implementation may certainly affect the extent to which such IQMS process is accomplished. It is also is revealed in the empirical findings that not only may the classrooms sizes affect learning and education, but also the nature and quality of classrooms structures may hinder the dissemination and transmission of learning. So far, it is indicated in the secondary findings that a number of classes in the Eastern Cape and around the country are conducted in buildings which are defective, dilapidated and pose significant risks to both learners and teachers. It is however, unfortunate that such structures continue to exist even in the midst of the claims of the Eastern Cape’s Department of Education that IQMS is being effectively implemented.

Failure to consider classroom structures can be attributed to the failures of the designers and implementers of IQMS to heed to the views of the quality management experts that any endeavour to realise effective service quality must include the assessments of the extent to which the organisation’s physical environments facilitate
the meeting of such quality initiatives. This argument is further resonated in the fact that in Figure 4.3, it is indicated that 22% of the respondents disagreed that the extent of the appropriateness of classroom structures are not considered as part of the elements which are checked during WSE. It is also indicated that 18% of the respondents were unsure. The fact that such a significant number of the respondents could not tell whether or not the appropriateness of classroom structures is considered during WSE implies that the notion of the appropriateness of classroom structures is completely excluded from the IQMS process. This is because if it were not so, then these respondents would have been eager to agree, since classroom structures is of concern not only to learners but also teachers. Although using the Pearson’s Skewness Coefficient 

\[ s_k_p = \frac{n \sum (x_i - \overline{x})^3}{(n-1)(n-2)s^3} \]

one can conclude that the mean score of 3.2 supports the 60% of the respondents who agreed, it cannot however be stated that there might be a uniform consideration of the appropriateness of classroom structures during WSE. This is indicated in the fact that the standard deviation of 1 signifies that some of the respondents disagreed. In other words, the continuous pursuance of whole school evaluation, without assessing classroom structures, may affect the ability to achieve the objectives which are outlined in the IQMS.

In his third paradigm, W. Edwards Deming (1986:44) argues that managers must optimise the entire organisation as a system so that a significant positive result can be obtained, since organisations are built on departments which are interdependent. In terms of WSE, what can be construed from Deming’s assertions is that the process must be accomplished as a system. Nevertheless, the primary findings, as presented in Figure 4.5, are contrary to such interpretations. This is because it is indicated that 78% of the respondents disagreed that the assessments of sports equipment and facilities is considered as part of the WSE process. This means that one of the essential determinants of education quality is excluded, and it is inconsistent with the arguments in the secondary findings that sports improves learners’ health and enhances the quality of the entire learning process and education. Figure 4.5 also indicates that 18% of the respondents disagreed, but only 18% of the agreeing respondents may be insufficient to outwit a significant number of 78% who disagreed. This is resonated in the fact that the mean score was 2.5 and when supported by the standard deviation of 1 is skewing to the disagree categories. In other words, what can be interpreted and concluded on the findings in this variable is that the WSE process
excludes the assessments of whether the schools in the Eastern Cape Province have sufficient sports equipment and facilities.

Besides the existence of sufficient sports equipment and facilities, it is also clear in the secondary findings that no education system or process can be regarded as effective and of good quality unless if schools have sufficient scholastic materials all the time. However, the findings in Figure 4.6, seems to suggest that the existence of sufficient scholastic materials is not what is usually considered during the whole school evaluation. If it is considered, then the process of its evaluations might be seriously defective. In Figure 4.6, it is indicated that 66% of the respondents disagreed that the assessments of whether schools have sufficient scholastic materials is considered during the whole school evaluation process. The existence of sufficient scholastic materials not only enhances the effective accomplishment of all the educational programmes, it also also determines the nature and quality of the education being provided. Since such materials may include the course materials, writing pads and pens, it is worth noting that it may not only determine education quality, but also sends a message to the learners on how the education programme is being seriously treated.

Quality management experts argue that the appearance of staff also enhances the customers' perceptions of the environment within which services are offered (Lovelock & Wirtz, 2004:405). If the staff’s appearance is impressive and meets customers’ expectations, it subsequently also determines the level of customers’ satisfactions. These findings are consonant to the primary findings that only 60% of the respondents agreed that the teachers’ professional appearance is considered during whole school evaluation. In other words, Figure 4.7 indicates that there was no consensus among the respondents and that the teachers’ professional appearance is considered in the WSE. This is reflected in the fact that despite 60% agreeing, 30% of the respondents disagreed, and 10% were unsure. Although the mean score of 3.8 when interpreted using Pearson’s Skewness Coefficient \(sk_p = \frac{n\sum(x_i-x)^3}{(n-1)(n-2)s^3}\), would point out that a
significant number of the respondents agreed, the standard deviation of 1 indicates that some respondents agreed and others disagreed. What can be interpreted from the findings in this section is that the teachers' professional appearance is not being effectively considered as part of the essential determinant of education's quality during the WSE. In an educational context, the professional appearance of teachers not only enhances the learners' positive perceptions of the programmes that they are undergoing, but also improves learners' morale and motivates them to listen and comply with what teachers are saying. This is because in normal life, people tend to pay attention to others depending on how they appear. The learners are not different from ordinary people and therefore the failure to effectively examine the nature of the teachers' professional appearance during whole school evaluation may affect the extent to which the IQMS is being implemented in the Eastern Cape Schools.

Not only must the professional appearance of teachers be examined, but also the learners must be clean and neat. In other words, the appearance of learners must send hope and confidence to the community about the kind of future adult generations they must expect. As the primary findings that are contained in Figure 4.8 reveal, it seems there is a tendency to emphasize learners' cleanliness and neatness whereas teachers' professional appearance is neglected. This is demonstrated by the fact that in the above variable, it was indicated that concerning the teachers' professional appearance, in Figure 4.8, it is indicated that 78% of the respondents agreed that the cleanliness and neatness of learners is considered during the WSE. If the findings in this variable are compared with the findings in the previous variable, it can be noted that the way the WSE is implemented in the Eastern Cape Province seems to defy the logic of what is inherent in the whole school evaluation itself.

In other words, the Eastern Cape Province seems to imply that when it comes to cleanliness and neatness, emphasis is only on learners. It is therefore not surprising that the schools in the Eastern Cape Province have approached the issue of quality and WSE in that way. Since it is pointed in the secondary research that despite the fact that the main purpose of the South African IQMS is to improve the quality of learning and teaching in schools, the ELRC (2003) does not provide a clear definition of quality, this makes it difficult for the evaluators to assess what must or must not be considered as part of the determinants of the schools' quality. If the ELRC (2003:3) had provided clear definitions of what quality in education encompasses, then the
approach in the Eastern Cape Schools would have been more comprehensive to encompass both teachers and learners. As much as the mean score of 3.8 using Pearson’s Skewness Coefficient; 

\[ 3 \]

\[ s_k_p = \frac{n \sum (x_i - \bar{x})^3}{(n-1)(n-2)s_x^3}, \]

can be construed to be supporting the 78% of the respondents who agreed, the 12% of the respondents who disagreed and the 10% who were unsure signify that even the learners’ cleanliness and neatness are not being considered well during the WSE. This sends a message that the management of the education system in the Eastern Cape must put appropriate measures to ensure that quality and WSE process encompass the effective evaluation of not only the learners’ cleanliness and neatness, but also their professional appearance.

Parasuraman et al (1985:41), cited in Schiffman and Kanuk (2004:193) postulates that a firm’s tangibility encompasses its physical environment. The physical environment includes the smell, cleanliness and tidiness of the place within which services are offered. From this, one would interpret that the effective accomplishment of quality and WSE in the Eastern Cape Province must encompass the assessments of the cleanliness of the schools’ environments in order to determine how they are suitable for learning. However, that seems not to be the case as in Figure 4.9, it is indicated that as much as 80% of the respondents agreed, it is still indicated that 14% of the respondents disagreed and 6% were unsure. The mean score of 3.5 is skewing towards agree, but the standard deviation of 1 does not indicate that all the respondents reached a consensus that the cleanliness of the schools’ environments is considered during quality assessments and whole school evaluations. The failure to effectively examine whether the environments within which learning is conducted is suitable for learning depicts that the accomplishment of quality and whole school evaluation still falls short of what is expected within the actual meaning of the integrated quality management in the Eastern Cape Education. In the literature review, it is noted that the ELRC (2003) states that the purpose of the WSE is to evaluate the overall effectiveness of a school as well as the quality of teaching and learning.

However, with 14% of the respondents disagreeing and 6% remaining unsure, one doubts whether the ineffective assessment of the suitability of the learning environment during quality and WSE the renders the overall evaluation of schools’ effectiveness possible. Despite the fact that there are some challenges regarding the
way through which tangibility is considered as one of the essential educational quality determinants by the selected schools in the Eastern Cape province, the findings of the confirmatory factor analysis which are presented in the next sub-section indicate that schools are unlikely to effectively implement IQMS without the considering of tangibility and its associated observed variables. This indicates that the observed variables in this construct do not fit well with the sample data, considering that the chi-square of 84.825 is too large, and P=000 is > 0.05. In other words, there is lack of a statistical fitness between the analyzed sample data and the specific IQMS theory. Although the chi-square, df and p values do not indicate that there is a model fitness, the results of the standardized regression weights (factor loadings) and Squared Multiple Correlation Coefficient ($R^2$) indicate that there is a significant direct positive relationship between the common factor (tangibility) and the observed variables. This is because it is noted in Table 4.3 that except for sports equipment and facilities significantly loading at .06, classrooms availability and sizes which loads at .21, and suitability of the school environment for learning that loads at -.16, the rest of the measuring variables are noted to load significantly onto tangibility as the common factor. Such a view is reinforced by the fact that the appearance of teachers loads at -.40, appearance of learners (.38), sufficient number of classrooms (.44), and appropriate classroom structures loads at 1.

**Tangibility Results: Confirmatory Factor Analysis**

It is indicated in Table 4.3 that the results of the confirmatory factor analysis reveals that Chi-Square value was 84.825 (DF=20) (p=000).

**Table 4.3: Confirmatory Factor Analysis**

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Equipment and Facilities (SEF)</td>
<td>.06</td>
</tr>
<tr>
<td>Classrooms’ Availability and Size (CAS)</td>
<td>.21</td>
</tr>
<tr>
<td>Appearance of Teachers (AT)</td>
<td>-.40</td>
</tr>
<tr>
<td>Learners of Learners (AL)</td>
<td>-.38</td>
</tr>
<tr>
<td>School Environment Suitable for Learning (SESL)</td>
<td>-.16</td>
</tr>
<tr>
<td>Observed Variables</td>
<td>Squared Multiple Correlation Coefficient ($R^2$)</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Sports Equipment and Facilities (SEF)</td>
<td>.00</td>
</tr>
<tr>
<td>Classrooms’ Availability and Size (CAS)</td>
<td>.05</td>
</tr>
<tr>
<td>Appearance of Teachers (AT)</td>
<td>.16</td>
</tr>
<tr>
<td>Learners of Learners (AL)</td>
<td>.15</td>
</tr>
<tr>
<td>School Environment Suitable for Learning (SESL)</td>
<td>.03</td>
</tr>
<tr>
<td>Sufficient Number of Classrooms (SNC)</td>
<td>.19</td>
</tr>
<tr>
<td>Appropriate Classroom Structures (ACS)</td>
<td>.1</td>
</tr>
</tbody>
</table>

The interpretation that these variables load significantly onto tangibility as the common factor is in line with the argument of Bollen and Davis’ (2009a:536) that at a criterion of $\pm .30$ to $\pm .40$, a variable is considered to be significant if a factor loading falls at $\pm .30$ to $\pm .40$ or above. This implies that the effective use of tangibility as one of the education service quality determinants signifies that the school must ensure that there are sufficient sports equipment and facilities, sufficient scholastic materials, clean and untidy learning environment, neat and professional appearance of teachers, and there must be sufficient number of classrooms of appropriate sizes and structures. The findings of the standardized regression weights are further resonated in the results of the Squared Multiple Correlation Coefficient ($R^2$) which indicates that except for sports equipment and facilities (.00), classrooms availability and sizes (.05), and suitability of the school environment for learning (.03), the common factor (tangibility) significantly explains the variances in most of the observed variables.

Figure 4.3; Observed Variables: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)
Nonetheless, in addition to standardized regression weights and Squared Multiple Correlation Coefficient ($R^2$), a number of alternative fit indices analysis were performed in order to outwit the influence of sample sizes which usually affects the results of the chi-square analysis (See results in Table 4.4). The analysis of the findings in Table 4.4 would suggest that GFI of .71 when interpreted within the context of the postulations of Hinkins (1995:1) and Haire et al. (2006:1) indicate that it falls within the acceptable range of 0 and 1. In other words, the GFI of .71 indicates that the observed variables are not only related to the construct, but also fit the analyzed sample data. In addition, the analysis of the modification indices also reveal that the Root Mean Residual (RMR) of .13 falls within the acceptable range of -4.0 and +4.0. Not only does the RMR indicate that there is fitness of the model with the observed sample data, but also Normed Fit Index (NFI) (.46), Tucker Lewis Index (.29), and CFI (.49) fall in between 0 and 1. With exception of the Root Mean Square Error of Approximation (RMSEA) of .26, and the results of the chi-square analysis, one would argue that the extent to which the notion of whole school evaluation can be considered to be effective is determined by not only the considering of tangibility, but also the
associated observed variables which determine the tangibility’s effectiveness as an education service quality dimension.

**Table 4.4; Modification Indices (Alternative Fit Statistics) (Tangibility)**

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>.71</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.13</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>.46</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.29</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>.49</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.26</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

Most significantly is the fact that the theory which was postulated in Parasuraman et al. (1985:41) as effective for measuring service quality in a pure profit making private sector, is also indicated by the findings of the analysis in this construct to be suitable for measuring the effectiveness of the education service quality in the public sector. Nonetheless, it is also stated in the literature review that Parasuraman et al (1985:41) further argue that the organization’s service quality is also determined by reliability.

**4.2.2 Reliability**

As Parasuraman et al. (1985:43) noted, reliability refers to the degree to which the organization is able to act on its promises. In other words, it is the extent to which the organization is able to perform according to the published standards and procedures in order to meet the desired customers’ wants and needs. In the public education context, reliability can be construed to refer to how the established educational institutions can be relied on as the mechanisms for transferring knowledge and skills, and the source for the development of the future generation of human resources. In the integrated quality management literature, it is pointed out that achieving this implies that educators must be evaluated to possess appropriate levels of skills and
knowledge all the time, the school must be dependable as an education institution, and the teachers must demonstrate the willingness and the argue to perform their roles as educators effectively. In addition, the learners must be encouraged to learn by doing things that induce such endeavours other than discouraging. It was on the basis of such assertions that it was hypothesized that the effectiveness of reliability in a typical educational setting is determined by three constructs: knowledge and skills of teachers, adequate preparations by teachers, and School Management Team (SMT)'s sound management skills. The details are illustrated in Figure 4.4.

Figure 4.4: Reliability

In Table 4.5 overleaf, it is noted that the results of the exploratory factor analysis indicate that the adequate preparation of teachers for lessons significantly loads on the common factor reliability at .438. This implies that the extent to which teachers are prepared for the particular lesson has the cumulative effects of determining the quality of learning and subsequently education.
Table 4.5: Results of the Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Observed Variables: Reliability as a Common Factor</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; The Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers must adequately prepare for lessons</td>
<td>.438</td>
<td>± .40</td>
</tr>
<tr>
<td>SMT must exhibit sound management skills</td>
<td>.437</td>
<td>± .40</td>
</tr>
<tr>
<td>Sound knowledge and skills of teachers</td>
<td>.640</td>
<td>± .40</td>
</tr>
</tbody>
</table>

The reliability of the quality of the provided education to be accomplished according to prescribed expected standards is hinged on the fact that the teachers will prepare themselves adequately to deliver to the learners. Using the practical significance testing, it is also noted that knowledge and skills of teachers also loaded significantly at .640 on reliability as a common factor. What needs to be noted is that there is a significant direct positive co-relationship between the teachers knowledge and skills’ levels and the ability of that teacher to adequately prepare to deliver the desired levels of knowledge and skills to the learners according to the standards expected in that discipline. On the other hand, it is also noted in Table 4.2 that at the significance level of .437, the results of the exploratory factor analysis also points out that the school management teams must display sound management skills in order to sustain the effective running of the schools. The possessing of sound management skills is essential for the successful planning, organizing, leading and controlling of the accomplishment of the schools’ activities. Nonetheless, the significance factor loading of these variables will not imply that these observed variables are effectively considered in the selected schools in the Eastern Cape Province. For instance, it is pointed out in Table 4.2 that 22% of the respondents disagreed that the selected teachers usually have the appropriate knowledge and skills.

Although 64% of the respondents agreed, and 14% of the respondents were unsure, the findings, if considered in the light of the 22% of the respondents who disagreed, still corroborates the findings in the secondary research which reveals that there are
certain schools in the rural South Africa which still employ inappropriately skilled and un-knowledgeable teachers. In other words, the 22% of the respondents seem to indicate that the employment of teachers without the appropriate educational related qualifications undermines education quality and the successful IQMS implementation. This is because the teacher’s levels of skills and knowledge are essential for determining how he/she prepares and delivers in the classroom. The relationship between the ability skills and knowledge levels and the preparation and delivering in class is not only demonstrated in the factor loadings in the exploratory factor analysis, but is also indicated in the percentages. It is indicated in Figure 4.4 that whereas in the variable dealing with the levels of teachers’ knowledge and skills, 22% of the respondents disagreed, a similar percentage of 20% disagreed that teachers do adequately prepare for lessons all the time.

**Figure 4.5: Percentages (%) on Reliability**

<table>
<thead>
<tr>
<th>SMT exhibit sound management skills</th>
<th>Teachers adequately prepare for lessons</th>
<th>Teachers have appropriate knowledge and skills on the disciplines that they teach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>68%</td>
<td>72%</td>
</tr>
<tr>
<td>Unsure</td>
<td>14%</td>
<td>8%</td>
</tr>
<tr>
<td>Disagree</td>
<td>18%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Such a nexus confirms the findings in the literature review which argue that there is a statistically significant direct positive relationship between the skills and knowledge that the teacher has and the ability of the teacher to effectively prepare and deliver lessons in classrooms. Inappropriately skilled and knowledgeable teachers may affect the learners’ and the general public perceptions of the education quality. Despite the fact that the literature review and the results of the exploratory factor analysis indicate
that the existence of sound management skills is essential for the SMT’s successful management of schools, in Table 4.4 18% of the respondents disagreed that all the SMTs have sound management skills. This explains why in the literature review, it was noted that certain schools are in dilapidating states, or are almost being run down. This is spite of the fact that the variables which were defined in the exploratory factor analysis to determine the effectiveness of reliability as an education service quality dimension were considered by virtue of the chi-square = .00 not to fit with the observed data. In addition, the findings of the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) confirmed that there is significant positive relationships between this construct and the three observed variables.

