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Mohammed Abdulrazzaq Alaghbari

College of Administrative Sciences, Applied Science University, Kingdom of Bahrain,
aghbari85@gmail.com

Maged Mustafa Al-Dubai

Management Development Institute of Singapore in Tashkent, Uzbekistan\ Faculty of Finance and Administrative Sciences, Al-Madinah International University, Malaysia, aghbari85@gmail.com

Nidaa Abdulwahab Saad Arishi

Faculty of Finance and Administrative Sciences, Al-Madinah International University, Malaysia,
aghbari85@gmail.com

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The Relationship between Total Quality Management and Organizational Performance

Mohammed Abdulrazzaq Alaghbari ^{1,*}, Maged Mustafa Al-Dubai ^{2,3} and Nidaa Abdulwahab Saad Arishi ³

¹College of Administrative Sciences, Applied Science University, Kingdom of Bahrain

²Management Development Institute of Singapore in Tashkent, Uzbekistan

³Faculty of Finance and Administrative Sciences, Al-Madinah International University, Malaysia

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Abstract: This research aims to study the relationship of total quality management at King Khaled University in Saudi Arabia as education industry toward better performance. The variables measurement and evaluation, quality system improvement, employee involvement, recognition and reward and education and training were examined as independent variables affecting the organization performance in the University. This quantitative study used the survey as a data collection method to be distributed among the university employees; 135 questionnaires were collected as valid to be analyzed. Two types of analysis: descriptive analysis via SPSS and AMOS, have been done in this study. This study found a significant relationship between all the survey variables on organization performance, which means there are accepted hypotheses in this study. A significant relationship between measurement and evaluation and organization performance, a significant relationship between quality system improvement and organization performance. A significant relationship between employee involvement and organization performance, a significant relationship between recognition and reward and organization understanding and a significant relationship between education and training with organization performance. They indicated the importance of implementation, the variables of the study in King Khaled University, which contributed to the knowledge body and the practical aspect in the institution.

Keywords: Quality system improvement, recognition, training, organizational performance, King Khaled University.

1 Introduction

The recent decades witnessed more attention by the researchers on improving the job performance in the organizations to overcome the lack of productivity, efficiency, and effectiveness issues. These are mostly the issues impeding society to be on the same line with the developed societies and economies. It must be pointed out to the owners of the traditional administrative thought, with Europe and America in the mid-19th century, an increase in the volume of economic growth led to the emergence of many administrative institutions and organizations. These organizations were accompanied by new attempts to alleviate the problems faced by the administration. The three most famous principles of management and organization are organization, evaluation of work, communication, and information. One of the most prominent thinkers in this area, "HENRY " (Al Lawzi,

2009), who made significant contributions in the field of management and the need to work on information sharing between the Department and recipients of the service, they have sought to develop the idea of the concept of administrative thought and development in the twentieth century.

Performance improvement is an arranged and planned process to make positive changes to improve community organizations of various types, the direct positive and effective confrontation for the forces of change surrounding the Non-governmental organizations toward working consistently with the goals and values. This could also be implemented in the universities. The development of the universities and education industry is essential for other industrial development in the country. The development requires an organized and planned method to achieve the targets and adapt to the new economic system (Ahmed, 2009).

*Corresponding author e-mail: aghbari85@gmail.com

Accordingly, there is a severe concern to improve the performance in the education industry ("Frederick Taylor F.W. Taylor" approached the entrance of scientific management to increase efficiency and productivity. In other words, when the focus was on productivity, and at the same time emerged other administrative principles by "French Henry H. Fayol "achieved productivity from another perspective when humanitarian relations deteriorated was tuna research might E. Mayo " the writings of "Mary Parker Phuket MoniteurbelgeVollet" what made those relations to obtain the cooperation of individuals) (Younis, 2008), and then various administrative schools such as the University of entrances to the social system, and the University Sports, the university decision making, management by objectives.

