

## Joint Influence of Overall Quality Management and the Modified Balanced Scorecard in Achieving the Objectives of Vision 2030 in Saudi Universities (An applied study on King Khalid University)

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### *Abstract*

The study aimed to demonstrate the joint effect of overall quality management and the modified balanced scorecard in achieving the objectives of Vision 2030 In Saudi Universities (an applied study on King Khalid University for the period from 2011 to 2022) where the problem of the study focused on the low Indicators of achieving the goals of Vision 2030 AD in Saudi Universities, which may be due to the absence of the joint effect of total quality management and the modified balanced scorecard, where four hypotheses were developed and a questionnaire was designed. After collecting and analyzing data from the respondents, the study concluded that there is a joint effect of total quality management and the modified balanced scorecard in achieving the goals of Vision 2030 AD at King Khalid University, with an interlocking coefficient of (0.957). The study recommended strengthening aspects of the

strengths of total quality management and the modified balanced scorecard and addressing the shortcomings that surround them at King Khalid University.

Keywords: Overall Quality Management; Modified Balanced Scorecard; Objectives of Vision 2030 AD; King Khalid University (University).

## Introduction

The education sector is the locomotive that leads all sectors in society to development and compatibility with successive changes in the economic and social environment. It is also entrusted with playing the main role in using the available tools and resources efficiently and effectively to achieve the targeted aspirations. Therefore, it has become imperative for all higher education institutions to achieve quality and comprehensive quality assurance standards in order to obtain accreditation, but achieving this requires high costs. In light of this, it becomes necessary to search for a method through which cost-effectiveness can be increased, and the optimal utilization of the resources allocated to higher education. As higher education is considered one of the most important fields of life in which it is affected by the interest of all sectors of society, due to the direct relationship between the quality of higher education and societal growth in general, and economic and cognitive growth in particular. Therefore, institutions of higher education in the Arab countries face very serious challenges and threats arising from variables that have played a major role in changing the shape of the world, creating a new global system that relies on science and rapid technological development, and is based on highly advanced technologies, which leaves no room for hesitation in starting comprehensive development and modernization programs that guarantee these institutions the ability to overcome their problems and weaknesses. Therefore, universities need a new method that enables them to implement their strategies and evaluate their performance, and this is provided by the balanced performance measurement model. Therefore, the balanced performance measurement model is an integrated method that helps organizations evaluate their operational, financial and strategic performance by using a set of financial and non-financial indicators. Also, among the benefits of using the balanced scorecard in higher education institutions is setting priorities in future planning and assessing needs, providing a clear structure for continuous improvement, spreading a culture of academic quality among higher education institutions, while evaluating the efficient use of resources for all academic programs, in addition to documenting each activity and its relationship towards achieving the mission of higher education institutions to promote academic excellence. From the

foregoing, we find that the quality of higher education means a set of characteristics and advantages of an educational product capable of meeting the requirements of the labor market, society and all beneficiaries of the educational process, and achieving the quality of education requires integration and interaction of all human resources, policies, systems, curricula, processes and infrastructure. In order to create an effective environment for creativity and innovation and to meet the requirements that prepare the student to reach the level that the university seeks to reach.

### **Study Problem**

The problem with the current study is the decline in the indicators of achievement of the objectives of Vision 2030 at Saudi universities, which may be due to the lack of joint influence of the overall quality management and the modified balanced scorecard. This study therefore tries to identify the possibility of a solution by answering the following key question: Can the combined impact of total quality management and modified balanced scorecard achieve the goals of King Khalid University Vision 2030? It derives from the following sub-questions:

1. Is there a correlation between the overall quality management of its dimensions and the balanced performance card modified by its perspectives at King Khalid University?
2. Is there a statistically D effect of managing overall quality in its dimensions in achieving the goals of King Khalid University's Vision 2030?
3. Is there a statistically D effect of the balanced scorecard modified by its perspectives in achieving the goals of Vision 2030 at King Khalid University?
4. Is there a statistically D common effect for the overall quality management and balanced scorecard modified in achieving the goals of King Khalid University's Vision 2030?

### **The importance of the study**

This study draws its importance from two aspects:

1. Scientific significance: The study contributes to closing a research gap that has not been addressed in previous studies - to the researchers' knowledge - by exposing the relationship between comprehensive quality management and a modified balanced scorecard and achieving the objectives of Vision 2030 in the context of the common influential relationship, an issue to which previous

studies have not been fully exposed as this study has been. The study also contributes in scientific terms to providing scientific reference on the relationships of the research variables to contribute to the support of the visual library and assists researchers to develop knowledge in this field.

2. Practical importance: The practical importance of this study is that it provides data and information to decision makers at Saudi universities to help them rationalize their decisions. The study also highlights the importance of the joint impact of total quality management and the modified balanced scorecard in solving the problems of low indicators for achieving the 2030 goals at Saudi universities.

### **Objectives of the study**

The main objective of this study is to recognize the combined impact of total quality management and the modified balanced scorecard in achieving the objectives of Vision 2030 at King Khalid University by achieving the following objectives:

1. Describe the relationship between the independent variables of overall quality management in its dimensions and the balanced performance card modified by its perspectives at King Khalid University.
2. Recognize the impact of total quality management in its dimensions in achieving the goals of Vision 2030 at King Khalid University.
3. Determine the impact of the balanced scorecard modified with its perspectives in achieving the goals of Vision 2030 at King Khalid University.
4. Recognize the joint impact of total quality management and the modified balanced scorecard in achieving the goals of Vision 2030 at King Khalid University.

### **Study hypotheses**

The following hypotheses were:

1. There is a statistically significant correlation between the overall quality management of its dimensions and the balanced performance card modified by its perspectives at King Khalid University.
2. D's statistical impact of overall quality management in its dimensions is to achieve the goals of Vision 2030 at King Khalid University.