**Table 4.6: Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

<table>
<thead>
<tr>
<th>Chi-square = 000; Degrees of freedom = 00; Probability level = .000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized Regression Weights (Factor Loadings)</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Sound Management Skills (SMS)</td>
</tr>
<tr>
<td>Skills and Knowledge on the Disciplines Taught (SKST)</td>
</tr>
<tr>
<td>Teachers adequate Prepare for Lessons (TAPL)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standardized Regression Weights (Factor Loadings)</th>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound Management Skills (SMS)</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Skills and Knowledge on the Disciplines Taught (SKST)</td>
<td>.22</td>
<td></td>
</tr>
</tbody>
</table>

These variables were: Teachers’ adequate Preparation for Lessons (TAPL) (1)(100%), Sound Management Skills (SMS) (.55)(30%), and Skills and Knowledge on the Disciplines Taught (SKST)(.47)(22%). As further noted in Figure 4.6, these Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) only indicate that there is statistical relationships between the
construct and the observed variables without pointing out whether the hypothesized model fits the observed sample data.

Figure 4.6 Observes Variables: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

On such basis alone, it is difficult to conclude that the model fits the sample data, but using the alternative fit indices, one can construe that GFI (1), RMR (.00), NFI (1), TLI (.00), and CFI (1) indicates that the construct was hypothesized under reliability as the determinant of whole school evaluation and education service quality fits the observed sample. Nonetheless, with the exception of chi-square and RMSEA, one would still state that using the alternative fit indices, the results of the confirmatory factor analysis,
indicates that reliability determines the successful undertaking of the whole school evaluation and IQMS.

Table 4.7; Modification Indices (Alternative Fit Statistics) (Reliability)

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.52</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

However, the theoretical findings and assertions of the hypothesis in this study further state that the successful quality management and IQMS implementation is not only determined by the extent to which tangibility and reliability are considered, but also the extent to which the degree of a firm’s responsiveness is considered as one of the essential service quality.

4.2.3 Responsiveness

In addition to reliability, Parasuraman et al. (1985:44), cited in Schiffman and Kanuk (2004:193) also state that the organization’s service quality is measured by responsiveness. Responsiveness refers to the extent to which the organization is agile and able to positively react to the changing customers' needs. So far, it is revealed in the literature review that a significant number of authors argue that responsiveness in education is measured by the extent to which the teachers and education management teams are able to effectively react towards meeting the needs and wants of learners and the entire public. Some of the initiatives which the educators must take to effectively meet the responsiveness test include responding to complaints and ensuring that all the activities are accomplished within the prescribed time duration. Against this backdrop, it was postulated, in this construct, that responsiveness is measured by variables encompassing: teachers and learners arrival on time, SMTs
quick response to problems, school principals’ quick response. The details are illustrated in Figure 4.5.

**Figure 4.7: Responsiveness**

The assertions that responsiveness is measured by these observed variables was confirmed in the results of the exploratory factor analysis which indicate that all these three observed variables significantly load on the common factor (responsiveness). In Table 4.3, it is indicated that teachers and learners arriving on time loads at .641. SMTs must respond quickly to school problems (.640), and teachers and learners’ complaints must be handled quickly (.793). What can be noted from the findings of exploratory factor analysis in the above Table 4.3 is that the effectiveness of responsiveness also provides the preliminary framework within which the successful IQMS implementation can be monitored, measured, and evaluated. This is because in the process of attempting to be as responsive as possible, they also end up identifying deviations and correcting them at the same time. For instance, the expectation of the SMTs and schools’ principals to react to complaints and problems effectively would not only enhance compliance with this essential service quality dimension, but would also add value to the monitoring, evaluations and correcting of deviations. This subsequently leads to the successful IQMS implementation.
Table 4.8: The School’s Responsiveness (Results of Exploratory Factor Analysis)

<table>
<thead>
<tr>
<th>Observed Variables: Responsiveness as a Common Factor</th>
<th>Common Factor: Responsiveness</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; The Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and learners must arrive on time</td>
<td></td>
<td>.641</td>
<td>± .40</td>
</tr>
<tr>
<td>SMT must respond quickly to school problems</td>
<td></td>
<td>.640</td>
<td>± .40</td>
</tr>
<tr>
<td>Learners and teachers complaints must be handled quickly</td>
<td></td>
<td>.793</td>
<td>± .40</td>
</tr>
</tbody>
</table>

The frequencies which are indicated in Figure 4.5 do not point that the selected schools in the Eastern Cape Province are as responsive as they are expected to be. This is because whereas a significant number of the respondents were noted to have agreed, it is also noted that most of the respondents disagreed that their schools are responsive.

**Figure 4.8 Percentages (%) on Responsiveness**

<table>
<thead>
<tr>
<th>Teachers and learners arrive on time</th>
<th>SMTs respond quickly to schools' problems</th>
<th>Teachers and learners complaints are handled quickly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>68%</td>
<td>74%</td>
</tr>
<tr>
<td>Unsure</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Disagree</td>
<td>22%</td>
<td>18%</td>
</tr>
</tbody>
</table>
This study was done in one of the rural and poorest areas of South Africa, and it is not surprising that 22% of the respondents stated that some schools teachers and learners do not arrive early or on time for the outlined programmes of the day. This could be primarily due to lack of transport for the schools in the rural areas given the spatial distribution of schools in the rural areas. In other schools, the problems could be related to lack of effective monitoring by the SMTS and the school principal that ensures that learners and teachers arrive on time. The failure to arrive on time also means that the prescribed curriculum may not be completed within the given period of time, and this subsequently impacts on the learners’ performance, the performance of the schools, the provincial, and South African education department as a whole. The end result manifests in the failure of the successful IQMS implementation. It is also pointed out in Table 4.5 that 22% and 18% of the respondents respectively disagreed that there is quick response to learners’ problems and complaints.

Failure to respond as quickly as possible to these needs undermines the partial monitoring functions which are performed by responsiveness. It also means that most of these schools in the Eastern Cape Province may not be able to identify and deal with problems in their early stages. This could subsequently turn to be costly and disrupt the successful implementation of the IQMS. The reasons for such failures could be attributed to the fact that most of the employees in the SMTs and the principals lack the essential management qualifications to ensure that the schools are effectively run. If for instance they had they essential management skills, it would have been easier for them to note that complaints are the sources of how problems affecting the schools and IQMS implementation can be identified and corrected. The neglect of complaints from learners means that there are a number of activities which may occur and affect the quality of learning and subsequently the IQMS implementation.

As per these percentages, it is true that responsiveness is not effectively considered by the selected schools in the Eastern Cape Province as one of the determinants of education quality, WSE and the successful IQMS implementation. However, except for the results of the Ch-square analysis, the standardized regression weights and the Squared Multiple Correlation Coefficient ($R^2$) indicate that most of the observed variables significantly loaded on the common factor. These variables involved assessing whether: Teachers and Learners Arrive on Time (TLAT)(.59), SMT Quickly
Responds to School Problems (SMTQSP) (.80), and Learners and Teachers’ Complaints are Handled Quickly (LTCHQ) (.61).

Table 4.9: Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and Learners Arrive on Time (TLAT)</td>
<td>1</td>
</tr>
<tr>
<td>Agility of School Management-SMT</td>
<td>.53</td>
</tr>
<tr>
<td>Complaints are Handled Quickly (LTCHQ)</td>
<td>.73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and Learners Arrive on Time (TLAT)</td>
<td>1</td>
</tr>
<tr>
<td>Agility of School Management-SMT</td>
<td>.28</td>
</tr>
<tr>
<td>Complaints are Handled Quickly (LTCHQ)</td>
<td>.53</td>
</tr>
</tbody>
</table>

It is further indicated in Table 4.9 that the common factor explained 100% of the variance in Teachers and Learners Arrive on Time (TLAT) (1), 28% of the variance in SMT Quickly Responds to School Problems (SMTQSP) (.53), and 53% of the variance in Learners and Teachers’ Complaints are Handled Quickly (LTCHQ) (.73). Generally the findings on this construct seem to imply that the successful whole school evaluation can never be achieved unless if the process of evaluation examines the degree of responsiveness. In the process of examining the degree of responsiveness, the school management teams will have to examine the extent to which teachers arrive on time, the complaints of learners and teachers being quickly dealt with, and the
extent to which the school management teams respond quickly to solving the identified problems. In the literature review, it was argued that these processes enable constant monitoring and improving of quality possible.

Figure 4.9 Observes Variables Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

The findings on Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) are therefore not only consonant with the secondary findings, but are also resonated in the findings of the analysis of the alternative fit indices. This is because with the exception of RMSEA, the GFI of 1, RMR (.00), NFI (1), TLI (.00) and CFI (1), the analysis of the modification fit indices imply
that there is a statistically significant fitness between the hypothesized IQMS theory and the observed sample data. Nonetheless, it is important to understand that using the interpretation of Hinkin (1995:1), the RMR of .000 and TLI of .000 indicates a rather weak level of fitness. Regardless, an assessment of the results of the analysis of the modification indices in Table 4.10 points out that the theories hypothesized in this construct are found by a majority of the alternative fit indices to fit well with the observed sample data.

Table 4.10 Modification Indices (Alternative Fit Statistics) (Responsiveness)

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.39</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

This is because, conversely, Hinkins (1995:1) argues that the fitness of the model is best explained if the results of GFI, NFI, TLI, AND CFI are closer to 1. It is nevertheless, further hypothesized in the IQMS implementation model that the effectiveness of IQMS implementation is determined by the extent to which empathy is considered as one of the essential dimension for the successful whole school evaluation.

4.2.4 Empathy

In addition to responsiveness, empathy has been noted in theories as one of the service quality determinants (Zeithaml & Bitner, 2003:337). It is argued in the literature that empathy deals with the employees’ attitudes, behaviours and the tendencies to feel or sympathize with the customers in order to effectively understand their needs.
and wants. Such an approach is noted in the integrated quality management theories to enhance the service quality evaluations. In this regard, it was hypothesized in this construct that the effectiveness of empathy as an education service quality determinant, is measured by the extent to which teachers and learners are sensitive to one another’s feelings and by the extent to which learners and teachers express humility to each other. The details are illustrated in Figure 4.6.

**Figure 4.10: Empathy**

The results of the exploratory factor analysis reveal that the variable examining whether teachers and learners understand one another’s feelings significantly loaded at .821. In other words, the findings seem to imply that being empathic with the customers commences with being able to be sensitive to one another’s feelings. This is because, it enables each of the parties to get involved in activities which would reduce or affect the other perceptions of the entire transaction. In terms of education service quality, empathy would enable teachers to understand learners and be able to identify the problems which could be hindering the learner’s effective learning process.

So far studies have confirmed that a significant number of learners in the modern South Africa experience a lot of psychological problems arising from family and financial difficulties. In such situations, educators are not expected to act as teachers, but also as second parents to the learners and counsel them and advise in the manner that would induce the psychological state of mind which is conducive for learning. However, it is noted in Figure 4.7 that whereas 72% of the respondents stated that teachers and learners are sensitive to one another’s feelings, it was noted, on the
other hand, that 16% of the respondents disagreed. This implies that there are situations when teachers and learners are not sensitive to one another’s feelings. This is not surprising considering the fact that empirical findings reveal that there an increasing trend of drug abuse among learners in the modern South African schools. Such behaviours induce violence and may result into forms of ill-discipline if teachers attempt to correct or advise the learner. It could therefore have been on such grounds that the 16% of the respondents stated that there is lack of sensitivity to each other’s feelings among the teachers and learners.

Table 4.11: Results of Exploratory Factor Analysis for Empathy

<table>
<thead>
<tr>
<th>Observed Variables: Empathy as a Common Factor</th>
<th>Common Factor: Empathy</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; The Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and learners must understand each other’s feelings</td>
<td>Common Factor: Empathy</td>
<td>.821</td>
<td>± .40</td>
</tr>
<tr>
<td>Teachers and learners must express humility to each other</td>
<td>Common Factor: Empathy</td>
<td>.718</td>
<td>± .40</td>
</tr>
<tr>
<td>Teachers act as second parents to learners</td>
<td>Common Factor: Empathy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is also noted that the observed variable which prescribes that teachers and learners must express humility to each other significantly loaded at .718. In other words, being sensitive to one another’s feelings is significantly related to the enhancement of humility to each other. It is unlikely that learners would be motivated by rude and arrogant teachers who are bullies. In this regard, humility and being sensitive to one another’s feelings are some of the factors which can be used to measure the effect of empathy on the education service quality. Using Figure 4.7, one would agree that there is humility between teachers and learners only to a limited extent. This is supported by the fact that it is noted in Figure 4.11 that 18% of the respondents disagreed that such levels of humility exists. In other words, humility and sensitivity to one another’s feelings precipitate peace and harmony which is essential for the transfer and dissemination of learning. It is therefore important that the selected schools in the Eastern Cape Province consider measures which would enhance not only the existence of empathy as an important education service quality determinant in addition to the existence of a conducive environment for learning.
Although the chi-square=000 (df=00)(p=00) does not indicate that the model fits the observed sample data, the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) reveal humility as one of the essential service quality dimension is important for the effective accomplishment of whole school evaluation and the successful IQMS implementation in general. However, it is also pointed out that humility will only determine education quality if certain variables are considered. These variables include: Teachers and Learners Understanding of Each Other’s Feelings (TLUEF) (1) (100%), Teachers and Learners Expression of Humility to Each Other (TLEHEO) (.66) (43%), and Teachers Acting as Second Parents to Learners (TASPL) (.90)(81%). The fact that teachers and learners must express humility to each other loads significantly higher than any other variable, but that does not imply that the other variables which have also significantly loaded on the common factor do not explain how this construct can be rendered effective. In addition, one would argue within the confines of the arguments in the literature review, that empathy determines education quality and the successful IQMS implementation. It is argued in the theoretical findings that the analysis of learning achievements indicate that the improvement in the quality of learning output remains one of the biggest challenges facing South Africa education system. The achievement of learners in both national and international assessment studies is very poor, and it is the cause for great
concern that South Africa performs so badly when compared to its neighbours and to other developing countries.

**Table 4.12: Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and Learners Understand Each Other’s Feelings (TLUEF)</td>
<td>1</td>
</tr>
<tr>
<td>Teachers and Learners Express Humility to Each Other (TLEHEO)</td>
<td>.66</td>
</tr>
<tr>
<td>Teachers Act as Second Parents to Learners (TASPL)</td>
<td>-.90</td>
</tr>
</tbody>
</table>

**Chi-square = 000; Degrees of freedom = 00; Probability level = .000**

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and Learners Understand Each Other’s Feelings (TLUEF)</td>
<td>1</td>
</tr>
<tr>
<td>Teachers and Learners Express Humility to Each Other (TLEHEO)</td>
<td>.43</td>
</tr>
<tr>
<td>Teachers Act as Second Parents to Learners (TASPL)</td>
<td>.81</td>
</tr>
</tbody>
</table>

Although the relationship between the use of SERVEQUAL and improving of public education service quality has not been tested in other studies, the findings in this study reveal that improvement of the South African education quality may not be effectively achieved without the use of SERVQUAL's five service quality dimensions. In other words, dimensions such as empathy improve the relationship between learners and teachers, and that renders the school environment conducive and harmonious for the successful dissemination of information.
The extent to which empathy contributes to determining the public education service quality is not only well illustrated in the results of Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$), but also in the findings of the modification indices. Details of this are illustrated in Table 4.10. It is pointed out in Table 4.10 that the modification indices indicating better fitness between empathy and the observed sample data include the GFI (1), NFI (1), and CFI (1). Although the Root Mean Square Error of Approximation of .57 exceeds the prescribed limit of 0.08, and indicates that there is nexus between the specified empathy theory
and the observed data, the RMR (.00), and TLI (.00) showing weaker fitness and corroborate the findings in the GFI (1), NFI (1), and CFI (1). This indicates that the hypothesis that empathy is one of the public education service quality dimension was confirmed to fit the observed sample data.

**Table 4.13: Modification Indices (Alternative Fit Statistics) (Empathy)**

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.57</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

In that regard, one would conclude that empathy is one of the dimensions which determine public education service quality and the successful IQMS implementation. However, as it is hypothesized in this study, empathy must be applied in conjunction with assurance.

### 4.2.5 Assurance

Consideration of empathy as an essential education service quality determinant must also be accompanied with the consideration of assurance. This is because assurance, just like reliability, responsiveness, tangibility, and empathy influences the education service quality. This is because it refers to the forms of confidence that the service providers have about the quality of their services. Such confidence usually not only determines the customers’ confidence in the quality of the service provided, but also increases the levels of the customers trust. Deriving from such assertions, it was postulated in this study that in education, assurance is measured by variables encompassing: willingness of teachers to teach, willingness of learners to learn, humility of learners and teachers, and the extent to which teachers and learners interact freely. Figure 4.8 below outlines the details of the variables in this construct.
Using the extraction of practical significance criterion $\pm .40$, it is indicated in Table 4.7 that willingness of teachers to teach significantly loads at $.453$, willingness of learners to learn loads at $.790$, interaction of teachers and learners loads at $.661$, and humility of teachers and learners loads at $.559$.