Here we find that improved performance has taken several forms in these schools; indeed, these methods are essential in developing the administration in general: It is these methods (Ahmed, 2009). Survey Feedback, taking advantage of the scanning, Sensitivity training, Team-building, Network Management Training, Matrix, The quality of working life programs, The Management of Goals, Career Enrichment, Total quality management. The Last method (total quality management) is mainly used in this study; the importance of continuing and accelerating developments is significant worldwide to each of the life aspects. There is a crucial need for new management methods and techniques to meet the global managerial and technological challenges.

1.1 Problem Statement

The most prominent challenges facing Saudi Arabia's education are the following (A vision of education until 2020, op. cit). Political challenges as the most critical challenge for the Kingdom of Saudi Arabia and the Gulf countries, regionally and globally, owing to the wise policy of the government and wisdom of the political leadership (Visvizi&Lytras, 2019). The Kingdom of Saudi Arabia Represents the rationality in politics among the Arab countries, and increased trade with Arab and foreign countries, and committed themselves to participate in achieving comprehensive development in many Arab and foreign countries through their participation in various development banks and funds in the world (Demirbas et al., 2017).

Hameed & Irfan (2019) stated that the cognitive and technical growth is also among the issues faced by the Kingdom of Saudi Arabia because of the knowledge revolution and communications the global system was pushed to produce the phenomenon of globalization, which cancels the limitations, borders and constraints of time and place. There is no way to adapt to them but achieve excellence in education and technical aspects to compete in the market. Saudi Arabia has realized many of the developing countries believe in the education system in

international competition, hastened to give more attention and care to the education sector. This leads to calling for the development of education radically developed to achieve a qualitative leap, leading to generations of creative citizens capable of the knowledge industry and adapting to change and the Renaissance building and industry progress (Abouelnaga et al., 2019).

Educational challenges are embodied in the radical change in the philosophy and objectives and contents and methods and tools of education, where new concepts may denounce what was accepted by the educational practices. In the introduction to the concepts of lifelong education, self-learning, computer-assisted learning and other multi-media technology, creative learning, reflective learning, and learning to work, and learning to live with others, and achieving self-reliance and resourcefulness (Abed & Shackelford, 2020). All of this requires a strategic shift in educational systems and the development of comprehensive and integrated programs, and continuing to develop all of the elements of the system of the university curriculum, programs, management objectives and policies to achieve maximum benefit from information and communication systems to improve the quality of learning (Alzahrani, 2019).

The modern innovations can also impose administrative leaders that versatility and ability to self-learning and integrate with the teaching staff and clarify the facts and establish goals and justifications and scalability for rehabilitation and training several times in their careers. Also, with the introduction of modern and contemporary theories in improving job performance with the attention given by the ministry of higher education and university departments introduce the modern scientific methods, including total quality management, the performance level will get improved. Performance management is not only expertise, but scientific management depends on the scientific base and theories.

All this requires the commitment of all the objectives set out, where experience indicates that change and improve performance in educational institutions require consideration of the development of the university administration. This can be done by developing quality at the forefront of its objectives in the organization's context in the prevailing climate because the entrance to total quality management is the most critical future perspective in the direction of change, including improving the quality of education.

1.2 Review of the Literature

The Importance of Organizational Performance

Today organizations try to achieve fast growth, continuum improvement, Profitability, preparation for the future, and

the top situation in their activities in the global spectrum (Salajegheh et al., 2015). Furthermore, today organizations work in an environment that constantly changes, and it is tough to predict these changes. This issue caused the organizations to spend a lot of time and money on the changes to achieve high performance. Indeed, at this time, that has been renamed the age of changing, achieving performance excellence through traditional management methods is impossible, and organizations are forced to use the new managerial approaches (Taslimi, 2015). Therefore, to achieve the organization's high performance, it is necessary to identify the factors affecting organizational performance. These basic premises are the ones that the group learned as it resolved its difficulties and troubles. The problems are related to external adaptation and internal integration. These ideas have worked effectively enough to be regarded as valid. Accordingly, they are reasonable to be taught to new members as the appropriate way of perceiving, thinking, and feeling about those problems (Nikpour, 2017).