3. The balanced scorecard modified by its perspectives has a statistically significant impact on the achievement of Vision 2030 goals at King Khalid University.

4. D. has a statistically common impact on overall quality management and modified balanced scorecard in achieving Vision 2030 goals at King Khalid University.

#### Study curriculum

This study follows the analytical descriptive approach, and researchers have also used the historical approach.

#### Sources of data and information

The study draws on primary sources of researchers and experts and uses questioning and personal interviews as tools for collecting data, in addition to secondary sources: books, scientific research, studies, reports, journals and newspapers, seminars and related conferences.

#### Limits of study

The limits of the study were time limits 2022, spatial boundaries at King Khalid University and human boundaries represented by employees at King Khalid University in Saudi Arabia.

#### Study variables

The study consists of three variables:

The first independent variable: comprehensive quality management, measured by the following dimensions: (financial control, focus on workers).

The second independent variable: the modified balanced scorecard measured by perspectives: (financial dimension, customer (student) dimension, internal process dimension, growth and development dimension, environmental dimension, community dimension).

Subordinate variable: The objectives of Vision 2030 are measured by the dimension of achieving the Goals.

#### Study Model

To achieve the purpose of this study and reach its specific objectives in determining the impact of independent variables on the dependent variable in the presence of a common influential relationship (Felicity,2011) .Researchers have designed and developed a model for this study based on previous literature. Figure (1) shows the form of the model for these variables.

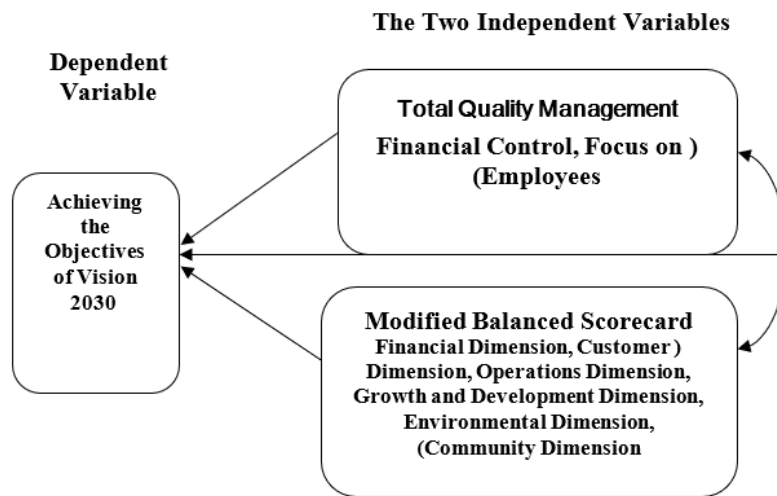


Figure 1: Study Samples

### Previous studies

A study was conducted (Ibrahim and Nasser, 2022) aimed at highlighting the impact of the application of the dimensions of the overall quality management (Strategic planning, continuous improvement of university services, ability to communicate effectively Making decisions based on data to improve organizational performance at a number of Saudi universities to provide a clear path in the face of persistent challenges due to the accelerated change in the business floor of increasing competition among universities and the consequent need to provide the best services at the lowest prices so that universities can prove themselves in this competitive market. A group of five universities was selected (Umm al-Qura University in Makkah, Western Region, Imam Abdulrahman bin Faisal University in the Eastern Region, Shabakra University in the Central Region, Najran University in the Southern Region and Northern Border University in the Northern Region) To serve as an area of field application for research, the two researchers adopted the analytical descriptive curriculum using identification as a key data collection tool on the field side of research, and the research community at these universities is nearly as large (2727) members, where (800) questionnaires were distributed to the research sample, and in order to achieve the research goals and hypotheses, a research model was developed showing the nature of the relationship between the independent variables adopted for research. Based on the description and diagnosis of research variables and the testing of correlation and impact relationships, a set of findings was reached which emphasized the existence of a correlation and moral impact of

applying the dimensions of total quality management and organizational performance of the research universities. In the light of its findings, the two researchers made a number of proposals, notably the need to invest the advantages of the proper application of the dimensions of comprehensive quality management as a tool for improvement in organizational performance.

(Amal and Taghreed, 2018) conducted a study aimed at identifying the subject of applying balanced performance to improving performance in commercial banks in Jeddah, Saudi Arabia. The study sought to determine the extent to which the balanced scorecard dimensions of the financial dimension, after internal operations, after customers, learning and growth had an impact on performance improvement in these banks. (206) from bank branch managers and their deputies. The study relied on using the analytical descriptive curriculum using the questionnaire. The data was analyzed using appropriate statistical and analytical methods using the ssps software. The results showed a convergence of the application averages of all dimensions of the balanced scorecard (Financial dimension, after customers, after internal operations, after learning and growth) Improving the bank's performance in commercial banks in Jeddah, but the impact of these dimensions was varying, as after internal operations one of the most influential dimensions in performance from the point of view of the sample The study recommended a number of recommendations, including the application of a proposed model for the application of balanced scorecard dimensions to improve performance in banks in Jeddah.

Razkar and karzan 2019 conducted a study aimed at highlighting that performance enumerates a fundamental and important concept for tourism enterprises and that improved financial performance is strongly linked to improved performance in customer hubs, internal processes, growth and learning. Furthermore, the study showed that hotels clearly identify the balance of performance card. The sample study indicated that some of the Territory's hotels had poor efficiency and experience of staff in carrying out work despite the availability of good experience in the Territory's hotels. This study was characterized by a combination of three variables in one study and a clarification of the correlation and impact relationship between them, as well as a test of the independent variables' combined impact on the dependent variable.