**Table 4.14: Results of Exploratory Factor Analysis for Assurance**

<table>
<thead>
<tr>
<th>Observed Variables: Assurance as a Common Factor</th>
<th>Common Factor: Assurance</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; The Practical Significance Criterion $\pm .40$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers must be willing to teach</td>
<td>.453</td>
<td>$\pm .40$</td>
<td></td>
</tr>
<tr>
<td>Learners must be willing to learn</td>
<td>.790</td>
<td>$\pm .40$</td>
<td></td>
</tr>
<tr>
<td>Teachers must freely interact with learners</td>
<td>.661</td>
<td>$\pm .40$</td>
<td></td>
</tr>
<tr>
<td>Humility of teachers and learners</td>
<td>.559</td>
<td>$\pm .40$</td>
<td></td>
</tr>
</tbody>
</table>

This implies that the results of the exploratory factor analysis agree with the assumption of this study and the findings in the literature review. However, it must be noted that the views in the secondary findings are further resonated in this section by stressing that the willingness of teachers to teach determines the education service quality. However, such willingness is usually determined by a number of factors encompassing remuneration, work environment, relationship with teachers,
relationship with the school management teams and the personal hobby of the teacher. This demonstrates why in Figure 4.14, it is noted that 18% of the respondents disagreed. This could be due to the fact that even though teachers might be willing to teach, there is always one or two factors hindering such initiatives.

**Figure 4.14: Percentages (%) on Assurance**

![Figure 4.14: Percentages (%) on Assurance](image)

<table>
<thead>
<tr>
<th>Teachers are willing to teach</th>
<th>Learners are willing to learn</th>
<th>Teachers interact freely with learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreed</td>
<td>76%</td>
<td>64%</td>
</tr>
<tr>
<td>Unsure</td>
<td>6%</td>
<td>18%</td>
</tr>
<tr>
<td>Disagree</td>
<td>18%</td>
<td>18%</td>
</tr>
</tbody>
</table>

It is also important to note that not only must teachers be willing to teach, but the learners must also be willing to learn. It is, in other words, a reciprocal relationship because the teachers might be willing to teach, but their efforts might be curtailed by learners who are not willing to learn. This hinders the effective transfer of knowledge from the teachers to the learners, and subsequently the performance of the learners and the quality of education which is offered by the South African department of Education in general. Empirical findings reveal that there is increasing adoption of a learning culture in South Africa. This is resonated by the fact that in Figure 4.9, it is noted that 64% of the respondents agreed that learners are willing to learn. With the exception that just as in the willingness of teachers to teach, the willingness of learners to learn is also affected by a number of factors. These factors include peer pressure, family problems, financial constraints, and biological factors associated with mental competence. Although the 18% of the respondents who disagreed might have been pointing out to these factors as the explanations why some learners are not willing to
learn, the fact still remains that educators need apply this construct in conjunction with empathy in order to ameliorate such factors.

Empathy enables teachers to feel and sympathise with the learners, counsel them, and play parental roles in conjunction with performing the roles of educators. In addition to the education service quality, as indicated in the findings of the exploratory factor analysis, the extent to which learners and teachers are able to freely interact is one of the determinants of education service quality. This is because education refers to the process through which knowledge and skills are transferred from the teacher to the learner in order to create the necessary learner competence on a particular discipline. The transfer of such knowledge and skills can be effectively accomplished in the environment where learners and teachers can easily interact. This is because teachers are the first role models of learners, and not only that, the free interaction enables learners to approach teachers on any matter that they will not have properly understood.

This improves the process of the transfer of knowledge and skills, and it is at that point that free interaction between the teacher and the learner is stated to be one of the variables which determine assurance and subsequently the education quality. Although it is indicated in Table 4.9 that 74% of the respondents agreed that there is free interaction between teachers and learners, it is also noted, on the other hand, that 16% of the respondents disagreed that there is such free interaction between teachers and learners. It is therefore important that the selected schools in the Eastern Cape Province must put in the necessary measures which would enhance interaction between teachers and learners. This is because such interaction would significantly contribute to improving the education service quality in the province.

**Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

In terms of the fitness of this hypothesized construct with the observed sample data, the Chi-square = 3.767, Degrees of freedom = 2, Probability level = .152 indicates that this construct fits the sample. The Chi-Square of 3.767 is closer to the degree of freedom of 2, and therefore implies that the use of assurance as one of the service quality dimension enhances the public education quality and subsequently the successful IQMS implementation. However, when Table 3 of the Chi-Square
Distribution ($\chi^2$) is examined, one would find that the chi-square value of 3.767 falls within the lower and upper limit of 4.605. This demonstrates that the null hypothesis that the use of assurance enhances public education service quality and the successful IQMS implementation must be accepted.

**Table 4.15: Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

<table>
<thead>
<tr>
<th>Regression Weights (Factor Loadings)</th>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teachers are willing to teach (TWT)</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>Learners are willing to learn (LWL)</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Teachers must freely interact with learners (TFIL)</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>Humbleness of teachers and learners (HTL)</td>
<td>-.27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Squared Multiple Correlation Coefficients ($R^2$)</th>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teachers are willing to teach (TWT)</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>Learners are willing to learn (LWL)</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Teachers must freely interact with learners (TFIL)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Humility of teachers and learners (HTL)</td>
<td>.07</td>
</tr>
</tbody>
</table>

The assertion in the Chi-Square analysis that the hypothesized theory in this construct fits the observed sample data is further resonated in the fact that the results of Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) which demonstrate that most of the observed variables significantly, load on the common factor. These observed variables were: Teachers are willing to teach (TWT) (.44)(19%), Learners are willing to learn (LWL) (.24) (6%), Teachers
must freely interact with learners (TFIL)(-1)(100%), and Humility of teachers and learners (HTL) (-27)(7%).

Figure 4.15 Observes Variables: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

In other words, the arguments in the literature review are resonated in these findings of the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) which reveal that the use of assurance is determined by the extent to which not only the teachers are willing to teach, but also the extent to which the learners are willing to learn. Generally, there cannot be effective transfer of knowledge and skills unless both sides are willing to either listen or disseminate the knowledge and skills to another. Finally the notion that assurance is one of the public
education service quality dimensions is echoed in the results of the modification indices.

**Table 4.16: Modification Indices (Alternative Fit Statistics)**

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>.97</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.04</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>.94</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.89</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>.97</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.13</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

This is because, except for RMSEA of .13, the CFI (.97), RMR (.04), NFI (.94), TLI(.89), and CFI (.97) indicate results which are closer to 1 and using the interpretation of Hinkins (1995), it can be stated that the null hypothesis that the use of assurance determines public education service quality and the successful IQMS implementation is accepted. The next section examines the findings on performance measurement and developmental appraisals.

**4.3 SECTION B: PERFORMANCE MEASUREMENT AND DEVELOPMENTAL APPRAISAL**

One of the interpretations of the findings in the literature review reveals that performance measurement and developmental appraisals are some of the techniques for improving performances in modern organizations. The process of evaluating employees' performances certainly results in the related consequences of improving the organization's product and service quality. In the IQMS implementation, the ELRC (2003:26) states that the effectiveness of the IQMS is determined by the extent to which the process is encouraged to deal with matters of performance measurement and developmental appraisals. This was the core or the basis against which the second research hypothesis were formulated in order to evaluate how the
accomplishment of performance measurement and developmental appraisals are being accomplished in the Eastern Cape Schools. It was also anticipated that such assessments would enhance the evaluation of how the IQMS implementation in the Eastern Cape Province is being accomplished. The hypothesis whose details are explained in Figure 4.13 reads as:

**H₀:** The effective undertaking of performance management and developmental appraisals is a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

**H₁:** The effective undertaking of performance management and developmental appraisals is not a key determinant for the successful IQMS implementation in the selected Eastern Cape Province.

On the basis of this hypothesis, Figure 4.16 illustrates that it is hypothesized that the effectiveness of IQMS is determined by the extent to which performance measurement and developmental appraisals are considered as one of the essential constructs.

**Figure 4.16: The Second Construct-Developmental Appraisal and Performance Management**
The hypothesis further postulates that performance measurement and developmental appraisals are measured by variables encompassing: well outlined purposes, appropriately outlined objectives, well established suitable criteria, appropriate standards, appropriate methods and techniques, and all hindrances of performance measurement and developmental appraisals must be considered. During exploratory factor analysis, it was however confirmed that the considering of performance measurement and developmental appraisals usually determines the successful IQMS implementation. This is because according to Table 4.2, it is indicated that the appropriate performance measurement and developmental appraisal standards significantly load at .691, the factor loading for the appropriate methods and techniques of performance measurement and developmental appraisal is .893, and variable prescribing that hindrances must be considered during the design of performance measurement and developmental appraisal loaded at .872. The variable outlining that assessment must be made to determine whether the IQMS objectives and goals are being achieved loaded at .812, on the other hand the variable arguing that performance measurement and developmental appraisal must be based on suitable criteria statistically significant loaded at .806. In other words, the findings are consonant with theoretical articulations that performance measurement and developmental appraisals are some of the techniques for improving employees’ and general organizational performances. Neither may also support the ELRC’s (2003) argument that the effective IQMS implementation must be accompanied with the undertaking of effective performance measurement and developmental appraisals.

Some authors argue that performance measurement and developmental appraisals may not necessarily lead to significant improvement of employees’ performance. This is because a number of variables contribute to the organization’s improved performance. In the literature review, it is noted that Williams (2002:94) for instance, cautioned that performance should not be regarded as task-accomplishment or goal-achievement because “for many jobs results aren’t necessarily the product of what individual employees do; there are many other contributory factors that have nothing to do with the person doing the job”. Williams (2002:94) further pointed out that learners may not do well because of their laziness, and this may not be blamed on employees, on the other hand learners may do well because they put on individual efforts, and this may not be credited to the employees. From such analysis, one can
easily interpret that even though the results of exploratory factor analysis revealed that performance measurement and developmental appraisals and their associated measurement variables are some of the constructs which determine the IQMS implementation, it does not necessarily mean that it will result into the improving performance of the schools in the Eastern Cape Province. In other words, a number of variables will need to be taken into consideration.

Table 4.17: The Second Construct: Undertake Performance Measurement and Developmental Appraisal

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement Variables</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; Practical Significance Criterion $\pm .40$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q23.</td>
<td>Performance management and developmental appraisal must have appropriate standards</td>
<td>.691</td>
<td>$\pm .40$</td>
</tr>
<tr>
<td>Q24.</td>
<td>Appropriate methods and techniques must be used in performance management and developmental appraisal</td>
<td>.893</td>
<td>$\pm .40$</td>
</tr>
<tr>
<td>Q36.</td>
<td>Assessments must be made to determine whether the IQMS objectives and goals are being achieved.</td>
<td>.812</td>
<td>$\pm .40$</td>
</tr>
<tr>
<td>Q22.</td>
<td>Performance appraisal and developmental appraisal must be based on suitable criteria</td>
<td>.806</td>
<td>$\pm .40$</td>
</tr>
</tbody>
</table>

If the findings on some of these essential variables are examined, it can be seen that they are not being effectively considered by the schools in the Eastern Cape Province. These are assessed in the discussions in the following sub-sections. In the literature review, it is noted that Grobler et al. (2002:14) argue that performance measurement and developmental appraisals must not only have clear and well-outlined objectives, but also there must be some activity or unobservable or observable behaviours for performance to take place. In other words, an employee has to consciously engage in some purposeful behavior to accomplish a particular task or achieve intended results. The employee may also have to regulate his behavior and use his abilities to ensure that the intended result or task is achieved. This is because studies reveal that it is possible for an employee to engage in some behavior which has nothing to do with
the task at hand. The achievement of the intended results can only be possible if the objectives that behaviours and activities must be directed at achieving are clear and well outlined. Although the results of the exploratory factor analysis revealed that the clear definition of objectives of what must be achieved is one of the variables measuring the effectiveness of the performance and developmental appraisal, it does not mean that these objectives are as clearly defined during the performance measurement and developmental appraisals which are undertaken in the Eastern Cape Schools. This is because it is revealed in the above Figure 4.6 that only 56% of the respondents agreed that the performance measurement and developmental appraisals in the selected Eastern Cape Province’s schools are well outlined.

**Figure 4.17: Percentages (%) on Performance Management and Developmental Appraisal**

![Performance Appraisal Diagram]

Despite the fact that the mean score of 3.6 and standard deviation of .9 can be interpreted to strongly support the respondents who agreed, it is noted in the same Figure 4.6 that 16% of the respondents disagreed that the performance measurement and developmental appraisals’ objectives in the selected in Eastern Cape Schools are well outlined. On the other hand, 28% of the respondents could not state whether or not the performance measurement and developmental appraisals objectives are well outlined. The failure to clearly outline objectives which performance measurement and
developmental appraisals must achieve means that the selected schools in the Eastern Cape Province may not have the guidelines which are usually provided by well-defined and clear objectives to the organization. Nonetheless, the ELRC (2003) clearly outlines what objectives the performance measurement and developmental appraisals must achieve. But as far as the findings in this variable are concerned, it seems the failure to devise appropriate performance measurement and developmental appraisals objectives are due to the failures of the principals and the school management teams to appropriately interpret the ELRC (2003) Document.

Yet the performance measurement and developmental appraisals may not only be successful because the objectives are clearly defined, but also the appropriate processes must be followed. During the exploratory factor analysis, this variable was found to be loading at .893 under the methods and techniques, but the findings in Figure 4.7 seem to indicate that the appropriate performance measurement and developmental appraisals are not being effectively followed. This is because Figure 4.7 reveals that whereas 54% of the respondents agreed that such processes are followed, on the other hand 12% of the respondents are noted to have disagreed, as 34% were unsure. The mean score of 3.4 certainly supports the respondents who agreed, but the standard deviation of 1 suggests that there was no consensus among the respondents that the appropriate performance measurement and developmental appraisals are followed. In other words, the findings in this variable are inconsistent with the assertions of Nel et al. (2004:241) that the effectiveness of performance management is predicted by the extent to which the three major steps involving: launching process, coaching process and evaluation process are considered. Nel et al. (2004:241) postulate that the launching process involves the alignment of performance management with the organization’s business strategy, and coaching process deals with the day to day monitoring of employee performance in various departments. The manager has to monitor and mentor employees before problems develop. This process involves the correction of any performance which is below standard. Employee weaknesses and deficiencies should be identified and corrected during this coaching stage. The evaluation process requires the managers to assess the effectiveness of an employee’s activities relative to others or the goals agreed upon by the employee and management.
Nel et al. (2004:477) categorize the evaluations into relative judgments and absolute judgments. In the former employee performance is compared to the performance of other employees while in the latter employee performance is assessed relative to the agreed upon goals. However, it is doubtful whether these three main steps in the performance measurement process are followed during the performance management process in the selected Eastern Cape schools. This is because had it been so, not only 54% would have agreed, but a significant number of the respondents would have been eager to state that the effective performance measurement processes are undertaken. In terms of developmental appraisals, Swanepoel et al. (2000:319) argue that a performance appraisal process must meet certain criteria. These criteria are: relevance, reliability, sensitivity, freedom from contamination or validity, practicality, acceptability, and legal compliance. Nevertheless, an organization which is complying with all these criteria cannot have only 54% of the respondents agreeing that the effective performance measurement and developmental appraisals are followed. On that basis, one may conclude that there might be a number of essential elements missing the form of the performance measurement and developmental appraisals which are undertaken by the schools in the Eastern Cape Province.

The results of the exploratory factor analysis further revealed that the effectiveness of performance measurement and developmental appraisals are measured by the extent to which the processes are based on suitable criteria. As demonstrated in the above Table 4.3, the variable loaded strongly at .806 onto the construct prescribing for effective performance measurement and developmental appraisal. In the above variable, it was argued that Swanepoel et al. (2000:289) postulate that a performance appraisal process must meet certain criteria. These criteria are: relevance, reliability, sensitivity, freedom from contamination or validity, practicality, acceptability, and legal compliance. Nel et al. (2004) on the other hand stated that that the criteria predicting the effectiveness of the performance measurement process encompass the extent to which it considers: launching process, coaching process and evaluation process. On comparison of the two findings, there is no doubt that the results of the exploratory factor analysis agree with the views articulated by Nel et al. (2004:477) and Swanepoel et al. (2000:289) that the extent to which certain criteria are considered during the
design of the performance measurement and developmental appraisals determine the extent to which it can be effective.

However, the extent to which the primary findings are consonant with the secondary findings is only limited to the results of exploratory factor analysis. This is because on assessment of the percentages which are contained in Figure 4.8, one can realize that it cannot be concluded that the suitable criteria are considered during the design of performance measurement and developmental appraisals in the Eastern Cape Schools. This is because it is indicated that only 52% of the respondents agreed that such criteria are considered. Although 52%, as compared with the 14% who disagreed and the 34% who were unsure, indicates that the respondents who agreed were the majority, a thorough analysis may however suggest the contrary. This is because the use of suitable criteria during the formulation of performance measurement and developmental appraisals is what every teacher and principal is expected to know. However, if 34% of the respondents who were mainly made up of teachers and principals can choose to state that they are unsure as to whether or not such criteria are being considered, that can easily be grounds for the researcher to conclude that the 34% of the respondents who were unsure were just providing the same views that the 14% of the respondents who directly disagreed provided. The only difference may be reflected in the fact that whereas the 14% of the respondents directly disagreed that the suitable criteria are not considered during the formulation of performance measurement and developmental appraisals, by stating that they were unsure, the 34% indirectly stated that such criteria are not considered during the design of the performance measurement and developmental appraisals in the selected Eastern Cape schools. Such interpretation can still be upheld even though mean score of 3.4 can be construed to be supporting the 52% of the respondents who agreed.

In spite of the fact that this variable loaded strongly at .691 onto the construct of performance measurement and developmental appraisal, the primary findings which are contained in Figure 4.9 seem to imply that the performance measurement and development appraisals in the Eastern Cape schools seem to be based on inappropriate standards. In other words, there seems to be a challenge in devising the standards against which performance measurement and developmental appraisals can be based. This is because in Figure 4.9, it is indicated that of all the respondents surveyed, only 44% of the respondents agreed that the performance measurement
and developmental appraisals in the Eastern Cape schools are based on appropriate standards. 24% were noted to have disagreed, and 32% were unsure. The mean score was 3; this is a neutral figure and cannot be used to assess whether or not the performance measurement and developmental appraisals in the Eastern Cape schools are based on suitable criteria. Nonetheless using the standard deviation of 1.5, it can be observed that there was no consensus among the respondents that the appropriate performance measurement and developmental appraisals are based on suitable standards. The failure of the respondents to reach a consensus about the standards against which performance measurement and developmental appraisals are based, may mean that the way these standards are being devised might be inconsistent with the findings of the primary research. In the secondary findings, it was noted that Bhattacharya (2006:279) prescribed that there are two approaches to developing performance standards; these are the consultative approach and the collaborative approach. In a consultative approach, the manager prepares the performance management standards in consultation with the Employee Relations Representative in his or her department. The collaborative approach requires working together of employees and managers to develop the standards for the individual positions. This enables standards to be supported by managers and employees who may even get to understand the prescribed standards better. The results of the exploratory factor analysis state that the notion that performance measurement and developmental appraisals must be based on appropriate standards is statistically significant at .691. This can be interpreted to prescribing that such results can only be obtained on the assumption that the consultative and collaborative approaches are used in the process of developing such standards. However, as the percentages reveal, if the Eastern Cape schools continue devising standards according to the present practice it is unlikely that the IQMS implementation will achieve its desired strategic objectives and goals. This is because standards prescribe the yardstick which is used to measure performance.