In higher education, Miller, B. A. (2016) stated that the performance of the education industry depends on a variety of variables that could play turn toward the total organizational performance.

"The capacity for change and continuous improvement to meet the challenges in the environment in which organizations operate has been associated with the capability of these organizations to learn (Armstrong & Foley, 2003). Thus, organizations that learn will keep abreast with developments and improvements in the business environment to operate successfully. Accordingly, Kalsom and Ching (2012) highlighted that it is vital for the institutions to become learning organizations for the education industry to strive for academic excellence. One of the main purposes of achieving academic excellence among its students is that it may need to transform into learning organizations and subsequently improve overall organizational performance and innovativeness. The need for educational institutions to become learning organizations is substantiated because learning creates opportunities for educators to access the right knowledge at the right time and in the right location to stay competitive (Kumar, 2005). However, it should be highlighted that a review of literature discovered a lack of studies on the education industry in Saudi Arabia context and a lack of measurement for the universities organizational performance. Organizational performance, meanwhile, has not been frequently defined and has been used differently according to the context, as well as being difficult to define and measure (Erbisch, 2004). A general definition of organizational performance by Stankard (2002) and a similar definition in (Hussein et al., 2014) noted that it is the product of interactions of different parts or units. In the context of this study, organizational performance refers to the outcomes of various organizational processes which occur in the course of its daily operations". It is proposed that organizational performance is represented by various dimensions such as the University's reputation, quality of

students, research results and social responsibility (Chen, Wang, & Yang, 2009).

The Relationship between Total Quality Management and University's Performance

The universal education system is no longer working in isolation from other social institutions, where expect those institutions of the university education system to provide quality output at a level commensurate with the community's needs. And that any failure in these outputs leads to many costs in the preparation of the rehabilitation and training (Center for Education Statistics.1999). Therefore, the community no longer considered education as a system of services not for them but looks at it as a production system in the light of the cost of the return. The educational system has become a community-based system. Toward developing the education, there should be adaption to rapid changes in the administration of the world now, where economists consider the University a look at the factory where inputs, processes and outputs (Bailey, 2009). Therefore, the application of the overall quality of education has become a must (Mazhar et al., 2021).

There are many definitions for the management of the overall quality of education which is dedicated campus is that (Shams& Belyaeva, 2019) "Each member in the institution, at any level, an official of the individuals on the management of the quality of the respective processes that contribute to the gross domestic product or service."

Also, the comprehensive quality management functions, which means the college establishes the quality policy is applied, which means the organizational structure, responsibilities and resources necessary to clarify the responsibilities of quality management, quality assurance system that is required must have an integrated system for quality and cover all tasks elements linked to quality in education administration. The aim of total quality management in university education institutions to achieve the following (Sharqawi, 2002; Gathoni& Van, 2019).

1. Increase the Competitiveness of university education.
2. Increase the efficiency of the university education in satisfying the beneficiaries and Excellence and Excellence on competitors.
3. We are increasing the productivity of each element in the institution of university education.
4. They increased mobility and flexibility of the institution of university education in dealing with the variables.
5. Ensure continuous improvement of the destruction of all sectors and levels of university education Foundation events.
6. To increase the overall capacity of the institution of university education to sustained growth.
7. Increase Profitability and improve the economics of the institution of university education.

The elements involved in the setup process within the institution for the intensity of the classroom and teacher indicated that the density of chapters led to the low level of

university education. That experience has proved the truth of this argument when attention on quantity at the expense of qualitative and at the cost of the quality of the Education Director Universal.

Making decisions emerge from the circle of what we know, what we think or believe then comes the act (decision). In contrast, the calendar under the philosophy of total quality management is not interested in the classification process, but it aims to improve quality (Dennis Harper, 2002).