### **Theoretical framework**

#### **1/1 Comprehensive Quality Management Concept:**

The concept of total quality management is one of the modern management concepts initiated by many international institutions to

improve and develop the quality of their services and production and to help meet major challenges and achieve public satisfaction. (Ibrahim(2022, The concept of quality management has now become an important management method in the field of modern departments and institutions through the successes of this new style of management (Azal, 2009) In recent decades, interest has increased in using the concept of global quality management, for its prominent role in achieving the goals of many educational institutions, and the Japanese administration was evident in this from the early 1980s and late 1990s, despite numerous attempts to define and clarify the key dimensions of global quality management (Hamoud, 2002)

Balanced Scorecard: (on 2019)

The definitions given to this tool are numerous. The most important of these are a management system aimed at helping the enterprise translate its vision and strategy into a set of strategic objectives and measurements that are interrelated. The financial report is no longer the only way in which institutions can evaluate their activities and chart their future movements. ( Arab Organization for Administrative Development,2008)

A balanced scorecard application requires many basic elements to avoid many problems when applied, including: (Popular, 2003)

- Clear definition of strategic objectives, with the strategic objective having to be linked to a competitive advantage, ambitious quantifiable goals and expertise available to achieve them.
- Use a balanced scorecard as a strategic management system rather than as a measurement system.
- An effective communication system, providing the required full, accurate and up-to-date information, whether internal or external.

Relationship between total quality management and adjusted balanced scorecard

According to Al-Nahoui, 2013: 26, today's environment is characterized by identifying key success factors. (With cost, quality, time, innovation) which identifies distinct universities in such an environment and those that can manage and distinguish these factors in order to ensure success and survival, This success may not be enough in the face of accelerating change and complexity without moving towards integration between the CQM portal and modified balanced scorecard technology The outcome of both the Comprehensive Quality Management portal's interaction with the dimensions of the modified balanced scorecard technology essentially serves to ensure continuous and comprehensive improvement of all sectors of the university in order to achieve customer (student) satisfaction with the educational services



provided. The modified balanced scorecard also contributes to the provision of non-financial information to the University Administration that helps to measure university performance, which includes environmental and social performance. This technology is complemented by a comprehensive quality management methodology to achieve quality and financial control, the overall advancement of the University as a whole and the measurement of the University's ability to perform in a manner that achieves its interests and objectives. (Rayani, Osama 2017)

Joint impact of total quality management and modified balanced performance card on achieving the objectives of Vision 2030 at Saudi universities

Aqili, 2001:24 summarizes the objectives of overall quality management in: increasing the competitiveness of the University, increasing the University's efficiency by satisfying clients (students) and excelling over competitors, increasing the productivity of the University and improving the performance of its workers, increasing the mobility and flexibility of the University in dealing with environmental variables (the ability to invest opportunities and avoid risks and constraints), increasing profitability and improving the economics of the University. He considers (Quality, 2009) that measures of quality activity according to the modified balanced scorecard include two types of measures: Financial measures are based on quality costs, and non-financial measures are determined from the customer's perspective and from the internal process perspective and from the learning and growth perspective and from the environment and society perspective. Meeting the requirements of total quality management requires universities to satisfy the needs and desires of students and increase their number and improve relationships with them. The entrance to total quality management requires client orientation. The modified balanced performance measurement model is an effective tool for achieving this goal by allocating a client dimension. Increasing the effectiveness of achieving the objectives of Vision 2030 at Saudi universities depends fundamentally on the joint impact of the entrants to the Comprehensive Quality Management and the modified balanced scorecard to achieve the comprehensive calendar, and the multidimensional vision of the University. The model of the Comprehensive Quality Management portal and the modified balanced performance card is not only a measurement system but a management development system. (Khalil, Talal 2022)

Realities of Total Quality Management, Modified Balanced Performance Card and Vision 2030 Goals at King Khalid University

According to Abu Ziada 2010 The Comprehensive Quality Management portal and the modified balanced scorecard technology

contribute to providing financial and non-financial information to the University administration that helps measure the University's financial, administrative, marketing, environmental and social performance and integrates the dimensions of the comprehensive agendas management methodology and modified balanced scorecard technology and interconnects with each other to achieve quality, excellence and mastery in university performance,( reflecting the achievement of Vision 2030 goals, especially in terms of maximizing the value of university work, human resources development and development (faculty and staff), environmental protection, to provide educational services to all segments of society.(Majeed,2021)

Second: Presentation, analysis and discussion of identification data

Society and Sample Study

Study Society

Al-Fadhni, 2008, reported that the study community means all persons with single or common characteristics that can be observed and the results of the study are disseminated. Identifying the study community is critical because it provides the necessary information to shape the answers to study questions in order to test hypotheses. (400) All faculty members, staff and workers from various faculties and departments of the University include (150) workers.

Sample Study

According to Suleiman, 2006:68, the sample of the study is intended as a relatively specific number of members of the indigenous community, dealt with within the time available, available possibilities and begins their study, and then the results are disseminated to the indigenous community. provided that they represent society in the best form. The following table shows the appropriate sample size at different levels of the size of the study's original community:

Table 1: Suitable Sample Size at Different Levels for Original Community Size

| Original Community Size | Appropriate Sample Size | Original Community Size | Appropriate Sample Size | Original Community Size | Appropriate Sample Size |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 10                      | 10                      | 250                     | 152                     | 1100                    | 285                     |
| 30                      | 28                      | 360                     | 186                     | 2000                    | 322                     |
| 70                      | 59                      | 420                     | 201                     | 6000                    | 361                     |
| 110                     | 86                      | 550                     | 226                     | 15000                   | 375                     |
| 170                     | 118                     | 650                     | 242                     | 75000                   | 382                     |

|     |     |     |     |        |     |
|-----|-----|-----|-----|--------|-----|
| 210 | 136 | 900 | 269 | 100000 | 384 |
|-----|-----|-----|-----|--------|-----|

Source: Uma Sekaran, 1992, Research Method for Business: A Skill Building Approach, John Willy & Sons, U.S.A., p. 220.