Nonetheless, exclusively using the consultative and collaborative approaches during the formulation of standards means that the Eastern Cape schools may not be able to appropriately undertake performance measurement and developmental appraisals. This is because it is noted in the literature review that Bhattacharya (2006:279) noted that the organization’s performance standards should be related to the employees’
assigned work and job requirements, and these must also be accompanied with the reporting systems which are measurable. What this means is that the reporting system should have more quantitative data. All these seem to be, nevertheless, quite complex a process for the schools in the Eastern Cape Province to consider during the formulations of performance measurement and developmental appraisals. Bhattacharya (2006:279) also adds that quantifiable measures may not only apply to all functions, but must also describe in clear and specific terms the characteristics of performance quality that are verifiable and that would meet or exceed expectations. However, using the findings which are contained in Figure 4.9, it is quite doubtful that such Bhattacharya’s (2006:279) prescriptions of the criteria for setting performance measurement and developmental appraisals are being considered in the Eastern Cape Schools. Finally, the accomplishment of organizational objectives should be included where appropriate, such as cost control, improved efficiency, productivity, project completion, process redesign or public service. Bhattacharya (2006:229) further maintains that there must also be checklist against which the designed standards can be measured. In other words, he prescribed that the checklist must examine the extent to which the standards are: realistic, measurable, and congruent with goals, challenging, clear, and dynamic. If the performance measurement and developmental appraisal standards which are undertaken in the Eastern Cape were meeting these standards, then a significant number of the respondents would have agreed that the performance measurement and developmental appraisals in the Eastern Cape schools are based on suitable standards.

The use of the appropriate methods is one of the variables measuring the effectiveness of performance measurement and developmental appraisals. This was confirmed during the exploratory factor analysis that the use of appropriate standards statistically loads at .893 onto performance measurement and developmental appraisals which is one of the constructs for the successful IQMS implementation. This means that if the appropriate methods and techniques are not used, then not only performance measurement and developmental appraisal processes will be affected, but also the successful IQMS implementation may not be successful. In Figure 4.10, it is indicated that 44% of the respondents agreed that the appropriate methods and techniques are used in the performance measurement and developmental appraisals in the schools in the Eastern Cape Province. However, that is subject to the fact that
the processes are being accomplished according to the methods and techniques which are prescribed in the performance measurement and developmental appraisal theories. According to Noe et al. (2000:356), the common methods and techniques for accomplishing performance appraisals include: Comparative Approach (Relative rating technique), Forced distribution, Attribute Approach, the Behavioral Approach, and the results Approach. However, Noe et al. (2000:356) point out that there is a tendency for modern organizations to only use one or just a few of these methods and techniques, thus depriving the organization of the opportunity of having the benefits of one technique or method to outplay the disadvantages of the other. The IQMS only uses peer review, whilst other techniques such as Forced distribution, Attribute Approach, the Behavioral Approach, and the results Approach are neglected. This may explain why in Figure 4.10, it is indicated that 22% of the respondents disagreed and 34% could not state whether or not the appropriate methods and techniques are used. Generally, the findings on this variable reveal that there is something unacceptable about the methods and techniques which are being used during the performance and developmental appraisals in the selected Eastern Cape Schools.

Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

Despite the defects in the processes through which performance management and development appraisals are being accomplished during the IQMS implementation, the results of the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) indicate that there is a significant direct positive relationship between the observed variables in this construct and the common factor.
Table 4.18: Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

<table>
<thead>
<tr>
<th>Regression Weights (Factor Loadings)</th>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance management and developmental appraisal must have appropriate standards (PMDA)</td>
<td></td>
<td>.74</td>
</tr>
<tr>
<td>Appropriate methods and techniques must be used in performance management and developmental appraisal (AMTP)</td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td>Assessments must be made to determine whether the IQMS objectives and goals are being achieved (AIQMSOG)</td>
<td></td>
<td>.33</td>
</tr>
<tr>
<td>Performance appraisal and developmental appraisal must be based on suitable criteria (PADASC)</td>
<td></td>
<td>-.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Squared Multiple Correlation Coefficients ($R^2$)</th>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance management and developmental appraisal must have appropriate standards (PMDA)</td>
<td></td>
<td>.55</td>
</tr>
<tr>
<td>Appropriate methods and techniques must be used in performance management and developmental appraisal (AMTP)</td>
<td></td>
<td>.24</td>
</tr>
<tr>
<td>Assessments must be made to determine whether the IQMS objectives and goals are being achieved (AIQMSOG)</td>
<td></td>
<td>.11</td>
</tr>
<tr>
<td>Performance appraisal and developmental appraisal must be based on suitable criteria (PADASC)</td>
<td></td>
<td>.16</td>
</tr>
</tbody>
</table>

The results pointing to such a relationship, however, does not indicate that the null hypothesis is accepted because as indicated in Table 4.18, the chi-square value is .00, and therefore preliminarily signify that there is no model fitness between this hypothesized IQMS implementation construct and the observed sample data.
Nonetheless, whilst using Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$), it is statistically well demonstrated that the successful use of performance management and developmental appraisals in the IQMS implementation cannot be effectively accomplished without considering:
effective and clear standards (.74) (55%), the use of appropriate methods and techniques (.49)(24%), constant evaluations of whether the desired strategic objectives and goals are being achieved (33)(11%), and the basing of performance management and developmental appraisals on suitable criteria (.40)(16%). In other words, these findings confirm the results of covariance matrix in the exploratory factor analysis which indicate that there are significant direct relationships between these observed variables and the common factor.

Table 4.19: Modification Indices (Alternative Fit Statistics)

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>.92</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.07</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>.89</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.71</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>.90</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.28</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

It can, therefore, be denoted from the findings in Figure 4.18 that the GFI (.92), NFI (.89), TLI (.71), and CFI (.90) indicate that there is fitness between the theory hypothesized in this construct and the observed sample data. The next section examines the findings on IQMS success factors.

4.4 SECTION C: INCORPORATING IQMS’ KEY SUCCESS FACTORS

In the literature review, it was noted that a consensus exists among the integrated quality management experts that the successful IQMS implementation is significantly determined by the extent to which certain key success factors are considered and incorporated in the implementation process. Such arguments formed the theoretical basis against which the hypothesis outlining the third construct was formulated. The hypothesis reads:
H0: The successful IQMS implementation in the selected Eastern Cape schools would be predicted by the extent to which the essential IQMS key success factors are considered.

H1: The successful IQMS implementation in the selected Eastern Cape schools is not predicted by the extent to which the essential IQMS key success factors are considered.

As further revealed in Figure 4.9, the variables measuring the effectiveness of this construct include: quality management principles, effective coordination of activities, supporting information systems, stakeholders’ involvement, budget allocation, training and education, and change management strategies.

Figure 4.19: The Third Construct: Incorporating Key Success Factors for IQMS Implementation

In Table 4.6, it is noted that the results of the exploratory factor analysis reveal that supporting information systems loaded at .462, sufficient budget allocation at .592, training and education on IQMS key concepts at .554, the application of change management strategies at .776, and effective coordination of activities at .825. In addition, Table 4.9 further indicates that constant review of the implementation process loaded at .874, review of IQMS objectives (.880), considering quality management principles (.753), performance appraisal and development processes
(.563), and stakeholders involvement (.630). The findings of the exploratory factor analysis does not only agree with views that there are expressed in this hypothesis, but also confirm the findings in the secondary research which argue that the successful IQMS implementation is determined by the extent to which these key success factors are considered. However, the fact that the results of the exploratory factor analysis further defined the structure of this model does not indicate that IQMS is effectively and successfully being implemented in the selected schools in the Eastern Cape Province. This is because the analysis of the frequencies or percentages, which are presented in the following Figures, would certainly reveal that a number of these key success factors are not being considered. One of the factors which are neglected is the lack of use of quality management principles. In the next Figure 4.18, it is indicated that 46% of the respondents disagreed that quality management principles are used in the IQMS implementation.

Table 4.20: Incorporating Key Success Factors for IQMS Implementation

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement Variables</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q28.</td>
<td>Supporting Information Systems must be used to enhance IQMS implementation</td>
<td>.462</td>
<td>± .40</td>
</tr>
<tr>
<td>Q30.</td>
<td>There must be sufficient budget allocation for IQMS implementation</td>
<td>.592</td>
<td>± .40</td>
</tr>
<tr>
<td>Q31.</td>
<td>There must be training and education on IQMS key concepts</td>
<td>.554</td>
<td>± .40</td>
</tr>
<tr>
<td>Q32.</td>
<td>Change Management Strategies must be used during IQMS implementation</td>
<td>.776</td>
<td>± .40</td>
</tr>
<tr>
<td>Q27.</td>
<td>There must be effective coordination of activities during and after IQMS implementation</td>
<td>.825</td>
<td>± .40</td>
</tr>
<tr>
<td>Q26.</td>
<td>Quality management principles must be incorporated into IQMS</td>
<td>.753</td>
<td>± .40</td>
</tr>
<tr>
<td>Q20.</td>
<td>Stakeholders must be involved in IQMS implementation</td>
<td>.630</td>
<td>± .40</td>
</tr>
</tbody>
</table>

Although 32% of the respondents disagreed, it is noted that 22% of the respondents were unsure, and the mean of 2.8 when interpreted using the Pearson’s Skewness Co-efficient \(sk_p = \frac{n \sum(x - \bar{x})^3}{(n-1)(n-2)s_x^3}\), indicates that most of the respondents disagreed.
This sends a message that findings in the exploratory factor analysis reflect that quality management principles loads significantly at .753 on the construct concerning key success factors does not imply that it is considered by these selected schools in the Eastern Cape. In other words, despite the fact that some of the respondents agreed, one could easily point out that the findings on this variable are inconsistent with the secondary findings. This is because it is argued in the literature review that the successful implementation of any quality initiative is determined by the extent to which certain quality management principles are considered. These quality management principles are: customer-focused organization, leadership, people involvement, systems approach to management, factual approach to decision making, and mutually beneficial supplier relationship. For instance, principles such as considering employee involvement enables the employees not only to understand the quality standards, but also to get committed on performing things which enhance the achievement of such quality standards and initiatives. With a significant number of 46% of the respondents disagreeing, it is unlikely that such high levels of employee involvement may be achieved to enhance the successful implementation of IQMS in these selected Eastern Cape Schools. not only did the respondents disagree that the essential quality management principles are considered during the IQMS implementation in the selected Eastern Cape Schools, but also in the next variable it is noted that a significant number of the respondents stated that there is no effective communication and coordination of activities.

In the literature review, it is noted that a significant number of authors argue that the effective communication and coordination of activities enhance the successful IQMS implementation. This is because coordination of activities is essential in harnessing the implementing of quality initiatives and strategies in different departments. In the case of this study, there are several departments and schools in which the IQMS is being implemented. Therefore without the effective coordination of activities, it may be difficult to monitor and correct the deviations from the plans which would render the IQMS implementation unsuccessful. It is evident that levels of efficiency with regards to IQMS activity-coordination has not yet been attained. This is considering the fact that it is pointed out in Figure 4.10 that 58% of the respondents disagreed that there is effective coordination of IQMS activities in the selected Eastern Cape Schools. 24% of the respondents agreed and 18% were unsure, but the fact still remains that these
percentages are too few as compared to the respondents who disagreed. It is also pointed out in the empirical findings that IQMS is an evaluation initiative comprising of different processes and systems. For instance, it is noted in the ELRC Document (2008) that IQMS includes integrated quality management, whole school evaluation, performance management and developmental appraisals. All these require different processes and systems for implementation, and therefore effective coordination is important for realizing the successful total IQMS implementation. However, as it is indicated in the above Figure, it seems the Eastern Cape Department of Education must still take the necessary initiative to ensure that the coordination of activities is brought to the level of efficiency which would enhance the successful IQMS implementation. It is clear in the IQMS literature that never will the coordination of activities and the successful IQMS implementation ever be successful without the considering of the use of the information systems.

**Figure 4.21: Percentages (%) on IQMS Key Success Factors**

<table>
<thead>
<tr>
<th>Change management strategies are considered during IQMS implementation</th>
<th>Training and education are provided on IQMS implementation</th>
<th>Sufficient budgets are allocated for IQMS implementation</th>
<th>Stakeholders are involved in IQMS implementation</th>
<th>Supporting information systems are used to enhance IQMS implementation</th>
<th>Activities are effectively coordinated before and after IQMS implementation</th>
<th>Quality management principles are incorporated into IQMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>32%</td>
<td>24%</td>
<td>22%</td>
<td>20%</td>
<td>24%</td>
<td>32%</td>
</tr>
<tr>
<td>Unsure</td>
<td>22%</td>
<td>18%</td>
<td>18%</td>
<td>20%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>Disagree</td>
<td>46%</td>
<td>58%</td>
<td>60%</td>
<td>60%</td>
<td>58%</td>
<td>48%</td>
</tr>
</tbody>
</table>

This is because the use of information systems does not only facilitate the real time monitoring of activities, but also facilities the communication between different units or
departments. Such improving levels of communication usually enhance the real time monitoring and evaluation of activities in different departments, and subsequently the undertaking of the appropriate improvement measures before the problems turn serious and costly. The results of the primary research which are contained in Figure 4.10 seem to imply that the Eastern Cape Department of Education has not yet overcome the challenges of information technology use in its IQMS implementation process. It is indicated in the literature review that the challenges hindering the use of information systems in the IQMS implementation process involve: lack of skills, management commitment, limited investment in information systems, poor maintenance of the install information systems and lacking of supporting corporate culture and employee attitudes. On that basis, one would argue that when 60% of the respondents disagreed that the use of information systems is considered as one of the key success factors for IQMS implementation, they could have been referring to the fact that there has been inability to use information systems in IQMS implementation due to such challenges.

Although, 22% of the respondents are noted to have agreed, and 18% were unsure, the mean score of 2.6 when interpreted using the Pearson’s Skewness Coefficient, 

$$sk_p = \frac{n \sum (x_i - \bar{x})^3}{(n-1)(n-2)s^3},$$

indicates that most of the respondents disagreed. This implies that the selected schools in the Eastern Cape Province must consider installing and using information systems as a key success factor if they are to experience the successful IQMS implementation. Besides the use of information technology, the successful IQMS implementation is also significantly determined by the extent to which the different stakeholders are involved in the planning and implementation of IQMS. It is argued in the literature review that stakeholders’ involvement in the IQMS implementation may enable the concerned organization to outwit the forces of resistance to changes arising from the implemented IQMS. However, it seems the selected schools in the Eastern Cape Province which were surveyed during this study may not avoid the forms of employee resistance which usually arise from lack of employee involvement in the IQMS implementation. This is because it is indicated in Figure 4.13 that the stakeholders are not involved in the process of the IQMS implementation. This could perhaps explain why in the empirical findings, it was noted that the IQMS implementation has been unsuccessful in most of the South African schools.
As it is further noted in the literature review, lack of consultations or stakeholders’ involvement usually renders it difficult for different stakeholders to understand what is expected of them. For instance, the ELRC (2008) prescribes certain standards which every employee and concerned staff in the South African department of education is supposed to be conversant with. However, with Figure 4.13 indicating that 60% of the respondents disagreed that the employees are not consulted, it is difficult to state that these teachers and staff are aware about what is expected of them. Even though it is further indicated in Figure 4.13 that 20% of the respondents agreed and 20% were unsure, the 20% of the respondents who were unsure when taken in conjunction with the mean score of 2.4, one can conclude that there is significant evidence that there is lack of stakeholder involvement in the IQMS implementation process. No wonder, it was noted that in the ELRC (2008), there is no mention of the roles that parents and learners are expected to play in the IQMS implementation process. In actual practice, however, parents and learners are supposed to be some of the main assessors in the IQMS implementation process. The exclusion of parents and the granting of teachers mandate to evaluate themselves signifies that the IQMS evaluation process lacks credibility, as it is expected that teachers might feel free to critic themselves, in situations where activities have deviated or are deviating from the prescribed IQMS implementation process.

It is noted in the literature review that a consensus exists among the IQMS experts that the successful IQMS implementation may never be possible without the sufficiently allocated budgets. This is because the existence of adequate finances enhances the funding of activities and the providing of the appropriate remuneration to the employees. This subsequently leads to employee motivation and the enhancing of their contributions and efforts to ensure that the IQMS implementation is a success. In other words, if there is sufficiently allocated funds, one would argue that the implementation of IQMS would be successful. The results of the exploratory factor analysis reveals that sufficient allocation of resources significantly loads at .593, and there is no doubt that such a finding is consonant with the findings of the primary research which argues that the allocation of sufficient resources determines the successful IQMS implementation.

Despite the fact that the results of the exploratory factor analysis indicate that there is a significant direct positive relationship between the sufficient allocation of resources
and the successful IQMS implementation, in Figure 4.14 it is noted that 58% of the respondents surveyed stated that the resources which are allocated for the IQMS implementation in the selected Eastern Cape schools are not adequate to ensure the successful IQMS implementation. In other words, 58% of the respondents seem to point out the plan for IQMS implementation is merely found on paper without any strong initiative on the management side to ensure that the plan is practically implemented. On the converse, their arguments seem to be based on the assertion that if there was a strong management initiative to ensure that IQMS implementation was successful, then such an initiative would have been immediately followed by the allocation of sufficient resources. The 24%, who are noted in Figure 4.13 to have agreed, could simply have been stating that there are some resources which are allocated, but not the extent to which such allocated resources are sufficient to meet all the requirements in the IQMS implementation.