1.3 Hypothesis

H1: There is a significant positive effect of measurement and evaluation on organizational performance in King Khaled University

H2: There is a significant positive effect of quality system on organizational performance in King Khaled University

H3: There is a significant positive effect of employee involvement on organizational performance in King Khaled University

H4: There is a significant positive effect of reward and recognition on organizational performance in King Khaled University

H5: There is a significant positive effect of education and training on organizational performance in King Khaled University

1.4 Conceptual Framework

The literature background and the previous studies guided the researchers to look for the best variables tested in this study on this case study.

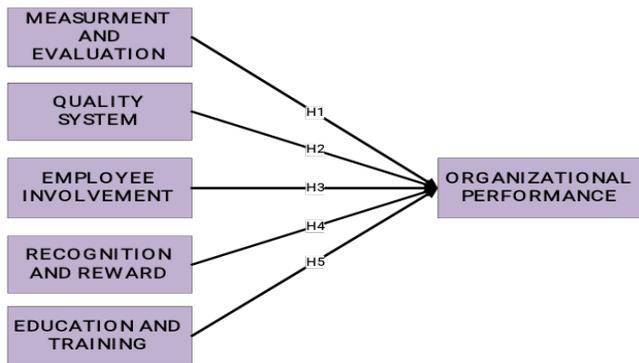


Figure1: The conceptual framework

2 Methodologies

Research Design

This study is quantitative and attempts to test several hypotheses based on total quality management practices and job performance. Statistical analyses, such as AMOS was used to assess the empirical link between the independent variable, i.e. employee involvement, training

and development and the dependent variable, i.e. job performance.

In this study, a quantitative data collection method and survey approach have been used to collect data on factors affecting job performance by specific employees in king Khaled University in Saudi Arabia.

Pilot Test

The pilot study is an essential part of the questionnaire survey design. According to Sekaran (2003), they must be conducted before the initial data collection phase or primary survey to validate the instrument and ensure that the survey questionnaire is free of errors and ambiguities.

In the pilot study, an online survey was distributed for King Khaled University. HR will be asked to distribute the questionnaires to the respondents (head of units, head of departments, and managers) with some explanation about the survey and to provide the contact information for following up. Primary statistical analyses were then conducted using SPSS. The following section presents a descriptive analysis of the usable data collected in the pilot survey using SPSS.

Table 1: Variables Reliability.

No.	Variables	No. items	Cronbach's Alpha
1	Organization Performance	5	0.731
2	Measurement and Evaluation	3	0.760
3	Quality System Improvement	4	0.709
4	Employee Involvement	5	0.811
5	Recognition and Reward	4	0.782
6	Education and Training	4	0.796

The above table shows the valid variables regarding the pilot study results, in which 34 questionnaires have been distributed among the sample. Thus, the items of the survey are valid to be used and readable to the participants.

Population

According to Morgan and Harmon (1999), sampling is the process of selecting a small part (sample) from a larger group (population) to make inferences about the population from the sample (Creswell, 2009). The current study used structural sampling (Cooper and Schindler, 2011, Creswell, 2009) to select a random sample of 197 members from the sample frame. Head of units, head of departments, and

general managers are targeted because of their knowledge, experience, and daily operation of implementing quality standards. Head of units and head of departments are considered team members and have been included based on previous studies' recommendations.

The researchers communicated with king Khaled University by email to acquire information about the exact number of heads of units, heads of departments, and general managers. According to HR of king Khaled University, the following information has been acquired as mention in the table below:

Table 2: Number of Staff in King Khaled University.

Position	No. of Staff
Managers	21
Heads of Departments	73
Heads of Units	103
Total Population	197

Sample Size

The role of sample size is crucial in all statistical analyses. According to Luck and Rubin (1999), the more sophisticated the statistical analysis, the larger the sample size needed. In this study, the required sample size is 131 and successfully collected 135 valid responses (Sekaran, 2003).

Data Normality

This section is about harmonizing the study's data, the cases of the values out of the range and how it is suitable for this data to be analyzed together. Either identify if there is a need for kicking some values out of the analysis for the best results (Hair et al., 2010).

Table 3: Normality Test.