The researchers selected an intentional sample of employees in the categories of (faculty, staff). The number of vocabularies was 65 at King Khalid University, after the exclusion of the University's category of workers. (65) forms were distributed to all 65-university faculty and staff targets, received (65) forms and found valid for statistical analysis.

#### Study Tool

After examining the literature of the study variables, an explanation was developed for the purposes of the study, where the identification consisted of two parts. The first part dealt with the personal data of the researchers. The second part dealt with objective data, which included 36 phrases distributed across three axes of the study. The first theme dealt with overall quality management; The second addressed the modified balanced scorecard, while the third addressed the objectives of Vision 2030.

#### Method used for data analysis

The Social Science Statistical Package Program (SPSS) was used to statistically process the study data, through a number of statistical methods, including alpha kronbach coefficient, Skewness test, repetitions and percentages, calculus averages and standard deviations, single sample T test, binding coefficient, regression model.

#### Test the honesty and stability of the study tool

To test the internal stability and self-honesty of the resolution paragraphs, the consistency of the resolution was assessed by calculating the value ( $\alpha$ ) of Alpha to calculate the internal stability factor and the square islands to calculate the self-honesty coefficient. Although there are no standard rules for appropriate values (Alpha), in practice ( $\alpha \geq 0.60$ ) is reasonable in human science research, the following table shows the stability and honesties factor of variables.

Table 2: The internal stability coefficient and the subjective validity of the questionnaire variables and axes (Cronbach's alpha) for the field study sample

| Variables             | Axes                     | Number of Phrases | Internal Stability Coefficient | Self-Honesty Coefficient |
|-----------------------|--------------------------|-------------------|--------------------------------|--------------------------|
| The first Independent | Total Quality Management | 8                 | 0.911                          | 0.954                    |

|                        |                             |    |       |       |
|------------------------|-----------------------------|----|-------|-------|
| The Second Independent | Modified Balanced Scorecard | 24 | 0.946 | 0.973 |
| Dependent              | Vision 2030 Objectives      | 4  | 0.894 | 0.946 |
| Total Questionnaire    |                             | 36 | 0.959 | 0.979 |

Table (2) shows that internal stability and self-validation factors indicate that the tool generally enjoys a high stabilization and validation factor on the tool's ability to achieve the purposes of the study. s internal determination coefficient (0.959) and total self-credibility coefficient (0.973), located in the range between zero and the correct one, indicating the credibility of the results that the identification can produce as a result of its application.

#### Apparent honesty

Researchers verified it by presenting the list in its preliminary form to five accountancy and business arbitrators and ensured that the questionnaire was completed in their presence to clarify any paragraph that might need to be clarified. reassurance of the validity of the findings, to ascertain its relevance for the purpose of the study, and to ensure the comprehensiveness of the information covering the study's objectives and subject matter; Some observations had been received, which had been taken into account, and appropriate adjustments had been made.

#### Constructive honesty

After the researchers ascertained the apparent truthfulness of the study tool, they applied it to a sample of the society to be studied (university staff) with 10 vocabularies. The aim of this step was to identify the degree of internal homogeneity between the phrases of the identification list, using the test of the natural distribution of the identification data, so as to see whether the data follows the normal distribution or not? The Skewness test, which is necessary in case of hypothesis testing, has been used because most teacher tests require that the distribution of data be normal.

Table 3: Test (Skewness) for Natural Distribution Test of Test Sample Resolution Axes

| Variables              | Axes                        | Number of Phrases | Skewness | Error  | Statistical Decision          |
|------------------------|-----------------------------|-------------------|----------|--------|-------------------------------|
| The first Independent  | Total Quality Management    | 8                 | -0.791   | +0.297 | Follows a Normal Distribution |
| The Second Independent | Modified Balanced Scorecard | 24                | +0.385   | +0.297 |                               |
| Dependent              | Vision 2030 Objectives      | 4                 | -1.072   | +0.297 |                               |

|                     |    |        |        |  |
|---------------------|----|--------|--------|--|
| Total Questionnaire | 36 | -0.238 | +0.297 |  |
|---------------------|----|--------|--------|--|

Source: Prepared by researchers from field study data, 2022 AD, Riyadh.

Table 3 shows that the coefficient of torsion is limited to range  $(3 \pm)$ , which is the level adopted in the statistical processing of this study and the value of its standard error (+ 0.297), i.e. the data follow the normal distribution. The three axes of identification follow the normal distribution. This indicates a good correlation between the three study variables, which confirms that these variables have the potential to explain the effect among themselves.

### Analysis and hypothesis testing

#### Description of personal data of the researched sample

Females accounted for 75.4% and males for 24.6%. This indicates greater dependence on females than males at King Khalid University. 66.2% were between the ages of 40 and 50, 27.6% were between the ages of 30 and 40, and 6.2% were over the age of 50. This indicates the distribution of workers across all age groups, but in swing ratios, the highest of which was for the group (40-50 years), which is the group of young people who have gained experience and whose level of performance is reflected in the university performance upwards and downwards according to the degrees of acquisition and recruitment of experience in favour of university work. 69.2% are supra-university and 30.8% are university-level. This demonstrates the scientific competence of employees at King Khalid University. 44.6% specialize in accounting, 30.8% specialize in business administration, 15.4% specialize in other, and 9.2% specialize in humanities.

These disciplines enable understanding of the University's duties towards its students and society. 63.1% have 5-10 years of experience, 24.6% have 10-15 years of experience, and 12.3% have more than 15 years of experience, which corresponds to the age indicated. That 69.2% of faculty members, and 30.8% of employees, this indicates that the highest ratios were for faculty members who underpin university performance. 60% received internal and external training, and 40% received internal training. 72.3% received more than 10 training courses, and 27.7% received between 4 and 6 training courses. This indicates a focus on internships and exterior training at King Khalid University. When examining the demographic characteristics of the sample, it can be concluded that the results as a whole provide a reliable indicator of the investigators' eligibility to answer questions raised in the questionnaire and therefore their responses can be relied upon as a basis for drawing the targeted findings from the field study.