Not only did most of the respondents disagree that there is sufficiently allocated resources, but also in the variable dealing with training and education on IQMS implementation, it was noted in Figure 4.14 that 48% of the respondents disagreed that significant good levels of training and education are provided to enhance the understanding of IQMS among the educators. IQMS implementation is quite a complex concept and process, and it is unlikely that it may be a success in the selected Schools in the Eastern Cape Province given the fact that it is noted in Figure 4.14 that most of the respondents disagreed. In the literature review, it was argued that training on IQMS implementation is important because it enables the educators to be well equipped with the skills which are required for IQMS implementation. In addition, it was noted that training and education on IQMS induces educators’ creativity and innovation on how the IQMS must be implementation. Therefore, the total package of benefits arising from training and education on IQMS improves the possibility of a successful IQMS implementation. However, as far as the findings are concerned, it is unlikely that the selected schools in the Eastern Cape Province will experience any form of contribution arising from the training and education of IQMS.

Although, it is noted in Figure 4.14 that 32% of the respondents agreed, the fact remains that the mean score of 2.5 when considered in conjunction with the empirical findings significantly shows that training and education of educators on IQMS related concepts is not one of the key factors which are considered during the IQMS
implementation in the selected schools in the Eastern Cape Province. The successful IQMS implementation leads to a transformation which results into new systems, processes, and methods of work. In other words, the successful IQMS implementation implies that the employees are expected to meet new standards and objectives.

In total, all these would require new ways of working, and some of such new ways may upset the old established procedures and culture in the organization. In order to circumvent these challenges, a significant number of authors argue that the implementation of an integrated quality management system may never be possible in any organization without the application of the requisite change management strategies. This is because the application of the necessary change management strategies may enable the organization to prepare and involve employees in the transformation process. It is indicated in Figure 4.15 that as much as 48% of the respondents disagreed, it is also indicated that 22% were unsure and 30% of the respondents agreed. In the integrated quality management literature, it is noted that a number of managers usually use the word *change* or *transformation*, or urge the employees to transform during the introduction of a new system.

However, it is also noted by these authors that the use of the word “change” or “transformation” has never been coupled with the application of the necessary change management strategies. In that regard, 48% of the respondents might have disagreed, because they feel that even though change management is being applied, it is not being accomplished according the theoretically prescribed strategies. In the literature review, Kotter (1996)’s 8 Stage Model, as cited in ABE (2007: 223) outlines steps encompassing; step one: create urgency, step two: form a powerful guiding coalition, step three: create a vision and strategy for change, step four: communicate the vision and strategy, step five: empower employees to act on the vision, step six: create short-term wins, step seven: keep up the urgency, tackle bigger problems, and step eight: anchor the changes in corporate culture.

The view that there are certain prescribed steps in the change management process was echoed in the theory of Kurt Lewin’s Three Step Change Model Lewin argued that the successful change in organizations should follow three stages: unfreezing the status quo, changing to a new state, and refreezing the new change to make it permanent. Not only would agree with the 48% of the respondents who were noted to have disagreed, but also an evaluation of the empirical findings would not reveal any
area where it is pointed out that the application of change management strategies is one of the key success factors for IQMS implementation.

In Table 4.22, it is noted that the results of the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) indicate that the application of accompanying change management strategies is one of the factors which significantly loaded on the construct dealing with the incorporating the IQMS key success factors. In other words, the illustration in Table 4.22 indicates that factor loadings for the variables were as: Supporting Information Systems must be used to enhance IQMS implementation (SIS) (.35)(12%), there must be sufficient budget allocation for IQMS implementation (SBA) (.54)(29%), there must be training and education on IQMS key concepts (TEIQMS) (.59)(35%), Change Management Strategies must be used during IQMS implementation (CMS) (.68)(47%), Quality management principles must be incorporated into IQMS (QMP) (.71)(50%), and Stakeholders must be involved in IQMS implementation (SIIQMS) (.67)(45%).

Table 4.22: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)

<table>
<thead>
<tr>
<th>Regression Weight (Factor Loadings)</th>
<th>Standardized Regression Weights (Factor Loadings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting Information Systems must be used to enhance IQMS implementation (SIS)</td>
<td>.35</td>
</tr>
<tr>
<td>There must be sufficient budget allocation for IQMS implementation (SBA)</td>
<td>.54</td>
</tr>
<tr>
<td>There must be training and education on IQMS key concepts (TEIQMS)</td>
<td>.59</td>
</tr>
<tr>
<td>Change Management Strategies must be used during IQMS implementation (CMS)</td>
<td>.68</td>
</tr>
<tr>
<td>There must be effective coordination of activities during and after IQMS implementation (ECIQMS)</td>
<td>1</td>
</tr>
<tr>
<td>Quality management principles must be incorporated into IQMS (QMP)</td>
<td>.71</td>
</tr>
<tr>
<td>Stakeholders must be involved in IQMS implementation (SIIQMS)</td>
<td>.67</td>
</tr>
<tr>
<td>Squared Multiple Correlation Coefficient ($R^2$)</td>
<td>Squared Multiple Correlation Coefficient ($R^2$)</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Supporting Information Systems must be used to enhance IQMS implementation (SIS)</td>
<td>.12</td>
</tr>
<tr>
<td>There must be sufficient budget allocation for IQMS implementation (SBA)</td>
<td>.29</td>
</tr>
<tr>
<td>There must be training and education on IQMS key concepts (TEIQMS)</td>
<td>.35</td>
</tr>
<tr>
<td>Change Management Strategies must be used during IQMS implementation (CMS)</td>
<td>.47</td>
</tr>
<tr>
<td>There must be effective coordination of activities during and after IQMS implementation (ECIQMS)</td>
<td>1</td>
</tr>
<tr>
<td>Quality management principles must be incorporated into IQMS (QMP)</td>
<td>.50</td>
</tr>
<tr>
<td>Stakeholders must be involved in IQMS implementation (SIIQMS)</td>
<td>.45</td>
</tr>
</tbody>
</table>

In line with Bollen and Davis’ (2009a:536) interpretation, this implies that most of the variables significantly determine the effectiveness of the set of the key success factors which is used as one of the key constructs that influence the successful IQMS implementation.
On the other hand, Table 4.23 indicate the general fitness of the model, in that the GFI (.75), RMR (.12), NFI (.74), TLI (.79), and CFI (.78) confirmed that the hypothesis about this construct and its associated observed construct fit the observed sample data. This view is in line with Hu and Bentler’s (2006:22) interpretation that the results of GFI, PNFI, TLI and CFI are acceptable if they fall within the acceptable limits of 0 and 1. At the same time, Wheaton’s (1987:2) and Carmnines and McLver’s (1981:1)
argument was applied for assessing whether RMSEA (Root Mean Square Error of Approximation) were in the acceptable limit of 0.05 and 0.08. However, as Table 4.23 indicates the result for RMSEA (Root Mean Square Error of Approximation) was .24 and out of the acceptable limit of 0.05 and 0.08.

Table 4.23: Modification Indices (Alternative Fit Statistics)

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>.75</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.12</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>.74</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.79</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>.78</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.24</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

In a nutshell, it is clear from the discussions of the findings in this section that the key success factors that influence the successful IQMS implementation include: the use of change management strategies, supporting information systems, sufficient budget allocation, training and education on IQMS concept, effective coordination of activities, application of quality management principles and stakeholders’ involvement. Nevertheless, the integrated quality management experts are also noted to have argued that the implementation, monitoring and evaluation are the other constructs determining the successful IQMS implementation. The findings on this construct and the associated observed variables are examined in the next section.

4.5 SECTION D: MONITORING AND EVALUATING IQMS IMPLEMENTATION

It is argued in the literature review that the ELRC (2003) prescribes three main steps for the IQMS implementation: advocacy, training and planning, evaluation, and feedback and discussions. In terms of monitoring and evaluations, the theoretical framework reveals that organizations must undertake the appropriate quality planning process in order to enhance the measures through the notion of quality initiative in the
IQMS can be monitored and evaluated. It is nonetheless argued that the undertaking of the effective quality planning involves considering steps encompassing: step 1- establishing missions and goals, step 2- identifying the customers, step 3- discovering customers’ needs, step 4- developing the product or service, step 5- developing process, and step 6- developing process/controls/transfers to operations. The effective monitoring and evaluations of IQMS is noted to result into improving internal efficiency and learning achievements. During this, IQMS implementation, monitoring and evaluations were considered in the fourth construct, and along this line the fourth hypothesis was formulated and reads;

**Ho:** *The undertaking of appropriate implementation, monitoring and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools.*

**H1:** *The undertaking of appropriate implementation, monitoring and evaluations processes would significantly determine the successful IQMS implementation in the selected Eastern Cape Schools*

In this construct, it was hypothesized that the successful IQMS implementation, monitoring and evaluation are measured by variables encompassing: adopting a systematic IQMS implementation process, establish monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS’ strategic objectives, goals and mission have been achieved. In other words, the implementation of IQMS must be immediately followed by the use of the necessary monitoring and evaluation mechanisms in order to assess whether the way activities are being accomplished is according to the prescribed plans. In addition, monitoring and evaluations also enhance the assessing of whether the accomplishment of schools’ activities will lead to the achievement of desired strategic objectives and goals. In effect, it is manifestly clear that the use of monitoring and evaluations enable schools detect deviations from the prescribed plans and objectives, and to undertake early corrective measures before the deviations become grave and costly. The details are illustrated in Figure 4.4 below.
The application of monitoring and evaluation mechanisms will be easier if the IQMS implementation follows certain prescribed systematic processes. Such assertions were confirmed in the exploratory factor analysis which revealed that most of the observed variables significantly loaded on the common factor.

Table 4.24: Results of Exploratory Factor Analysis for Implementation, Monitoring and Evaluations

<table>
<thead>
<tr>
<th>Observed Variables: Implementation, Monitoring and Evaluations</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>The use of a systematic IQMS implementation process</td>
<td>.463</td>
<td>± .40</td>
</tr>
<tr>
<td>The use of appropriate mechanisms for assess IQMS implementation</td>
<td>.574</td>
<td>± .40</td>
</tr>
<tr>
<td>Examining whether IQMS objectives have been fulfilled</td>
<td>.810</td>
<td>± .40</td>
</tr>
</tbody>
</table>

The variables which loaded significantly included: the use of a systematic IQMS implementation process (.463), the use of appropriate mechanisms for assess IQMS implementation (.574), and examining whether IQMS objectives have been fulfilled.
The results of the primary research revealed that 56% of the respondents disagreed that a systematic process is followed in the IQMS implementation. On the other hand, it is pointed out in Figure 4.15 that 21% of the respondents agreed, and 22% were unsure.

**Figure 4.25: Percentages (%); Monitoring and Evaluations of IQMS Implementation**

<table>
<thead>
<tr>
<th>A systematic process is used in IQMS implementation</th>
<th>There are appropriate mechanisms for assessing IQMS implementation</th>
<th>Examine whether IQMS objectives have been fulfilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>23%</td>
<td>30%</td>
</tr>
<tr>
<td>Unsure</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>Disagree</td>
<td>56%</td>
<td>66%</td>
</tr>
</tbody>
</table>

There are certain prescribed processes in the ELRC (2003), and therefore the 21% of the respondents who agreed seemed to have been referring to the schools’ following of such prescribed steps in the ELRC (2003). However, since a significant number of the respondents (56%) stated that the processes which are being followed in the IQMS implementation are less systematic to render easy monitoring and evaluation possible, it means that the steps which Early and Colletti (2009:3) are noted to have outlined in the literature review is not being followed. It is argued, in the secondary findings, that Early and Colletti (2009:3) noted that the essential steps in the implementation of any quality improvement initiative include: step 1- establish missions and goals, step 2- identify the customers, step 3- discover customers’ needs, step 4- develop the product or service, step 5- develop process, and step 6- develop process/controls/transfers to
operations. The IQMS implementation is about improving the quality of learning so as to effectively meet the needs and wants in public education. In that regard, the effective implementation of any quality initiative must be accompanied by a system that examines how public education quality can be improved.

Although, there are outlines in the ELRC (2003), the findings which are contained in Figure 4.15 indicate that such guidelines are not being effectively followed. However, as it is stated in the literature review, the failure to effectively follow the guidelines for the successful IQMS implementation implies that even the effective monitoring and evaluation of IQMS implementation may be a challenge. Literature on integrated quality management reveals that some of the techniques which can be used in monitoring of the IQMS implementation include: providing learners with the rating questionnaires to rate their teachers performance in class, constantly collecting data and analysis the collected data in order to determine the performance trends, constant supervision, and using whistle-blowers in order to notify immediately in case there are deviations. Other measures involve the use of the balanced scorecards, traffic lighting, and dashboards.

In another instance, one school may benchmark itself on IQMS implementation against another school, or it can be done between the schools in a particular district and another district or even between provinces or countries. It was revealed in the theoretical framework that there is a significant direct positive relationship between the use of the IQMS implementation monitoring and evaluation mechanisms and the successful IQMS implementation. However, in the case of the selected schools in the Eastern Cape Province, there seems to be a limitation in the forms of monitoring mechanisms which are used since it is indicated in Figure 4.15 that 66% of the respondents disagreed that there is use of a combination of monitoring and evaluation mechanisms to enhance the successful IQMS implementation.

The 66%, if corroborated by the mean score of 2.4 would signify that there is limited monitoring and evaluation mechanism to ensure that the IQMS implementation in the Eastern Cape Schools is a success. To some extent, the reasons why most of the respondents disagreed in the above variables are explained by the reasons why the 66% disagreed in this variable. This is because had there been successful IQMS implementation in the selected schools in the Eastern Cape schools, then the respondents in the above variables would have answered in the affirmative. Answering
in affirmative would have signified that there is successful IQMS implementation in the selected schools in the Eastern Cape Province. There cannot be successful IQMS implementation without the use of effective monitoring and evaluation mechanisms. In other words, although 18% of the respondents agreed and 16% were unsure, evidence resulting from the evaluation of the findings in the above variables signifies that there are ineffective applications of monitoring and evaluation mechanisms which would render the IQMS implementation in the selected Eastern Cape Schools successful.

**Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

The assertion that the successful IQMS implementation, monitoring and evaluation are measured by variables encompassing: adopting a systematic IQMS implementation process, establish monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS’ strategic objectives, goals and mission have been achieved. This is confirmed in the findings of Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) which indicate that these factors significantly loaded on the common factor. It is, for instance, noted in Table 4.26 that adopting a systematic IQMS implementation process loads at 1(100%), establishing monitoring and establishing evaluation mechanisms significantly loads at .52(27%), and examining whether IQMS’ strategic objectives, goals and mission have been achieved loaded at .46(21%). In other words, the findings of confirmatory factor analysis echo Luthans and Peterson’s (2003) views in the literature review that the measuring and comparing standards enable the degree of variations between the actual performance and standards to be determined. Therefore, it is critical to determine the acceptable range of variations. Deviations which exceed this range become significant and need the managers’ attention.

In the comparison stage, Luthans and Peterson (2003) note that managers are particularly concerned with size and direction of the variation. Where deviations are identified to have exceeded the acceptable range of variations, management must take appropriate actions (Luthans & Peterson, 2003). There are, however, a number of options. These are that the management may do nothing, correct the deviations or can revise the standards. Besides the support that it derives from the integrated quality management theories in chapter two, the results of the Standardized Regression
Weights (Factor Loadings) and the Square Multiple Correlation Coefficient ($R^2$) are also within the context of Bollen and Davis’ (2009a:536) interpretation that at a criterion of $\pm .30$ to $\pm .40$, a variable is considered to be significant if a factor loading falls at $\pm .30$ to $\pm .40$ or above.

**Table 4.26: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

<table>
<thead>
<tr>
<th>Regression Weights (Factor Loadings)</th>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopt a systematic implementation process (ASIP)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Establish monitoring mechanisms (EMM)</td>
<td></td>
<td>.52</td>
</tr>
<tr>
<td>Examine whether objectives have been achieved (EOA)</td>
<td></td>
<td>.46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Squared Multiple Correlation Coefficients ($R^2$)</th>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopt a systematic implementation process (ASIP)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Establish monitoring mechanisms (EMM)</td>
<td></td>
<td>.27</td>
</tr>
<tr>
<td>Examine whether objectives have been achieved (EOA)</td>
<td></td>
<td>.21</td>
</tr>
</tbody>
</table>

The Squared Multiple Correlation Coefficient ($R^2$) indicated that the common factor was explained by 100% of the variance in adopting a systematic IQMS implementation process, 27% of the variance in establishing monitoring and establishing evaluation mechanisms, and 21% of the variance in examining whether IQMS’ strategic objectives, goals and mission have been achieved.
This further boosts the assertion that there is significant direct relationship between this construct and the observed variables. The modification indices which are indicated in Table 4.27 also indicate that there is model fitness. This is because a combination of GFI (1), RMR (.00), NFI(1), TLI (.00), and CFI (1) point out that the hypothesized model theory fits the observed data.
Table 4.27: Modification Indices (Alternative Fit Statistics)

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>0.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.57</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

In other words, the successful IQMS implementation is also dictated by the extent to which these essential key success factors are incorporated in the implementation process. It is also hypothesized in the IQMS implementation model that its effectiveness is also determined by the extent to which the ninth construct is considered. This last construct deals with undertaking the corrective management actions. The details of the findings are examined in the next section.

4.6 SECTION E: UNDERTAKE CORRECTIVE MANAGEMENT ACTIONS

The literature on integrated quality management systems indicate that the undertaking of the corrective actions is important because it enables management to apply strategies which may bring the deviated activities back on track. This subsequently leads to the significant improving ability to achieve the desired strategic objectives and goals of the organization’s quality initiative. In the literature review, it was noted that strategies which can be undertaken to improve the implementation of quality initiatives include: Total Quality Management, Business Process Re-engineering, six-sigma and benchmarking. In order to determine whether the schools in the Eastern Cape Province are using of the effective corrective management actions, it was hypothesized that:

Ho: The use of appropriate corrective actions can result in the successful IQMS implementation in the selected Eastern Cape Schools.
H1: The use of appropriate corrective actions may not result in the successful IQMS implementation in the selected Eastern Cape Schools.

This hypothesis determined the formulation of the last construct, and it argued that management must review processes, objectives and redesign the implementation strategies.