		OP	ME	QSI	EI	RR	ET
N	Valid	135	135	135	135	135	135
	Missin g	0	0	0	0	0	0
Mean		2.021 1	2.133 0	1.850 9	2.000 9	1.988 2	2.621 2
Median		2.500 0	2.300 0	2.000 0	2.100 0	2.000 0	2.600 0
Mode		2.00	2.00	2.00	2.00	2.00	2.00
Skewness		-.071	.823	.423	.082	.950	.343
Std. Error of Skewness		.170	.170	.170	.170	.170	.170
Kurtosis		-.416	-.155	-.182	-.501	-.327	-.749
Std. Error of Kurtosis		.238	.238	.238	.238	.238	.238

Several values are shown in the above table. These values are essential as the early steps to proceed with the data

analysis; mean, median, mode, kurtosis, and skewness are the common data values. ET scored the highest among the variables in terms of the mean value of 2.6212, while the following higher values were 2.1330 of ME, while the lowest score is 1.8509 for QSI. The median highest scores were for ET value of 2.6000 and 2.0000 was the weakest for QSI and RR.

Multicollinearity Test

The multicollinearity is the correlation of the model's variables. This test shall be with a good loading of the variables, as explained later in the chapter. As well as the variance inflation factor and tolerance in this section to ease and confirm the ability to proceed with the analysis of this data.

Table 4: Multicollinearity Test.

Factors	Tolerance	VIP
OP	.672	1.602
ME	.651	1.672
QSI	.667	1.584
EI	.598	1.791
RR	.619	1.680
ET	.678	1.632

Table 4 indicates the case on non-multicollinearity due to the VIF values are all higher than 1 and the tolerance above 0.5. According to (Hair et al., 2012), these results make the researchers proceed with the analysis and expecting good results from the data.

Structural Model

The hypothesis testing of the models has proceeded in one of the most influential analyses in this study. Each OP, ME, EI, QYI, RR, and ET analyzes the formed relationships between the factors. The examinations have all been done separately to identify the relationships (MacKinnon & Fairchild, 2009). This test aims to explore the influence of the independent variables on the dependent variable to determine the existence of the relationships and the pattern of these relationships. These tests represent each of the research questions and research objectives in this study to find the study's outputs. Accordingly, the research contents would be explained and answered as accepted either rejected to summarize the findings of the research.

One of the most important tests is the variable's leading in the structural model shows the leading of each item on the variable shall load on. From another perspective, some items are required to be eliminated for the sake of the model's fit. Accordingly, item EI5 among the eliminated items means a total of three items eliminated due to a problem in loading these items. Meanwhile, the variables of

OP, ME, QSI, RR, ET are covered by the same items have been mentioned earlier. Based on past works, this is adequate. There was no further deletion while the remaining items achieved the goodness of the required scores to remain in the model, without multicollinearity or random loadings among them. Table 5 elaborates the standard values to be achieved in the structural model fit. Based on that, the scores were all within the accepted range of regression and correlation values.

In addition, RMSEA score was 0.058, less than 0.08 as the supposed results for the goodness of the model, CMIN/DF was 2.514 as a good score below 3, with CFI value was 0.972 bigger than 0.90, and TLI score was 0.961 as more significant value than 0.90, as well as a score of P was 0.807 as a more substantial value than 0.05. Furthermore, CHI-SQUARE was 253.079, all the items and variables loadings score values above 0.60 as a good value in the acceptance range. Thus, the achieved relationship and effect between the variables of the study are above 0.70.

TLI	.961	≥ 0.9
CLOSE	.807	> 0.05

Hair et al. (2010) nominated the test of hypothesis to ensure the fit the study's model. Fairchild and McQuillin (2010) stated, this test always about the type of relationship between the study's variables. Hypothesis H1, the first hypothesis, estimates a significant impact of measurement and evaluation on organization performance. The resultant outcomes demonstrate a significant direct relationship between ME and OP. Here, the obtained significance value is 0.014, and this is lower than 0.05. Meanwhile, the obtained standard error is 0.291, with a critical ratio of 2.571 and a coefficient estimate of 0.861. As such, hypothesis H1 is accepted, denoting a significant direct relationship between belongingness and employee retention.