Iterations and percentages of study axes

Global Quality Management Hub

Financial control: Where it is shown:

1. More than three quarters of the sample with 61 individuals and 93.8% confirm that the University has the advantage of maximizing the benefit of its financial resources and optimizing its utilization.
2. More than three quarters of the sample with 57 individuals and 87.7% confirm that the University identifies the actual and planned resources for each activity to control the use of financial resources.
3. More than half of the sample with 39 individuals and 60% view the University as seeking to exclude activities that do not add value to increase its financial revenues.
4. More than three quarters of the sample with 57 individuals and 87.7% confirm the University's commitment to rationalize spending.

Focus on workers: Where it is shown:

5. A total of 61 individuals and 93.8% confirm the University's attraction of the competencies it needs.
6. More than three quarters of the sample with 53 individuals and 81.5% confirm the University's application of best practices and human resources management principles.
7. More than three quarters of the sample with 57 individuals and 87.7% confirm that the University is developing policies to identify and empower future leaders.
8. More than three quarters of the sample with 61 individuals and 93.8% confirm that the HR strategy is developed based on the university's vision.

Adjusted balanced scorecard axis

Financial dimension: where it was shown:

1. More than three quarters of the sample with 53 individuals and 81.5% confirm that the University uses effective mechanisms and processes to increase cash and future flow to meet its sustainable fiscal policy requirements.
2. 64.6% are neutral, and 35.4% are strongly approved, indicating that the size of the university's profits is not commensurate with the size and quality of the educational services provided to some extent.
3. 52.3% are neutral, 41.5% are strongly approved and 6.2% strongly disagree. This indicates that the university does not achieve a continuous reduction in indirect expenditures charged to its activities as required.

4. 52.3% are neutral, and 47.7% are strongly approved. This indicates that the University does not rely on financial and non-financial indicators to measure and monitor financial performance as required.

Customer dimension (students): Where it turns out:

5. More than three quarters of the sample with 57 individuals and 87.7% confirm that the educational services provided to students are of a quality that meets their needs.

6. All 65 individuals and 100% confirm that the university responds to students' complaints and addresses the defect in a short time.

7. More than three quarters of the sample with 57 individuals and 87.7% confirm that continuous surveys are conducted to identify the needs of workers and students.

8. All 65 individuals and 100% confirm that the university prioritizes services that increase student satisfaction.

Internal operation dimension: where it is shown:

9. More than three quarters of the sample with 53 individuals and 81.5% confirm that the University adopts a program to simplify procedures and reduce the number of steps taken to provide services.

10. More than three quarters of the sample with 53 individuals and 81.5% confirm the University's interest in activities that add value and dispose of activities that do not add value to improve the efficiency of the performance of its internal operations activities.

11. More than three quarters of the sample with 53 individuals and 81.5% confirm that the university's service delivery processes are subject to continuous control and improvement.

12. More than two thirds of the sample with 45 individuals and 69.2% agree to constantly update the university's organizational structure.

The dimension of growth and development: where it is shown:

13. More than three quarters of the sample with 49 individuals and 75.4% confirm the training plan's focus on enhancing human capital capacity in its work.

14. More than half the sample has 35 individuals and 53.8% view the University as encouraging the participation of human capital in decision-making.

15. More than two thirds of the sample with 47 individuals and 72.3% agree that the University emphasizes collective action to develop its human capital.

16. More than half of the sample has 41 individuals and 63.1% view the University as measuring, evaluating and analysing the efficiency of its human capital.

Environmental dimension: Where it turns out:

17. More than three quarters of the sample with 57 individuals and 87.7% confirm that the university's plan includes environmental protection programs.

18. More than three quarters of the sample, with 61 individuals and 93.8%, confirm that the University contributes to the maintenance of environmental hygiene with the relevant authorities.

19. More than three quarters of the sample with 61 individuals and 93.8% confirm that environmental protection is one of the most important pillars of the university's values and the culture of workers.

20. More than three quarters of the sample with 53 individuals and 81.5% confirm that the University is analyzing environmental activities to enhance the commitment to environmental protection.

Society's dimension: Where it turns out:

21. All 65 individuals and 100% confirm that the University's plan includes social responsibility programs.

22. More than three quarters of the sample with 61 individuals and 93.8% confirm that the university contributes to the support of local community institutions.

23. More than three quarters of the sample with 57 individuals and 87.7% confirm that the university contributes to reducing the problem of unemployment in society through employment.

24. More than three quarters of the sample with 57 individuals and 87.7% confirm that the university is keen to raise the level of social responsibility of employees.

The main objectives of Vision 2030 are:

1. All members of the sample (65) 100% confirm that Vision 2030 aims to maximize the value of the work.

2. All members of the sample (65) confirm that Vision 2030 aims to develop and develop human resources.

3. All members of the sample (65) 100% confirm that Vision 2030 aims to protect the environment.

4. More than three quarters of the sample with 61 individuals and 93.8% confirm that Vision 2030 aims to provide common services.