**Figure 4.28: The Fifth Construct: Undertaking Corrective Action**

Using the results of the exploratory factor analysis, it can be seen that the review of the IQMS implementation processes, significantly loads at .874 on this construct. In certain cases, the IQMS implementation could fail because of the processes, systems, strategies and methods which are being used. The use of monitoring and evaluation in the previous construct must in other words: provide sufficient information on whether the implementation glitches are related to the systems and methods which are being used. The ELRC (2003:12) document outlines that some of the improvement approaches may include: devising personal growth plan, developing the school improvement plan and the district improvement. Although, developing such improvement plans would depend on the kinds of problems which are identified during monitoring and evaluation, the empirical findings so far reveal that no improvement actions which relate to reviewing the IQMS implementation processes, systems and methods have been taken. However, the empirical findings further reveal that the
IQMS implementation in the South African schools has not been successful at all. This could explain why in Figure 4.15, it is indicated that 46% of the respondents disagreed that constant review of the IQMS implementation process is usually reviewed as part of the undertaking of the corrective management actions. Not only is the constant review of the IQMS implementation process one of the corrective measures which can be undertaken, it is also in Table 4.17 that the review and re-design of the IQMS implementation strategies significantly loads at .563 on the common factor.

**Table 4.28: Results of Exploratory Factor Analysis: Undertaking Corrective Action**

<table>
<thead>
<tr>
<th>Observed Variables: Undertake Corrective Actions</th>
<th>Factor Loadings</th>
<th>Extraction Criteria; Practical Significance Criterion ± .40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redesign of IQMS implementation Strategies</td>
<td>.563</td>
<td>± .40</td>
</tr>
<tr>
<td>There must be constant review of the implementation process</td>
<td>.874</td>
<td>± .40</td>
</tr>
<tr>
<td>There must be constant review of the IQMS objectives</td>
<td>.880</td>
<td>± .40</td>
</tr>
</tbody>
</table>

In the literature review, it is argued that if the source of the performance variation is unsatisfactory work, the manager will want to take corrective action. In such cases, the corrective action which can be taken may include: changing strategy, structure, compensation, training programmes, redesigning jobs or firing employees. A manager who decides to correct actual performance has to decide whether immediate or basic corrective actions should be taken. Immediate corrective action corrects problems at once in order to get performance on track, and basic corrective action looks at how and why performance has deviated and then proceeds to correct the source of deviations. Nevertheless, literature review pointed out that it is not unusual for managers to rationalize that they do not have the time to take basic corrective action, and therefore must be content to perpetually put out fires with the immediate corrective actions. In other words, most managers are usually not willing to analyze the causes of the problems, and that usually leads to the undertaking of measures which are not exactly the solutions to the problems identified.
It is in that regard that it could be stated that 68% of the respondents disagreed that the re-design of the IQMS implementation strategies are not usually undertaken. This is because the re-design of a strategy is a basic and a process which would require a detailed analysis of why the IQMS is failing and thereafter suggest how strategies must be re-designed. In other words, it requires adequacy of skills in the strategic management process. On that basis, it is not surprising if 68% of the respondents disagreed that such corrective management actions are being undertaken. In addition, the review of the IQMS implementation objectives is also noted to significantly load at .880, and that points out that the successful implementation of IQMS can be achieved if the school not only reviews its standards, but also objectives. This is because there could be failures because the objectives and standards are set quite higher, and therefore renders achieving desired strategic objectives and goals difficult. It is, however, pointed out in the literature review that in such cases, it is the standard that needs corrective action, not performance. It must also be noted that the more troublesome problem is the revision of performance standards downwards in that if an
employee, work team, or work unit falls significantly short of reaching its goals, their natural response is to shift the blame for the variance to the goal.

It may be true that when standards are high, this can result in a significant variation and may even contribute to the de-motivating the employees being measured against such standards. However, if the employees or managers do not meet the standard, the first thing they are likely to attack is the standard, and it is better for the manager to hold the ground if he or she believes that the standard is realistic, fair and achievable, and instead must explain the position, reaffirm to the employees, team or units and then take the necessary corrective action to turn that expectation into reality. Although this variable significantly loads at .880, Figure 4.15 indicates that 22% of the respondents disagreed that it is being effectively used, and even if the majority of 44% of the respondents were noted to have agreed, the School Management Teams in the selected schools in the Eastern Cape Province must consider the reasons why the 22% disagreed, and 34% were unsure. The identification of such reasons may enhance management’s understanding of the actions which must be undertaken to ensure that the process for the review of the IQMS objectives and standards are clearly outlined.

**Confirmatory Factor Analysis: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

In the Standardized Regression Weights (Factor Loadings), it is noted in Table 4.29 that the redesign of IQMS implementation strategies significantly loads at .78, constant review of IQMS implementation process loads at .98, and constant review of the IQMS objectives loads at .89. In effect, it is generally clear that undertaking of the corrective action in the IQMS implementation process will not only depend on the extent to which the objectives and processes are reviewed, but also on the assessments of the strategies being used. This is because in certain cases, the kinds of strategies being used may be a challenge. Therefore, such a review could be used as a basis of identifying problems and devising and implementing new strategies. The extent to which the use of these measures may enhance the improvement of IQMS implementation is further explained in the Squared Multiple Correlation Coefficient ($R^2$) results which indicate that the common factor explains about 61% of the variance in the redesign of IQMS implementation strategies, 96% of the variance in constant
review of IQMS implementation process, and 90% of the variance in constant review of the IQMS objectives.

**Table 4.29: Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$)**

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Factor Loadings (Standardized Regression Weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redesign of IQMS implementation Strategies (RIQMS)</td>
<td>.78</td>
</tr>
<tr>
<td>There must be constant review of the implementation process (CRIP)</td>
<td>.98</td>
</tr>
<tr>
<td>There must be constant review of the IQMS objectives (CRIP)</td>
<td>.89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observed Variables</th>
<th>Squared Multiple Correlation Coefficient ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redesign of IQMS implementation Strategies (RIQMS)</td>
<td>.61</td>
</tr>
<tr>
<td>There must be constant review of the implementation process (CRIP)</td>
<td>.96</td>
</tr>
<tr>
<td>There must be constant review of the IQMS objectives (CRIP)</td>
<td>.90</td>
</tr>
</tbody>
</table>

In the context of Bollen and Davis’ (2009a:536) criterion of $±.30$ to $±.40$, the findings of Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) imply that the effectiveness of the IQMS corrective and improvement measures is influenced by the redesign of IQMS implementation strategies, constant review of the implementation process, and constant review of the IQMS objectives.
Although the results of the Standardized Regression Weights (Factor Loadings) and Squared Multiple Correlation Coefficient ($R^2$) did not directly confirm that the hypothesized theory in this construct fits well with the sample data, the results of the modification indices indicate that a significant number of indices indicate that the null hypothesis must be accepted. The GFI was one of the indices which was used, and its result of 1 indicates that the model fits well with the observed sample data. As Table 4.30 reveals, other indices were the RMR (.00), NFI (1), TLI (.00), and CFI (1). When all these indices are interpreted within the context of Haire et al. (2006), and
Hinkins (1995), would one construe that they imply that hypothesized construct fits well with the observed sample data.

**Table 4.30: Modification Indices (Alternative Fit Statistics)**

<table>
<thead>
<tr>
<th>Modification Indices (Alternative Fit Statistics)</th>
<th>Obtained Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI (Acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMR (Root Mean Residual, acceptable if falls between -4.0 and +4.0)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>NFI (Normed Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>TLI (Tucker Lewis Index, acceptable if it falls between 0 and 1)</td>
<td>.00</td>
<td>Acceptable</td>
</tr>
<tr>
<td>CFI (Comparative Fit Index, acceptable if falls between 0 and 1)</td>
<td>1</td>
<td>Acceptable</td>
</tr>
<tr>
<td>RMSEA (Root Mean Square Error of Approximation, acceptable if falls between 0.05 and 0.08)</td>
<td>.87</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

In effect, one would argue that the use of appropriate corrective measures would enhance the successful IQMS implementation in the selected schools in the Eastern Cape province.

**4.7 CONCLUSION ON CHAPTER FOUR: FINDINGS AND DISCUSSIONS**

Using the findings and the discussions in this chapter, one would argue that so far, the study has succeeded in fulfilling its overriding hypothesis and objective which was to determine whether the application of the IQMS Implementation model in Figure 1.1 (as derived from Chapter 1 of this Research Report) would significantly influence the successful IQMS implementation in the South African schools. The Evaluation of the discussions in this chapter indicates that the effectiveness of the IQMS implementation process is determined by the five constructs in the IQMS Implementation Model in Figure 1.1 and include: Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, Evaluations and Applications of the Improvement Actions.
With reference to the results of exploratory factor analysis and confirmatory factor analysis, it was noted that the theoretical assertions on the notion of “whole school evaluation”, performance management and developmental appraisals, incorporating key success factors, implementation, monitoring and evaluations, and undertaking corrective management measures as the constructs measuring the hypothesized IQMS implementation model was found to fit well with the observed sample data. In terms of tangibility, the findings proved that tangibility is determined by variables encompassing; the availability of scholastic materials, sports equipment and facilities, classrooms’ availability and size, and appearance of teachers and learners. The effectiveness of reliability in a typical public educational setting was confirmed in the exploratory and confirmatory factor analysis to be determined by three observed variables; knowledge and skills of teachers, adequate preparations by teachers, and School Management Team (SMT)’s sound management skills. While at the same time,
variables encompassing; teachers and learners arrive on time, SMTs respond quickly to problems, school principal respond quickly to complaints were noted to significantly load on responsiveness. On the other hand, the results of exploratory and confirmatory factor analysis also confirmed that empathy as an education service quality determinant is measured by the extent to which teachers and learners are sensitive to one another's feelings, and by the extent to which learners and teachers express humility to each other. The findings also revealed that assurance is measured by variables encompassing: willingness of teachers to teach, willingness of learners to learn, humility of learners and teachers, and the extent to which teachers and learners interact freely. The second main construct examined performance management and developmental appraisal processes. Exploratory and confirmatory factor analysis revealed that their effectiveness are measured by observed variables encompassing: well outlined purposes, appropriately outlined objectives, well established suitable criteria, appropriate standards, appropriate methods and techniques, considering hindrances of performance measurement and developmental appraisals, quality management principles, effective coordination of activities, supporting information systems, stakeholders involvement, budget allocation, training and education, and change management strategies. In the third construct, the findings indicated that the successful IQMS implementation, monitoring and evaluation are measured by variables encompassing: adopting a systematic IQMS implementation process, establish monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS' strategic objectives, goals and mission have been achieved. The undertaking of corrective management actions was noted in the exploratory and confirmatory factor analysis to be significantly determined by the extent to which management must review processes, objectives and redesign the IQMS implementation strategies. Conclusively therefore, it cannot be doubted that the hypothesized IQMS implementation model perfectly fits the observed sample data. The next chapter examines the general conclusions, management implications, and recommendations of the study.
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

The discussions in the previous chapters indicate that it is clear that the primary purpose of the study has been to evaluate processes, systems, methods and techniques for IQMS implementation in the selected Eastern Cape schools so as to develop a model which could be used for improving the IQMS implementation in South African schools. In line with this overriding motive of the study, this chapter examines the general conclusion and recommendations for the study. Overall, it is indicated in the discussions in this chapter that the general interpretations of the theories in Chapters 1 and 2, and the results of the exploratory factor analysis and confirmatory factor analysis in Chapter 4 of this research report imply that the key research findings of this study include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of the Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions.

In effect, it is indicated in the chapter that it is concluded that the overall key findings for the study are at par with the ratiocination in the overriding hypothesis that the five constructs in the IQMS Implementation Model in Figure 1.1 and include: Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, Evaluations and Applications of the Improvement Actions.

Using these interpretations, the discussions in the chapter points out that to a significant extent, this study fulfils its overriding objective which was to determine the IQMS implementation model which must be postulated for improving the process for the implementation of the integrated quality management systems in the South African schools. Bases on these overall findings of the study, the study recommends that the Eastern Cape Department of Education must adopt the IQMS implementation Model in Figure 1.1 in order to effective implement its integrated quality management
systems. Despite examining the limitations of the study, the chapter also discussed the area for further research.

5.2 CONCLUSIONS AND KEY FINDINGS OF THE RESEARCH

The discussions in the Chapter 1 of this research report indicates that this research was derived from the fact that despite the implementation of the integrated quality management systems in the South African schools in 2003, authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) reveal that the processes for the delivery of public education in the South African schools is still marred with inefficiencies, poorly skilled educators, poor infrastructure, and high failure rates at the matric levels. The interpretations of the theories in the Chapter 1 of this research report also indicates that Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) note that the successful IQMS implementation in South African schools is still marred by lack application of well-defined framework, shortage of skills, and lack of interest and unwillingness of educators to ensure that IQMS implementation is successful.

While basing on these theories in conjunction with the interpretations of the other integrated quality management literatures and theories, the discussions in chapters 1, 2 and 3 indicate that the study posits in its overriding hypothesis that the successful application of the IQMS Implementation Model in Figure 1.1(as replicated from Chapter 1 of this Research Report) would significantly influence the effective monitoring, evaluations and improvement in the quality of public education which is provided in the modern South African schools.

However, the study also posits in its overriding hypothesis that the extent to which the application of the IQMS Implementation Model in Figure 1.1 is able to significantly influence the successfully monitor and evaluate the quality of public education which is provided in the modern South African schools is significantly measured by the extent to which the department of education is able to integrate the five constructs that include: considering the notion of “quality” and whole school evaluation, performance management and developmental appraisals, considering key success factors for IQMS implementation, the use of appropriate implementation processes, systems and methods, and undertaking constant monitoring, evaluations and improvement actions as part of the core determinants that influence the successful IQMS implementation.
In line with these five IQMS Implementation constructs, it is also clear that throughout the discussions in this thesis, the research objectives, questions and hypotheses were directed towards examining:

- How whole school evaluation affects IQMS implementation in the selected Eastern Cape Schools;
- How performance measurement and appraisals influence the successful IQMS implementation in the selected Eastern Cape Schools;
- The key success factors that influence the successful IQMS implementation in the selected Eastern Cape Schools;
- The measures for improving the implementation, monitoring and evaluating of IQMS implementations in the selected Eastern Cape Schools; and
How the application of corrective and improvement measures affect successful IQMS implementation in the selected Eastern Cape Schools.

In order to achieve these research objectives and to determine the fitness of the IQMS Implementation Model in Figure 1.1, the discussions in Chapters 1, 2 and 3 indicate that despite the thorough review of the relevant integrated quality management literatures and theories, the study also applied a combination of the exploratory factor analysis and confirmatory factory factor analysis. As demonstrated in the next discussions, the key findings arising from the secondary and primary research converge around the five constructs that are outlined in the IQMS Implementation Model in Figure 1.1 to include: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions. In the discussions in Chapter 4 of this research report, it was interpreted that these five key findings do not only support the five research objectives, questions and hypotheses in Chapter 1 of this research report, but also the postulation in the overriding hypothesis in Figure 1.1 that the successful IQMS implementation in the South African schools can be significantly influenced by the application of the IQMS implementation model that effectively integrates the five key constructs that encompass: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Actions. The details are as discussed in the conclusion of the key findings of the research in the next sub-section.

5.2.1 Key Research Finding 1: Considering the Notion of “Quality” and Whole School Evaluation

The overall evaluations of the theoretical and primary findings of this study implies that in the increasing complex modern public educational setting, it is practically impossible to successfully implement an integrated quality management system in the modern public education setting without considering the notion of quality and whole school evaluation. Such a view is attributable to the fact that the interpretations of the theories
in chapter 2 and the results of the exploratory and confirmatory factor analysis in Chapter 4 of this research indicate that considering the Notion of “Quality” and Whole School Evaluation is one of the key constructs that influences the successful implementation of the IQMS model. Since such a view not only supports one of the key constructs in the postulated IQMS Implementation Model in Figure 1.1, but also the research objectives and questions of the study, it can be clearly concluded that considering the notion of quality and whole school evaluation is one of the key findings that results from the overall analysis of the secondary and primary findings of this research. The notion that considering the Notion of “Quality” and Whole School Evaluation significantly influences the successful IQMS implementation contradicts the interpretation in the ELRC (2003) that whole school evaluation must only concern the evaluation of the curriculum, teachers’ performance in class and attendance.

It is construed in the ELRC’s (2003) IQMS implementation model that whole school evaluation involves the process of assessing and evaluating schools’ effectiveness and the quality of teaching and learning. The ELRC (2003) does not link nor mention how quality must be explained. That certainly not only explains the gap in the theory but shortfalls in the application of IQMS in South African schools. In other words, the general evaluation of the literatures and theories on integrated quality management provides a totally different perspective about the determinants of the effectiveness of quality evaluation in a typical educational or service setting. At the epicentre of the determinants of the effectiveness of quality evaluations, the evaluations of the theories in Chapter 2 of this research report imply that a consensus exists among different authors that the application of the model comparable to the Parasuraman et al.’s (1985) SERVQUAL Model significantly influences the effectiveness of the quality evaluation processes and outcomes.

The application of Parasuraman et al.’s (1985) SERVQUAL Model is able to effectively influence the effectiveness of the quality evaluation processes and outcomes on the basis that it enhances the evaluation of quality on the five important dimensions that include; tangibility, reliability, responsiveness, empathy and assurance. This is a view that supports the results of exploratory and confirmatory factor analysis which confirmed the postulation in Figure 1.1 that the effectiveness of school quality evaluators is measured by the five key sub-constructs and the associated variables that include: Tangibility (Physical aspects of schools), reliability, responsiveness,
assurance and empathy. On that basis, it is clear that the overall findings of this study effectively clarifies that the conceptual implication of the findings of this study for the implementation of the ELRC’s (2003:1) framework is that whole school evaluation goes beyond the mere evaluation of the process of teaching and learning to encompass assessing the environment within which teaching and learning takes place, the attitudes of teachers and learners, responsiveness of teachers, learners and school management team. This implies that contrary to the present practice in the South African department of education, the integration of the five service quality evaluation dimensions that include tangibility, reliability, responsiveness, empathy and assurance significantly influence the effective evaluation of the education of the education quality in the South African schools.

The integration of the tangibility as an essential service quality dimension signifies that during the IQMS implementation, the South African schools will also have to evaluate the tangibility of the school that include classroom availability and size, sports’ equipment and facilities, scholastic materials, appearance of teachers and learners, and the general school environment. In conjunction with the evaluation of tangibility of the schools, the evaluators will also have to evaluate the reliability of the schools by examining knowledge and skills of teachers, teachers’ preparations for lessons, and the management skills of SMT. Under responsiveness, the educators and learners must arrive on time, SMTs and school principals should respond quickly to problems. Regarding the evaluation of empathy among the school staff, the evaluators must assess whether teachers and learners are sensitive to one another’s feelings, and whether learners and teachers also express humility to each other. On the other hand, the evaluation of the assurance of the schools implies that the evaluators must assess the willingness of teachers to teach, willingness of learners to learn, humility of learners and teachers, and level of teachers’ interactions with learners.