Hypothesis H2, the second hypothesis, estimates a significant impact of quality system improvement on organization performance. The resultant outcomes demonstrate a substantial relationship between QSI and OP. For this hypothesis, the obtained coefficient estimate is 0.410, the standard error is 0.167, with a critical ratio of 2.530 and a P-value of 0.000, which is below the value of 0.05. As such, hypothesis H2 is accepted, affirming a significant relationship between QSI and OP.

Hypothesis H3, the third hypothesis, estimates a significant impact of employee involvement on organization performance. The resultant outcomes demonstrate a meaningful relationship between EI and OP. For this hypothesis, the obtained coefficient estimate is 0.783, the standard error is 0.270, with a critical ratio of 3.519 and a P-value of 0.000. As such, hypothesis H3 is accepted, avowing a significant relationship between EI and OP.

Hypothesis H4, the fourth hypothesis, estimates a substantial relationship between recognition and reward toward organization performance. The resultant outcomes demonstrate a significant relationship between RR and OP.

In particular, the obtained coefficient estimate is 0.739, the standard error is 0.109, with a critical ratio of 2.766 and a P-value of 0.038. As such, hypothesis H4 is accepted. RR demonstrates a significant direct effect on OP. Hypothesis 5 examines the impact of education and training on organization performance. This relationship examined and outputs values as P value 0.004 with an estimation of 0.514 and standard error of 0.094, and the critical ratio of 3.093. This indicates a significant effect of ET on OP to confirm the hypothesis of the study. The results will be summarized and detailed in the next chapter. The figure below will simply show the hypothesis testing results.

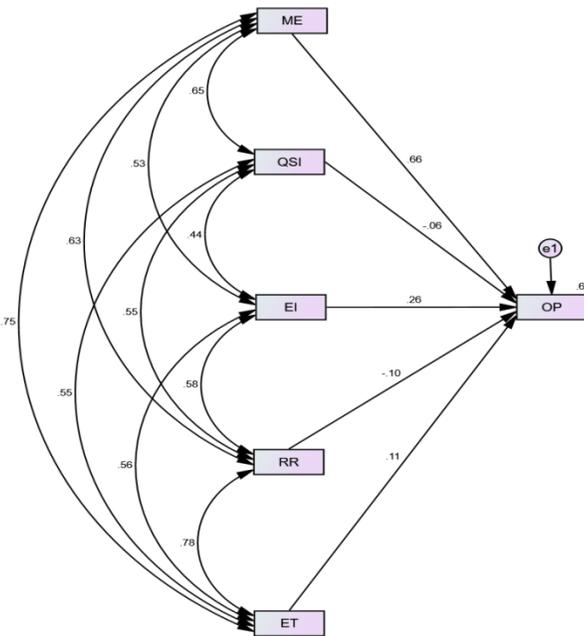


Figure 2: The structural model

The structural model above shows the regression of each of the independent variables on the dependent variable. The exact values which have been explained above will be shown in Table 5 below.

Table 5: Fit Measurement Criteria of Structural Model.

Fit Measurement Criteria	Score	Accepted score
RMSEA	.058	≤ 0.08
CMIN/DF	2.514	≤ 3
CFI	.972	≥ 0.9