General arithmetic average and general standard deviation of study variables



Table 4: Computational averages, standard deviations and level of importance for the three study variables

| Variables | Statement                               | Axes   | SMA  | standard deviation | T Value | Significance of T statistic | Importance level | rank |
|-----------|---|--------|------|--------------------|---------|-----------------------------|------------------|------|
| First     | Financial Supervision                   | First  | 4.25 | 0.575              | 17.570  | 0.000                       | High             | 2    |
|           | Focus on the Workers                    |        | 4.45 | 0.599              | 19.588  | 0.000                       | High             | 1    |
|           | Total Quality Management                |        | 4.35 | 0.562              | 19.411  | 0.000                       | High             | 2    |
| Second    | Financial Dimension                     | Second | 3.73 | 0.687              | 8.582   | 0.000                       | High             | 6    |
|           | Customer Dimension                      |        | 4.46 | 0.510              | 23.099  | 0.000                       | High             | 1    |
|           | Internal Operations Dimension           |        | 4.15 | 0.586              | 15.880  | 0.000                       | High             | 4    |
|           | The dimension of Growth and Development |        | 4.02 | 0.788              | 10.389  | 0.000                       | High             | 5    |
|           | Environmental Dimension                 |        | 4.34 | 0.635              | 16.995  | 0.000                       | High             | 2    |
|           | Community Dimension                     |        | 4.28 | 0.426              | 24.317  | 0.000                       | High             | 3    |
|           | Modified Scorecard                      |        | 4.16 | 0.508              | 18.461  | 0.000                       | High             | 3    |
| Dependent | Vision 2030 Objectives                  | Third  | 4.69 | 0.430              | 31.713  | 0.000                       | High             | 1    |

Source: Researchers' preparation of field study data, 2022.

Table (4) showed the computational averages of the three study variables, the highest of which was for the 2030 vision variable followed by the overall quality management variable, and the lowest for the modified balanced scorecard variable. The two dimensions of overall quality management were the highest to focus on faculty and staff members, and the lowest for financial control. The modified balanced scorecard perspectives, the highest for the client (s) dimension, followed by the environmental dimension, followed by the community dimension, followed by the internal process dimension, followed by the growth and development dimension, and the lowest for the financial dimension.

In the researchers' view, the bone majority of researchers agree that the dimensions of the three study variables are important and that the decision-maker who has a role in planning the university's work must take them all into account.

### Study hypotheses test

First hypothesis: There is a statistically significant correlation between the overall quality management of its dimensions and the balanced scorecard modified by its perspectives at King Khalid University:

To test this hypothesis, the Pearson Person binding coefficient test was used, as follows:

Table 5: Correlation Matrix between global quality management dimensions and modified balanced scorecard perspectives at King Khalid University (N = 65)

| Independent Variable             | Financial | Customers | Operations | Growth  | Environment | Society | Card    |
|----------------------------------|-----------|-----------|------------|---------|-------------|---------|---------|
| Financial oversight              | 0.616**   | 0.460**   | 0.752**    | 0.862** | 0.435**     | 0.585** | 0.755** |
| Focus on Employees               | 0.382*    | 0.096     | 0.644**    | 0.655** | 0.226       | 0.473** | 0.508** |
| Comprehensive Quality Management | 0.519**   | 0.287*    | 0.727**    | 0.790** | 0.343**     | 0.552** | 0.657** |

Source: Researchers' preparation of field study data, 2022.

Table 5 shows the correlation factors between the overall quality management of its dimensions (Financial control, focus on workers) and balanced performance card adjusted by their perspectives (Financial dimension, customer (student) dimension, internal operations dimension, growth and development dimension, environmental dimension, community dimension) At King Khalid University, where it became clear that there was an association between him and 21. (19) Its correlation is a moral function that varied in its severity. The highest correlative values were found to be between financial control and the growth and development dimension of 0.862, a function at a moral level ( $\alpha \leq 0.01$ ) and below. While the lowest correlative values were between the focus on faculty and staff and the client (student) dimension of 0.096, which is not a function at a probability level ( $\alpha \leq 0.05$ ) and below, in total, and based on the results presented, the research variables appear to be related to moral relationships, indicating that the increase or decrease in one of them will result in an increase or decrease in variables.

This indicates a statistically significant correlation between the overall quality management of its dimensions (financial control, focus

on faculty and staff) and the balanced scorecard adjusted by its six perspectives (financial dimension, customer (student) dimension, internal process dimension, growth and development dimension, environmental dimension, and community dimension) at King Khalid University at a moral indicator level ( 0.01). This requires acceptance of the first hypothesis, which states: There is a statistically significant correlation between the overall quality management of its dimensions and the balanced performance card modified by its perspectives at King Khalid University. This is because King Khalid University's application of the CQM methodology is a real supporter of the application of the modified balanced scorecard technology and maximizes the utilization of its many advantages.

Second hypothesis: Statistically D's impact on the overall quality management of its dimensions is to achieve the objectives of King Khalid University's Vision 2030: multiple regression model testing has been used, as follows:

Table 6: Multiple regression model for the impact of total quality management in its dimensions in achieving the objectives of Vision 2030 at King Khalid University

| The First Independent variable | B     | (T)   | Sig* (T) | (R)   | (R <sup>2</sup> ) | (F)    | Sig* (F) |
|--------------------------------|-------|-------|----------|-------|-------------------|--------|----------|
| Constant                       | 1.165 | 4.930 | 0.000    | 0.868 | 0.754             | 94.879 | 0.000    |
| Financial Supervision          | 0.631 | 6.639 | 0.000    |       |                   |        |          |
| Focus on the Workers           | 0.104 | 1.144 | 0.257    |       |                   |        |          |

Source: Prepared by researchers from field study data, 2022

Table 6 shows that this model has the authority to test the impact relationship of overall quality management with its dimensions in achieving the objectives of King Khalid University's Vision 2030, where the value (F) (94.879) has reached a moral level (0.000) and is below (0.05) which means that this model is suitable for predicting the values of the dependent variable (Vision 2030 targets); It is also clear that the identification factor (R<sup>2</sup>) has reached (0.754).