Certainly, with a strong theoretical support which is further echoed in the results of the exploratory and confirmatory factor analysis that confirm the position in the first construct that determine the IQMS Implementation Model in Figure 1.1, it can be conclusively stated that the notion considering the Notion of “Quality” and Whole School Evaluation significantly influences the successful IQMS implementation is one of the key findings of this research. In addition to this construct, the general interpretations of the secondary and primary findings also indicate that the strict
adherence to the appropriate processes of performance management and developmental appraisal is one of the other key findings of this research.

**5.2.2 Key Research Finding 2: Performance Management and Developmental Appraisals**

In conjunction with considering the notion of quality and whole school evaluation, the general analysis and interpretation of the secondary and primary research findings for this study imply that the application the effective application of performance management and developmental appraisals is one of the constructs that influences the effective IQMS implementation. In other words, as it had been previously been conceptualized in the IQMS Implementation Model in Figure 1.1, this is an assertion which is not only supported in the literature findings in chapter 2, but also in the results of the exploratory and confirmatory factor analysis. These imply that whereas considering the notion of quality and whole school evaluation may not directly touch on the staff evaluations, performance management and developmental appraisals enables the organization effectively and directly evaluate, measure, improve, and manage the performances of the ordinary educators. The effective evaluation and management of the performance of the educators significantly influences the identification and correction of the educators’ performances that are off track the prescribed performance plan. When effectively accomplished, performance management can impact positively on improving the quality of the tasks that are performed by the educators and subsequently the improvement in the kinds of the quality of the public education which is provided. However, in the context of the theoretical and primary findings, the extent at which performance management would influence the improvement in the quality of the provided public education is significantly measured by the extent to which the performance management is applied in conjunction with the developmental appraisal. Such a view resonates with the fact that it is indicated in the theoretical findings and the results of exploratory and confirmatory factor analysis that developmental appraisals influence enhances the evaluations and identifications of the areas of shortfalls in the employees’ performance and determining the training and developmental needs that must be put in place to improve the competencies and skills of the employees to deal with such challenges and improve on the quality of their work.
However, the extent to which developmental appraisal is able to influence the improvement in the quality of education is significantly determined by the willingness of the education management to invest significant amount of resources in designing of the training programmes that are relevant to the challenges identified and the commitment of the employees to apply the newly acquired skills and competencies in the improvement of the quality of the performance of the allocated tasks. This implies that that the ELRC (2003:1) must redefine its process for undertaking performance measurement and appraisals. Such a view is based on the fact that the theoretical analysis indicates that the ELRC (2003:22) only limits the purpose of performance measurement to the mere evaluation of the individual educators for salary progression purposes, affirmation of appointment, grade progression, rewards and incentives. On the other hand, the purpose of developmental appraisal is noted by the ELRC (2003:22) to refer to the process of appraising individual educators so as to determine areas of strengths and weaknesses to improve planning for individual career development programmes. In other words, the ELRC (2003:22) construes that the effectiveness of performance measurement and appraisals during IQMS implementation is measured by such factors.

Despite the fact that the prescription in the ELRC (2003) is not supported by the core theories on quality management, the general analysis implies that there is a general consensus in the theoretical findings and the results of exploratory and confirmatory factor analysis that the effectiveness of performance measurement and developmental appraisals is measured by variables encompassing: well-outlined purposes, appropriately outlined objectives, well-established suitable criteria, appropriate standards, appropriate methods and techniques, and all hindrances of performance measurement and developmental appraisals must be considered. At the same time, the theoretical findings and the results of exploratory and confirmatory factor analysis are echoed in Moisello (2012:57), Kim (2011:19), Kuhlmann (2010:334) and Rao’s (2006:335) views that the effectiveness of the performance management and developmental appraisals is measured by the extent to which it is directed towards achieving the main purposes that include: strategic, administrative and developmental purposes. In addition, it is also clear that the theoretical and primary findings of this study indicate that the clear outline of the purposes of performance management and developmental appraisals must be accompanied with the measures to enhance the
application of the individual and multiple evaluation techniques so as to ensure that the weaknesses of one set of techniques are outplayed by the strengths of the other set of techniques.

In other words, the theoretical and primary findings of this research does not only support the assertion in the first construct in the IQMS Implementation Model in Figure 1.1 that performance management and developmental appraisal is one of the key constructs that influences the successful IQMS implementation, but also perfectly fulfill the second research objective and question that concerned examining whether performance management and developmental appraisal is one of the constructs that determines the successful IQMS implementation. On that basis, it can be concluded that in the light of the findings of this research the performance management and developmental appraisal as one of the key constructs that influences the successful IQMS implementation is one of the key findings of this research.

5.2.3 Key Research Finding 3: Considering Key Success Factors for IQMS Implementation

The other implication arising from this study is that the formulation and implementation of the integrated quality management systems in modern organizations must consider the influence of key factors on its success. The theoretical analysis of the entire ELRC (2003:12) IQMS implementation framework ignores incorporation of key success factors as one of the constructs determining successful IQMS implementation in South African schools. This implies that the effectiveness of its practical applications also remain limited. On the other hand theoretical analysis also reveals that the National Association of Health Care Quality Canada (2010:1), Pun (1998:1), Fasset (2004:7), Heizer (2006:198) and Jha (2004;34) posit that successful implementation of IQMS can never be achievable; unless keen management attention is paid to certain key factors both before, during and after implementation. It is pointed out in the theoretical analysis that the National Association of Health Care Quality Canada (2010:1), Pun (1998:1), Fasset (2004:7), Heizer (2006:198) and Jha (2004;34) noted that such factors include essential quality management principles, effective coordination of activities, selection of effective implementation process models, compatibility with other management systems, establishing appropriate employee participation programmes and engaging appropriate change management strategies. These
factors were confirmed in the confirmatory factor analysis to significantly determine successful IQMS implementation in the South African schools. This implies that the findings will also influence the way IQMS implementation in South African schools is perceived. This is because it had been perceived by the ELRC (2003:1) that IQMS is significantly only determined by whole school evaluation and performance measurement and developmental appraisal.

However, as the findings imply, the ELRC’s (2003:1) IQMS implementation framework was limited by lack of considering key success factors. That explains why studies conducted by authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) concluded that successful IQMS implementation in South African schools is still marred by lack application of well defined framework, shortage of skills, and lack of interest and unwillingness of educators to ensure that IQMS implementation is successful. This is because the findings of confirmatory factor analysis reveal that key success factors such as quality management principles, effective coordination of activities, supporting information systems, stakeholders’ involvement, budget allocation, training and education, and change management strategies enhance ordinary employees’ understandings of key processes and approach which are required in IQMS implementation. Through that, employees satisfaction, motivation and commitment are induced to mitigate resistance and sabotage that could significantly affect successful IQMS implementation. The implication of these findings for integrated quality management literature hinges on the fact that theorists will have to be conversant that without incorporating the essential key success factors, IQMS implementation in any organization may not be successful.

Although the National Association of Health Care Quality Canada (2010:1), Pun (1998:1), Fasset (2004:7), Heizer (2006:198) and Jha (2004:34) construe that considering key success factors essential, the results of confirmatory factor analysis suggest that their frameworks are ineffective for improving successful IQMS implementation because they only stress the importance of key success factors without demonstrating how it links with other constructs in the model. Nonetheless, as the findings of the study imply, the IQMS implementation may not also be successful without outlining the processes through which it must be implemented, monitored and evaluated.
5.2.4 Key Research Finding 4: The Use of Appropriate Implementation Processes

This study is also associated with the theoretical implication that a framework of integrated quality management framework that does not clearly define processes and steps for its implementation may not significantly result into improving the organizational quality management. The ELRC (2003:12) prescribes three main steps for the IQMS implementation; Advocacy, training and planning, evaluation, and feedback and discussions. ELRC (2003:13) stipulates that each individual educator’s performance must be measured against the stipulated performance standards of the IQMS document. However, the results of confirmatory factor analysis indicate that the successful IQMS implementation, monitoring and evaluation are measured by variables encompassing: adopting a systematic IQMS implementation process, establish monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS’ strategic objectives, goals and mission have been achieved. Contrary to the ELRC’s (2003) views, the results of the study are to some extent consonant with Pun’s (1998:1) assertion that the overall process for quality management includes step 1: establish missions and goals, step 2: identify the customers, step 3: discover customers’ needs, step 4: develop the product or service, step 5: develop process, and step 6: develop process/controls/transfers to operations.

Although, the findings are consonant with Pun’s (1998:1) theory, the findings of the study also has certain limitations for Pun’s (1998) theory on the basis that the IQMS implementation framework postulated in this study suggests that there are five constructs determining successful IQMS implementation. As Figure 1.1 illustrates, the model posits that the five constructs encompass (1) Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Undertaking Constant Monitoring, Evaluations and Improvement Actions. Using these constructs, one would construe that Pun’s (1998:1) theory only outlines the process for IQMS implementation, and excludes other essential constructs such as the notion of quality and whole school evaluation, performance measurement and appraisal, key success factors and application of corrective and improvement actions. As per the
findings of this study, theoretically, Pun’s (1998:1) theory is just as limited as the IQMS implementation framework postulated in the ELRC (2003:1).

In other words, the findings imply that successful IQMS implementation in modern organizations can only be effectively accomplished in modern organizations if the implementation process is accompanied with the application of appropriate framework to monitor, evaluate, and control activities. This is because, as the findings of the study suggest successful monitoring and evaluations of activities enhance identification and correction of deviations. Unlike other quality management theories, the findings of the study imply that quality management is logical, system and chronological by virtue of the fact that the deviations identified as a result of applications of such monitoring and evaluation frameworks determine the kinds of corrective and quality improvement actions that must be taken.

5.2.5 Key Research Finding 5: Constant Monitoring, Evaluations and Applications of the Improvement Actions

Hand in hand with the above the general conclusion resulting from the theoretical and primary findings do not only support the fifth research objective and question, but also the assertion in the fifth construct in the IQMS implementation Model in Figure 1.1 that the constant monitoring, evaluation, and applications of the improvement measures is one of the constructs influencing the successful IQMS implementation. In line with such findings, it can be concluded that constant monitoring, evaluations and applications of the measures is one of the key research finding that resulted from this study. This implies that it is practically impossible to effectively implement IQMS in the South African schools without the constant measures to monitor, evaluate and improve the processes for its implementation to ensure that it results into the achievement of the defined strategic objectives and goals. The constant monitoring, evaluation, and application of the improvement measures influences the identification of the deviations and application of the corrective and improvement measures to ensure that the IQMS implementation results in the achievement of the outlined strategic objectives and goals.

The findings are supported by Gupta and Sharma (2003:11) that applying corrective and improvement actions is last step in any quality management process that minimizes the resources’ wastage by identifying and correcting early deviations. In
order for it to be effective, in the context of the theoretical findings that are articulated by the authors such as Robbins and Coulter (2003:498) and supported in the primary findings, the integration of the processes of monitoring and correcting deviations must start from the beginning of strategy implementation and follow through until the strategies are successfully implemented. Through these, the education system would be able to avoid a significant number of challenges that would have interfered with the processes for IQMS implementation.

Conceptually, Robbins and Coulter (2003:498) seem to agree with the primary findings of the study that it is important that the ordinary employees are motivated and encouraged to be constantly committed by ensuring that IQMS implementation is a success. In other words, the findings of this study imply that the application of corrective and improvement measures enables organizations redefine course of actions to a manner that fits well with the implemented integrated quality management strategy, and subsequently influences the extent to which the IQMS implementation can be successful. In order to accomplish these, the results of confirmatory factor analysis indicates that successful IQMS implementation, monitoring and evaluation are measured by variables encompassing; adopting a systematic IQMS implementation process, establish monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS’ strategic objectives, goals and mission have been achieved.

The ELRC (2003:34) stated that measures for improving performance include the personal growth plan, school improvement plan, and district improvement plan. However, the results of confirmatory factor analysis imply that the application of such three measures is ineffective for realizing successful IQMS implementation in South African schools. Despite such different, the general conclusion of this implies that a consensus exists in theories and primary findings that the constant monitoring, evaluations and application of improvement measures influences the successful IQMS implementation. This is a finding which not only supports the fifth construct in the IQMS implementation model in Figure 1.1, but also the fifth research objective and question. On that basis, it is concluded that the overall findings of the study indicate that constant monitoring, evaluation, and application of the improvement measures is one of the key research findings of this study.
5.3 Conclusion in the Context of the Research Problem and Postulation of the IQMS Implementation Model in Figure 1.1

While deriving from the above discussions, it is possible to conclude that the general interpretations of the theories in Chapters 1 and 2, and the results of the exploratory factor analysis and confirmatory factor analysis in Chapter 4 of this Research Report imply that the key research findings of this study include:

Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the use of the appropriate implementation processes, systems and methods, and undertaking constant monitoring, evaluations and improvement actions.

On that basis, it also be concluded that the overall key findings for the study are at par with the ratiocination in the overriding hypothesis that the five constructs in the IQMS Implementation Model in Figure 1.1 and include:

(1) Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, Evaluations and Applications of the Improvement Actions.
In other words, this study has not only fulfilled its primary research objective which was to develop an effective model for successful IQMS implementation in the selected Eastern Cape schools, but has also fulfilled its ulterior motive of providing the IQMS model which would result into the curing of the gaps arising from an effective IQMS implementation framework. In terms of the research problem, these five key research findings imply that using the three constructs that are outlined in the ELRC (2003) is unlikely to significantly influence the successful IQMS implementation in the South African schools. On that basis, it is recommended that the Eastern Cape Department of Education must adopt the IQMS implementation Model in Figure 1.1 in order to effective implement its integrated quality management systems.
5.3 RECOMMENDATIONS IN THE CONTEXT OF THE APPLICATION OF THE IQMS IMPLEMENTATION MODEL IN FIGURE 1.1

From the findings of this study, and considering the fact that the results of exploratory and confirmatory factor analysis indicate that the application of the IQMS implementation model in Figure 1.1 would significantly influence the successful implementations of the integrated quality management systems in the South African schools, it is important that the Eastern Cape Department of Education must consider accomplishing the implementation of its integrated quality management systems along the five constructs, steps and processes which are outlined in the IQMS Implementation Model in Figure 1.1. The following subsections reflect the description and explanations of how the Eastern Cape Department of Education can go about implementing its integrated quality management systems along the five key constructs in Figure 1.1.

5.3.1 Re-evaluating the concept of “Quality and Whole School Evaluation”

Considering the limited interpretation of the meaning which is attributed to the notion of whole school evaluation and quality management in a public education setting, the Eastern Cape Department of Education will need to review the way the concept of quality and whole school evaluation is being perceived in the IQMS implementation process. In order for it to be effective, such a review must involve the detailed considering of the concept of quality on the basis that the theoretical findings revealed that it is difficult to effectively evaluate the concept of quality in a pure service setting without using the Parasuraman et al.’s (1985) five service quality dimensions. These dimensions are: tangibility, reliability, responsiveness, empathy and assurance. Figure 3.1 which is replicated from chapter 3 of this research report provide illustrations of the steps and key quality factors which the Eastern Cape Department of Education must consider in the review of its notion of “quality and the whole school evaluation.” As it is demonstrated in Figure 3.1, it is noted that in the process of reviewing the notion of “quality and whole school evaluation”, tangibility must be the first education service quality dimension which must be considered. The use of tangibility in the education service quality evaluation will imply that the Eastern Cape Department of Education will need to examine whether there are sufficient and available scholastic materials, and sports equipment and facilities.
In addition, the Eastern Cape Department of Education will also have to assess whether in a particular school setting, there is exist a sufficient number of classrooms and whether they are of suitable sizes. The use of tangibility would also require the Eastern Cape Department of Education to examine whether the environments within its learning processes are appropriate. This will not only involve examining the physical environment in terms of cleanliness and the appearance of learners and teachers. In addition to assessing reliability, the Eastern Cape Department of Education will also need to examine reliability. In the process of assessing
reliability, the illustration in Figure 3.1 implies that the Eastern Cape Department of Education will as well need to examine whether its teachers are appropriately skilled and knowledgeable. In addition, its assessments will also extend to considering whether its teachers adequately prepare for lessons and whether the way activities are being managed reveal that the School Management Teams have sufficient and sound management skills. The Eastern Cape Department of Education must also note that its notion of quality and whole school evaluation will not be effectively accomplished unless if the degree of responsiveness is examined in addition to tangibility and reliability.

During the evaluation of responsiveness, the Eastern Cape Department of Education will have to examine whether the schools within the province are agile and able to positively react to the needs and wants of learners and the community in a given point of time. The agility and the ability to meet these needs and wants will be effectively measured if the Eastern Cape Department of Education examines the speed at which the schools react to solving the learners’ complaints and problems, and other matters that may need urgent attention of the school authorities. In line with the illustration in Figure 3.1, the evaluation of empathy would also be significant towards the improving of quality and whole school evaluation, and the successful IQMS implementation in the Eastern Cape Province. In the process of assessing the effectiveness of empathy as an education service quality determinant, the Eastern Cape Department of Education will have to examine the extent to which teachers and learners are sensitive to one another’s feelings, as well as the extent to which learners and teachers express humility to each other. Finally, the Eastern Cape Department of Education will have to examine assurance as one of the essential quality and whole school evaluation determinant. In order to effectively evaluate assurance, the Eastern Cape Department of Education will have to examine the; willingness of teachers to teach, willingness of learners to learn, humbleness of learners and teachers, and the extent to which teachers and learners interact freely. Nonetheless, it is anticipated that the use of these five service quality determinants will enable the Eastern Cape Department of Education to effectively assess its quality and whole school education. This may not only lead to improving education quality, but also the improving result on IQMS implementation. However, it is important to note that the Eastern Cape Department of Education will not easily realize improving IQMS implementation, unless if the process is accompanied with the effective undertaking of performance management and evaluations.
5.3.2 Effectively accomplish the processes in performance management and developmental appraisals

Despite the fact that the application of the quality evaluation techniques in the first construct would enable the Eastern Cape Department of Education evaluate the quality of the entire school, the application of the appropriate performance management and development appraisals will render it possible for the Eastern Cape Department of Education to directly evaluate the attributes and they things that determine the effectiveness of the teachers’ performance. However, in the context of the illustration in Figure 3.2, there must be integration between the application of the notion of quality and whole school evaluation in the first construct and performance management and developmental appraisals as part of the integrated quality management systems that effectively influence the effective evaluations of the kinds of the quality of public education which is provided in the Eastern Cape Schools. Such a view resonates with the fact that as much as the evaluation of quality in the first construct would render it possible for the Eastern Cape Department of Education to evaluate the responsiveness, empathy and assurance of the teachers, performance management can be used to ensure that the processes that the teachers undergo in the accomplishment of their teaching activities are within the prescribed framework that significantly contributes to improving the ability to achieve the outlined strategic educational purposes.