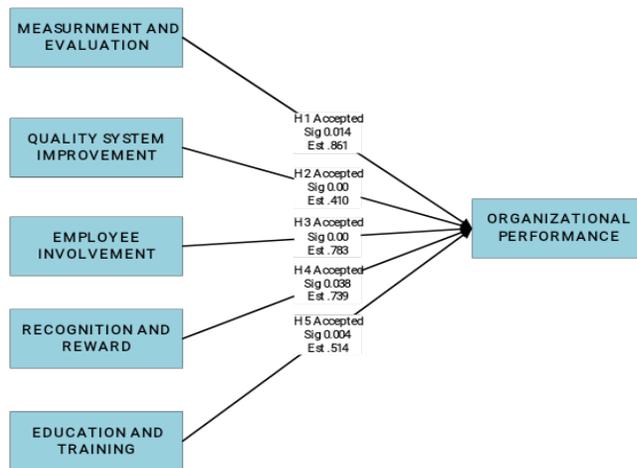


Figure 3: The hypothesis testing results

3 Results Discussion

The first research was questioning the influence of measurement and evaluation on the organization performance in King Khaled University to set a research objective targeting this relationship. Through the previous studies, the hypothesis was developed to be tested in the study. The hypothesis tested via AMOS and resulted in a significant influence of ME on OP in King Khaled University. Furthermore, this result is detailed with a P-value of 0.014, which is less than 0.05 and estimation of .861 with a critical ratio score of 2.571 and a standard error of 0.291. All these values are indicating the significance of the relationship between the variables ME and OP. Finally, this is concluding the result as accepted hypothesis 1 in this study. The second research question was related to the relationship between quality system improvement and organizational performance. Based on that, the research second research objective was formed to examine the OSI relationship with OP. The previous studies provided additional knowledge and supported the research to develop the third hypothesis to test the relationship. According to the analysis results, the significance of the relationship indicated in the values P as 0.000, which is less than 0.05 to conclude the significant relationship between QSI and OP, and estimation of 0.410 and standard error of 0.167 with a critical ratio of 2.530. These results conclude that there is a significant influence of QSI on OP in King Khaled University. The third research question is questioning the relationship between employee involvement and organizational performance. The third objective also targeted the relationship between the variables. The third hypothesis was developed to examine the relationship between EI and OP based on the previous studies.

The results were a P value of 0.000, an estimation score of .783, and standard error of 0.270, and a critical ratio of 3.519. According to the findings, there is a significant relationship between EI and OP in King Khaled University

in Saudi, based on the collected data from the University, including more than one level of the employees. The fourth research question was about the relationship between recognition and reward toward organization performance. The third research objective was created to achieve the target of testing the relationship between RR and OP. The hypothesis was developed supported by the literature to examine the relationship between RR and OP. the findings of the analysis was as P value 0.038, which it's less than 0.05 the significant value of the relationships then the estimation value is 0.739 with a standard error of 0.109 and the critical ratio of 2.766. These results indicate the crucial relationship between RR and OP in King Khaled University. Lastly, the fifth research question is about the relationship between education and training impact on organization performance, setting an objective five to be answered about this relationship, and developing a hypothesis regarding the previous studies to examine the relationship between the variables in King Khaled University. The findings were a P-value of 0.004, an estimation value of .514 with a standard error of 0.099, and a critical ratio of 3.093. These results are reflecting the significant relationship between ET and OP at King Khaled University.

These results show the nature of the University and the possible factors affecting the organization's performance in King Khaled University as a case study. So, these results specifically for this case and this University improve the institution's total performance. Accordingly, to improve the education performance in the country as well according to the government's recommendations.

4 Conclusions and Recommendation

This study tested the impact of the measurement and evaluation of the variables, quality system improvement, and employee involvement, recognition and reward and education and training on the organizational performance in King Khaled University. The examination results were all approved hypotheses, which indicates a significant impact of measurement and evaluation on the organizational performance in King Khaled University. At the same time, there is also a significant impact of quality system improvement on the organizational performance in the University to increase the quality of the student graduated from the University. Employee involvement influences the organizational performance significantly, works as a team and improves the total understanding in the University. Recognition and reward impact organizational performance. The examination approves the significant effect of the recognition and reward in the University. And lastly, education and training influence organizational performance by increasing the University's knowledge base, which could improve the whole country's knowledge base. This research recommended King Khaled University implement these factors in the University and be among the management's concerns. Thus, for the betterment of the University's organizational performance, it could achieve

the University's targets and improve the universities' accomplishment in the upcoming years.

Competing interests

The author declares that she has no competing interests.

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