This means that the overall quality management of its dimensions explains (75.4%) the change in the achievement of the 2030 vision's objectives, which is a strong interpretative force, and that the ratio (24.6%) is attributable to other variables that were not studied, including the random variable; It is also clear that the dimension of total quality management (financial control) has a steady impact on the achievement of the objectives of Vision 2030 at a moral level (0.000), which is below (0.005), which requires acceptance of the

second hypothesis, which stipulates: The statistical impact of overall quality management in its dimensions is to achieve the objectives of Vision 2030 at King Khalid University.

This is due to the fact that Total Quality Management plays an active role in achieving the objectives of universities in order to achieve the goals of Vision 2030 of the Kingdom of Saudi Arabia.

Third hypothesis: The statistically modified balanced scorecard D's impact on the achievement of Vision 2030 goals at King Khalid University:

Table 7: Multiple regression model for balanced scorecard effect adjusted by its perspectives in achieving Vision 2030 goals

| The first independent variable          | B      | (T)    | Sig* (T) | (R)   | (R <sup>2</sup> ) | (F)     | Sig* (F) |
|---|--------|--------|----------|-------|-------------------|---------|----------|
| Constant                                | 1.680  | 8.220  | 0.000    | 0.969 | 0.939             | 147.933 | 0.000    |
| Financial Dimension                     | 0.113  | 2.300  | 0.025    |       |                   |         |          |
| Customer Dimension                      | -0.054 | -0.977 | 0.333    |       |                   |         |          |
| Internal Operations Dimension           | 0.399  | 9.198  | 0.000    |       |                   |         |          |
| The Dimension of Growth and Development | 0.362  | 10.172 | 0.000    |       |                   |         |          |
| Environmental Dimension                 | -0.122 | -3.024 | 0.004    |       |                   |         |          |
| Community Dimension                     | -0.031 | -0.541 | 0.590    |       |                   |         |          |

Source: Prepared by researchers from field study data, 2022.

Table 7 shows that this model has the authority to test the impact relationship of the balanced scorecard modified by its perspectives in achieving the objectives of King Khalid University's Vision 2030, where the value (F) (147.933) has reached a moral level (0.000) and is below (0.05) which means that this model is suitable for predicting the values of the dependent variable (Vision 2030 targets); It is also clear that the determination factor (R<sup>2</sup>) is 0.939.

This means that the balanced scorecard modified by its perspectives explains the amount (93.9%) of change in the achievement of Vision 2030 goals at King Khalid University, which is a very strong explanatory force, and that 6.1% is due to other variables that were not studied, including the random variable; It is also clear that balanced scorecard perspectives (financial dimension, internal dimension, growth dimension and evolution dimension) affect the achievement of King Khalid University's Vision 2030 goals at moral levels below (0.005), that the environmental dimension has a reverse effect, and that the customer and community dimension have no impact on the overall regression model, requiring acceptance of the

third hypothesis, which reads: The statistically modified balanced scorecard D has an impact on the achievement of Vision 2030 goals at King Khalid University. This is because the balanced scorecard plays an effective role in achieving universities' goals in order to achieve the goals of Vision 2030 of the Kingdom of Saudi Arabia.

Hypothesis 4: There is a statistically D common effect for total quality management and the modified balanced scorecard in achieving the objectives of Vision 2030 at King Khalid University:

To test this hypothesis, a test (Canonical Analysis) was used, as follows:

Table 8: Joint Impact Test Results for Total Quality Management and Balanced Scorecard Modified in Achieving Vision 2030 Goals at King Khalid University

| Independent Variables                                     |   | Download Rates<br>(Canonical) | Global Constr<br>uction | Dependent<br>Variable     | Correlation<br>Coefficient<br>(R Canonical)                                      | Determination<br>Coefficient<br>(R <sup>2</sup> Canonical) |
|---|---|-------------------------------|-------------------------|---------------------------|--|--|
| Quality<br>Ma<br>nag<br>eme<br>nt                         | Financial<br>Supervision                  | 0.884                         | 0.865                   | Vision 2030<br>Objectives | 0.978  | 0.957  |
|   | Focus on<br>Employees                     | 0.778                         | 0.761                   |                           | (F)  | 156.148  |
| Mo<br>difie<br>d<br>Bala<br>nce<br>d<br>Scor<br>ecar<br>d | The Financial<br>Dimension                | 0.752                         | 0.736                   |                           | Sig* (F)   | 0.000  |
|   | Customer<br>Dimension                     | 0.577                         | 0.565                   |                           | The Proportion of<br>Variance<br>Explained by the<br>Independent<br>Variables    | 95.7%  |
|   | Dimension of<br>Internal<br>Operations    | 0.875                         | 0.856                   |                           |  |  |
|   | Dimension of<br>Growth and<br>Development | 0.931                         | 0.911                   |                           | The Percentage<br>of the Explained<br>Variance from<br>the Dependent<br>Variable | 55.4%  |
|   | Environmental<br>Dimension                | 0.573                         | 0.561                   |                           |  |  |
|   | Community<br>Dimension                    | 0.618                         | 0.605                   |                           |  |  |

Source: Researchers' preparation of field study data, 2022.

The results of table 8 showed a statistically common D impact for managing overall quality in its dimensions (financial control, focus on

workers) and a balanced performance card modified by its perspectives (financial dimension, customer (student) dimension, internal process dimension, growth and development dimension, environmental dimension, community dimension) in achieving King Khalid University's Vision 2030 goals. Both the overall quality management and the balanced scorecard (independent variables) have been found to explain 95.7% of the variation in achieving the goals of King Khalid University's Vision 2030. It was also found that the ratio of variability interpreted from the dependent variable towards the interrelationship between independent variables was 55.4%. This indicates the interrelationship between the overall quality management of its dimensions (financial control, focus on workers) and its modified balanced performance card (financial dimension, customer (student) dimension, internal process dimension, growth and development dimension, environmental dimension, community dimension). Interconnectedness load rates ranged from a minimum of 0.573 to a maximum of 0.931, indicating a moral relationship between independent variables and the dependent variable. Interconnectedness rates (working construction) were also between (0.561) minimum and (0.911) maximum, reflecting the relationship of each dimension of the CQM variables and the adjusted balanced scorecard in the dependent root of the variable (Vision 2030 targets).