In the context of the illustration in Figure 3.2, pursuing such an initiative implies that the Eastern Cape Department of Education will have to clearly determine the guiding objectives, purposes, standards and techniques that can be used in the management of the teachers’ performance. The clear outline of the objectives, purposes, standards and techniques would render it easier for the ordinary educators to be conversant about what are expected of them in order to render the effective accomplishment of the allocated tasks and the attainment of the quality objectives possible. Hand in hand with the effective performance management, Figure 3.2 also illustrates that the Eastern Cape Department of Education must also effectively conduct developmental appraisal as part of the bid to improve the quality of public education in the Eastern Cape schools. Unlike the present prescription in the ELRC (2003), the Eastern Cape Department of Education must ensure that the purposes of the developmental appraisals are not only limited to the evaluation for the purposes of salary progression.
This is attributed to the fact that the tendency to limit the purpose of developmental appraisal to salary progression though and been interpreted to result into motivating the educators, it may instead be misinterpreted by the educators to divert the processes of development appraisals from achieving the intended purposes that usually include; strategic and administrative purposes. In other words, the Eastern Cape Department of Education must ensure that developmental appraisal is used for achieving the strategic objectives that not only involve identifying the key challenges marring the effective performance of the ordinary educators, but also the assessment of how such challenges can be mitigated or ameliorated to render the attainment of the defined education quality objectives possible. In order to effectively accomplish the developmental appraisals, the Eastern Cape Department of Education will have to ensure that in the context of the illustration in Figure 3.2, a combination of the different techniques that encompass; individual and multiple evaluation methods are used. The application of a combination of these appraisal techniques would render it possible for the Eastern Cape Department of Education to use the strengths of one set of techniques to outplay the weaknesses of the other. In other words, such an approach would present a direct contrast to the existing situation in which only a single appraisal...
technique is used. Nonetheless, as demonstrated in the discussions in the next sub-section, the Eastern Cape Department of Education will also have to consider certain essential key success factors.

5.3.3 Ensuring the IQMS Implementation Key Success Factors

In the context of the illustration in Figure 3.3, considering the essential key success factors would enable the Eastern Cape Department of Education successfully evaluate the quality of the public education which is provided by the schools in the Eastern Cape Province.

**Figure 3.3: The Third Construct: Incorporating Key Success Factors for IQMS Implementation**

This view is based on the fact that the effective implementation of the notion of quality and whole school evaluation, and performance management and developmental appraisal is significantly predicted by the commitment of the educators, staff, and management, existence of sufficient financial resources and constant training and developing. Given the fact that the primary findings and the theoretical interpretations indicate that the successful IQMS implementation in the Eastern schools is still marred by lack of staff commitment, and sufficient resources, it is recommended in the context of the illustration in Figure 3.3 that the Eastern Cape Department of Education will also have to ensure that all the IQMS key success factors are properly implemented. As Figure 3.3 illustrates, the essential key success factors which the Eastern Cape
Department of Education must consider in the processes of the IQMS implementation in the Eastern Cape schools include; quality management principles, effective coordination of activities, supporting information systems, stakeholders involvement, budget allocation, training and education, and change management strategies. Consideration of the essential quality management principles would render it possible for the Eastern Cape Department of Education to evaluate and assess whether the processes that are used in the education quality evaluations are effective or not. The use of the information systems will not only render it possible for the Eastern Cape Department of Education to coordinate the processes of the IQMS implementation, but also gathering and storage of relevant information that enhances the assessment of the successes and factors marring the effective IQMS implementation.

However, besides the fact that stakeholder involvement would improve on the commitments of the educators in the Eastern Cape Department of Education to ensure that IQMS is successfully implemented, the application of the change management strategies would render the change and transformations in attitudes towards the direction that enhances the successful IQMS implementation possible. In addition, the Eastern Cape Department of Education will also have to consider constant training and development of the ordinary educators as one of the key success factors for the implementation of the IQMS in the Eastern Cape Department of Education. It is important that the Eastern Cape Department of Education notes that in processes of evaluations, certain challenges that are related to competence and skills of the educators might be identified. As such, the Eastern Cape Department of Education will have to note that through training and development, they will not only be able to deal with such challenges, but also improve the skills and competencies of the educators to perform at the desired and prescribed quality standards. It is therefore on that basis that it is recommended in this research that considering the certain key essential factors would significantly influence the successful IQMS implementation in the Eastern Cape Province. However, that will also strongly depend on the kinds of the implementation, evaluation and monitoring measures that are put in place.
5.3.4 Following the Appropriate Processes for IQMS Implementation, Monitoring and Evaluation

The use of the appropriate processes for IQMS implementation would facilitate the effective phase and phase evaluations and corrections of the deviations from the prescribed processes of IQMS implementation. Such evaluation, as compared to the random approach which is presently used in the Eastern Cape Department of Education, would significantly influence the early identification and correction of deviations. In order to effectively accomplish, the prescription in Figure 3.4 imply that the Eastern Cape Department of Education must follow the measures encompassing: adopting a systematic IQMS implementation process, establishing monitoring mechanisms, establishing evaluation mechanisms, and examining whether IQMS’ strategic objectives, goals and mission have been achieved.

Figure 3.4: The Fourth Construct: IQMS implementation, monitoring and Evaluations

In other words, the use of the systematic phase and phase approach for the IQMS implementation must be accompanied with the constant monitoring and evaluations in order to ensure that the IQMS implementation is in accord with the prescribed processes and are most likely to result into the achievement of the outlined strategic IQMS objectives and goals. Such a view is based on the findings that the ELRC (2003) does not outline the chronological and systematic process for IQMS evaluation on the basis that they do not point how performance measurement and appraisal link well with the notion of quality and whole school evaluation. This means that their views do
not fill the gap existing in theories prescribing effective process for IQMS implementation. Conceptually, this study fills this gap by not only treating performance measurement and appraisal as one of the constructs, but also links it with other constructs determining successful IQMS implementation. Certainly, the effective monitoring and evaluations would render it possible for the Eastern Cape Department of Education to determine the corrective and improvement measures that must be applied.

5.3.5 The Application of the Appropriate Corrective and Improvement Measures

Depending on the deviations which are detected using the mechanisms in the previous section, the Eastern Cape Department of Education can apply the appropriate corrective and improvement measures to ensure that the deviations are corrected and the IQMS implementation processes are influenced towards the achievement of its defined objectives. Although some of the remedial measures will require the Eastern Cape Department of Education to review the IQMS objectives or review the IQMS implementation processes, the other measures may require the redesigning of the IQMS implementation strategies.

Figure 3.5: The Application of the Appropriate Corrective and Improvement Measures

The kinds of the strategies that can be applied may encompass the integration of certain elements Total Quality Management, re-engineering of the school working...
processes and change management strategies to ensure that the attitudes and behaviours of the educators are influenced towards the direction that support the effective and successful implementation of the IQMS in the Eastern Cape schools. In conjunction with these measures, the Eastern Cape Department of Education will also have ensure that the managers and the school principals are not only committed, but also emulate the behaviours and management approach that would influence the successful IQMS implementation. Nonetheless, the Eastern Cape Department of Education must also note that the process for the applications of these five key constructs is cyclical, commencing with quality and whole school evaluation, the undertaking of performance management and developmental appraisals, considering the IQMS key success factors, using the appropriate IQMS implementation, monitoring and evaluation processes, and undertaking corrective management actions which subsequently sets the new stage for quality and whole school evaluation. In other words, it is a continuous process that must be constantly applied so as to identify deviations and improve the processes for the IQMS implementation.

5.4 LIMITATIONS OF THE RESEARCH

Despite the cost-related limitations, the processes for accomplishing this study was also limited by the existence of few prior studies which have been conducted locally not only in the Department of Education but also the integrated quality management systems in the other industries in South Africa. This hampered the effective interpretation of the measures that can be used to render the successful IQMS implementation possible in the South African schools. Such a view is attributed to the fact that due to the situational differences and variance in circumstances, it was difficult to effectively determine the situations and circumstances under which the effective implementation of the integrated quality management systems can fail in an educational setting. However, though relying on foreign theories, the study was able to compare, contrast, reconcile and integrate the core theories on quality management, performance management, key success factors and corrective and improvement measures to arrive at the logical conclusion on how the IQMS implementation must be accomplished in the South African schools.
5.5 THE AREA FOR FURTHER RESEARCH IN THE CONTEXT OF THE POSTULATED IQMS IMPLEMENTATION MODEL IN FIGURE 1.1

Throughout this study, the overall argument has been that the application of the five constructs' IQMS Implementation Model in Figure 1.1 would significantly influence the successful implementation of the integrated quality management systems in the South African. It is also noted that such a view is derived from the fact that despite the implementation of the integrated quality management systems in the South African schools in 2003 authors such as Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) reveal that the processes for the delivery of public education in the South African schools is still marred with inefficiencies, poorly skilled educators, poor infrastructures, and high failure rates at the metric levels. The discussions in Chapter 1 of this research report also indicates that although Biputh (2008:IV), Kanyane (2008:1) and Ramnarain (2008:V) highlight the limitations of IQMS implementation. They did not postulate the kinds of the strategies or models that can be used to improve the IQMS implementation in the South African schools. By postulating the model that can be used to improve the IQMS implementation in the South African schools, this study joins and induces the debate on the kinds of the IQMS implementation model that must be used in the processes of the IQMS implementation in the South African schools. On that basis, the suggested area for further research would be; “Evaluating the impact of appropriate standards’ setting on the successful IQMS implementation in the schools in the Eastern Cape schools.” Alternatively, it can focus on examining the application of the postulated IQMS Implementation model which can be used to improve the implementation of the integrated quality management systems in the other areas of the South African public sector organizations.

5.6 CONCLUSION

Overall, it is indicated in the discussions in this chapter that the general interpretations of the theories in Chapters 1 and 2, and the results of the exploratory factor analysis and confirmatory factor analysis in Chapter 4 of this Research Report imply that the key research findings of this study includes: Considering the Notion of “Quality” and Whole School Evaluation, Performance Management and Developmental Appraisals, Considering Key Success Factors for IQMS Implementation, the Use of the
Appropriate Implementation Processes, Systems and Methods, and Undertaking Constant Monitoring, Evaluations and Improvement Action. In effect, it is indicated in the chapter that it is concluded that the overall key findings for the study are at par with the ratiocination in the overriding hypothesis that the five constructs in the IQMS Implementation Model in Figure 1.1 and include: Considering the Notion of “Quality” and Whole School Evaluation, (2) Performance Management and Developmental Appraisals, (3) Considering Key Success Factors for IQMS Implementation, (4) the Use of Appropriate Implementation Processes, Systems and Methods, and (5) Constant Monitoring, Evaluations and Applications of the Improvement Actions. Using these interpretations, the discussions in the chapter points out that to a significant extent this study fulfils its overriding objective which was to determine the IQMS implementation model which must be postulated for improving the process for the implementation of the integrated quality management systems in the South African schools. Based on these overall findings of the study, it is recommended that the Eastern Cape Department of Education must adopt the IQMS implementation Model in Figure 1.1 in order to effective implement its integrated quality management systems. Despite examining the limitations of the study, the chapter also discussed the area for further research in which it was suggested that the area for further research would be: “Evaluating the impact of appropriate standards' setting on the successful IQMS implementation in the schools in the Eastern Cape schools.”
LIST OF REFERENCES FOR CHAPTER 5


APPENDIX 1: ETHICAL CLEARANCE

OFFICE OF THE HEAD: EDUCATION
Steve Vukile Tshwete Complex • Zone 6 • Zwelitsha • Eastern Cape
Private Bag X0032 • Bisho • 5605 • REPUBLIC OF SOUTH AFRICA
Tel: +27 (0)40 608 4208 • Fax: +27 (0)40 608 4249 • Website: www.ecdoe.gov.za

Enquiries: V.V. Mkona Email: viwe.mkona@edu.ecprov.gov.za:

Mr. Antony Matemba Sambumbu
60 Grey Street
Queenstown
5320

Dear Mr. Sambumbu

RE: PERMISSION TO CONDUCT RESEARCH

Receipt of your letter requesting to conduct research in Queenstown and Cofimvaba District is hereby acknowledged.

Permission is granted for you to conduct the research study under the following conditions.

1. Confidentially will be given respect it deserves.
2. The assumption is that you know all the ethics attached to the word “Professionalism”
3. Districts will participate voluntarily and access to information will be negotiated with official/s concerned.
4. Normal school tuition will not be disturbed.
5. Last but no means least, the copy of your thesis will be appreciated on your completion.

I wish you all the best in your endeavour to become a fully fledged Academic.

Yours sincerely

[Signature]

M.L. Ngwazi
ACTING HEAD EDUCATION
APPENDIX 2: LETTER TO RESPONDENTS

RESEARCH TOPIC; “A model for the implementation of IQMS in the selected Eastern Cape schools”

Dear Respondents

The purpose of this study is to evaluate the implementation of the current IQMS in the selected Eastern Cape Schools. Although the study may have the effect of improving the way IQMS is implemented, it is generally an academic exercise. Therefore, kindly feel free to provide your opinion on the statements contained in the questionnaire below according to the following scales:

Strongly Disagree—1, Disagree—2, Unsure—3, Agree—4, and Strongly Agree—5.

They way you answer the questionnaires will be strictly kept confidential.

In case you need to enquire about anything, you can find me on cellular phone number: 0726132457.

Thanks

Antony Matemba Sambumbu
APPENDIX 3: RESEARCH INSTRUMENT: QUESTIONNAIRE

SECTION A: QUALITY AND WHOLE SCHOOL EVALUATION

Part 1: Tangibility

We have sufficient number of classrooms

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
<th>Disagree--2</th>
<th>Unsure--3</th>
<th>Agree--4</th>
<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

Our classrooms have adequate sizes

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
<th>Disagree--2</th>
<th>Unsure--3</th>
<th>Agree--4</th>
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</thead>
</table>

We have appropriate classroom structures

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<thead>
<tr>
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<th>Disagree--2</th>
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<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

We have sufficient sports equipments and facilities

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
<th>Disagree--2</th>
<th>Unsure--3</th>
<th>Agree--4</th>
<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

We are provided with sufficient scholastic materials

<table>
<thead>
<tr>
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<th>Disagree--2</th>
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<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

Teachers exhibit appropriate professional appearance

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
<th>Disagree--2</th>
<th>Unsure--3</th>
<th>Agree--4</th>
<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

Our learners are clean and neat

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
<th>Disagree--2</th>
<th>Unsure--3</th>
<th>Agree--4</th>
<th>Strongly Agree--5</th>
</tr>
</thead>
</table>

Our school environment is clean and suitable for learning

<table>
<thead>
<tr>
<th>Strongly Disagree --1</th>
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<th>Agree--4</th>
<th>Strongly Agree--5</th>
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</table>
Part 2: Reliability

Our teachers have appropriate knowledge and skills on the disciplines that they teach

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
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<th>Strongly Agree</th>
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</table>

Our teachers adequately prepare for lessons

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<tr>
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</table>

The School Management Team (SMT) exhibit sound management skills

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<tr>
<th>Strongly Disagree</th>
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</table>

Part 3: Responsiveness

Teachers and learners arrive on time

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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
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<th>Agree</th>
<th>Strongly Agree</th>
</tr>
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</table>

The School Management Team (SMT) responds quickly to school problems

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
<th>Strongly Agree</th>
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Learners’ and teachers’ complaints are handled quickly

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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Unsure</th>
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<th>Strongly Agree</th>
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Part 4: Empathy

Teachers and learners understand one another’s feelings

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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Unsure</th>
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Teachers and learners express humility to each other

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<tr>
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<th>Unsure</th>
<th>Agree</th>
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</table>
Part 5: Assurance

Our teachers are usually willing to teach

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Our learners are usually willing to learn

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Our teachers interact freely with learners

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

SECTION B: PERFORMANCE MEASUREMENT AND DEVELOPMENTAL APPRAISAL

Performance measurement and developmental appraisal have well outlined purposes

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Appropriate process for performance measurement and developmental appraisal is followed

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Performance measurement and developmental appraisal are based on suitable criteria

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Performance measurement and developmental appraisal have appropriate standards

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |

Appropriate methods are used for performance measurement and developmental appraisal
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<tr>
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Hindrances are considered during the design of performance measurement and developmental appraisal

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SECTION C: INCORPORATE IQMS’ KEY SUCCESS FACTORS

Quality management principles are incorporated into IQMS

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<tr>
<th>Strongly Disagree --1</th>
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Effective coordination of activities during and after the implementation of IQMS

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Supporting information systems are used for enhancing IQMS implementation

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Stakeholders are involved in the IQMS implementation

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Budget allocation for IQMS implementation

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Training and education on IQMS key concepts

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Change management strategies are considered during IQMS implementation

| Strongly Disagree --1 | Disagree--2 | Unsure--3 | Agree--4 | Strongly Agree--5 |
SECTION D: IMPLEMENTATION, MONITORING AND EVALUATION

A systematic process was used in the IQMS implementation

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Monitoring mechanisms were established for assessing the successes of IQMS implementation

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Evaluation mechanisms were established for assessing the successes of IQMS implementation

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Benefits and whether objectives and goals have been achieved are usually examined in order to determine IQMS successes

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SECTION E: UNDERTAKE CORRECTIVE MANAGEMENT ACTIONS

IQMS implementation processes are constantly reviewed

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The objectives for IQMS implementation are constantly reviewed

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There have been attempts to redesign strategies for IQMS implementation

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