The synaptic binding coefficient (R Canonical) was 0.978. The synaptic determination coefficient (R<sup>2</sup> Canonical) is 0.957, which means that its value (0.957) Changes in the achievement of Vision 2030 goals at King Khalid University result from the change in the level of interconnectedness between the overall quality management of its dimensions (Financial control, focus on workers) and balanced performance card adjusted by their perspectives (Financial dimension, customer (student) dimension, internal operations dimension, growth and development dimension, environmental dimension, community dimension). The results also show that there is an unknown percentage of variation along with the overall quality management of its dimensions and the balanced scorecard modified by its perspectives in order to predict the achievement of Vision 2030 goals at King Khalid University, where the uninformed variation is estimated at approximately 4.3%.

The results of the analysis showed an interconnectedness value (F) of 156.148, a function at 0.000. This confirms that there is a statistically D common impact of overall quality management in its dimensions (financial control, focus on workers) and a balanced performance card modified by its perspectives (financial dimension, customer dimension (s), internal process dimension, growth and development dimension, environmental dimension, community dimension) in achieving King Khalid University's Vision 2030 goals. This requires

acceptance of the fourth hypothesis, which stipulates: a statistically common D effect for managing overall quality in its dimensions (financial control, focus on workers) and a balanced performance card modified by its perspectives (financial dimension, customer (student) dimension, internal process dimension, growth and development dimension, environmental dimension, community dimension) in achieving the goals of King Khalid University Vision 2030. This is because the application of the comprehensive quality management methodology in integration with the modified balanced scorecard technology at King Khalid University leads to the achievement of Vision 2030 goals. This result has been characterized by testing the combined effect of the two independent variables simultaneously on the variable of previous studies that were not tested in their hypotheses.

### **Conclusion**

This study aims to investigate the reality of the joint impact of total quality management and the balanced scorecard modified in achieving the objectives of Vision 2030 at Saudi universities from the point of view of (faculty and staff) at King Khalid University for the period 2022. It reached the following conclusions, recommendations and proposals:

### **Results**

1. The level of achievement of Vision 2030 at King Khalid University was found to be high by an average general calculation (4.69), and this was confirmed; High level of adjusted balanced scorecard, total quality management with a general average calculation (4 .16, 4.35) respectively.
2. Vision 2030 is based on three main axes: the vital society, the prosperous economy and the ambitious homeland, and aims to maximize the value of work, develop and develop human resources, protect the environment, and provide common services to citizens.
3. A statistically significant correlation (65.7%) was found between overall quality management in its dimensions (financial control, focus on workers) and a balanced performance card modified by its perspectives (financial dimension, customer dimension, internal process dimension, growth and development dimension, environmental dimension, and community dimension) at King Khalid University.
4. The financial control dimension of total quality management has been found to have a significant impact on achieving the objectives

of King Khalid University's Vision 2030. The impact force was 0.631, requiring attention to the workers' dimension.

5. King Khalid University is able to maximize the benefit of its financial resources and optimize its utilization by tightening control over the use of resources, rationalizing spending and excluding activities that do not add value.

6. A statistically D effect of the balanced scorecard adjusted by its perspectives ((financial dimension, growth and development dimension, internal operations dimension) was found to be in achieving Vision 2030's objectives, with impact strength reaching the financial dimension, growth and development dimension and internal operations dimension (0.113), 0.362 and 0.399 respectively.

7. The partial impact of the modified balanced scorecard perspectives in the multiple regression model has shown that the environmental dimension is reverse, and beyond clients and society has no impact, necessitating a review of these dimensions at King Khalid University.

8. A statistically common D impact of overall quality management in its dimensions (financial control, focus on workers) and a balanced performance card modified by its perspectives (financial dimension, customer (student) dimension, internal process dimension, dimension of growth and development, environmental dimension, community dimension) has been achieved in achieving the goals of King Khalid University's Vision 2030, with a synergistic determination factor (0.957).

### **Recommendations**

1. King Khalid University shall ensure a high level of integration between the overall quality management and the modified balanced scorecard to ensure the optimal application of the strategies developed at the University to achieve Vision 2030.

2. Human resources management at King Khalid University is interested in attracting the best competencies and applying the best human resources management practices for their importance in achieving the goals of Vision 2030. The result of the impact of the focus dimension on micro-CQM workers in the multiple regression model was unaffected.

3. The King's University Quality Department conducts ongoing opinion surveys to identify students' needs and level of satisfaction with the services provided to them. This is because the customer dimension does not affect the overall model.



4. King Khalid University will continue to take care of the internal dimension of the modified balanced scorecard, as the result of its partial impact on the multiple regression model was the highest.

5. King Khalid's University on the Environmental Dimension attaches particular importance to strengthening its obligations to protect and preserve the environment. Its partial effect was inverse to the multiple regression model.

6. King Khalid University should contribute to the support of the local community and ensure that the social responsibility of its workers is enhanced. This is because society's dimension has no bearing on the overall paradigm.

### **Suggestion**

1. Saudi universities should work to link total quality management with modified balanced scorecard technology because linking them and using their standards provides information to leaders to enable them to make the right decisions, achieve overall quality and improve performance, and to benefit the achievement of Vision 2030 goals.

2. Saudi universities' training departments should hold seminars and training courses on the importance of achieving the objectives of Vision 2030 and the mechanisms for applying comprehensive quality management and modified balanced scorecard and how to upgrade their practices and applications continuously.

3. The continuity of accounting and administrative research in the environment of Saudi universities towards further research and scientific studies, with a view to bridging the knowledge gap between the scientific aspect and the realities of Vision 2030 currently under way.

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