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The Relationship between TQM Practices and Reverse Mentoring

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Abstract : *The purpose of this Research was to investigate the existence of a relationship between TQM Practices and Reverse Mentoring in the context of private higher education institutions in Iraq . The data was collected using the questionnaire tool, which was distributed to (196) individuals from the assistant deans and heads of scientific and administrative departments in private universities in the central Euphrates governorates . Of the (196) questionnaires that were sent by e-mail or via WhatsApp to each person , (163) were returned for use and analysis, What resulted in a response rate of (83.16%) , and random samples were also taken to obtain the minimum sample size from universities . Civilization in the Middle Euphrates provinces (University of Warith Al-Anbiya, Ahl al-Bayt University (peace be upon him) , Al-Zahra University (peace be upon him) for girls, Al-Ameed University, Al-Kafeel University, and the Islamic University) . The study conducted data analysis to reveal the relationship between the variables using the Pearson correlation factor . The results showed a correlation between TQM Practices and Reverse Mentoring .*

Keywords - *TQM , TQM practices , Reverse Mentoring*

I. INTRODUCTION

Organizations in the past few years and to this day have witnessed a period of great change in their markets and operations. International and local competition has led to many organizations facing an increasingly turbulent and hostile environment. In addition, the pace of technological change has accelerated to a large degree, in addition to the tastes and requirements of customers. It became more changeable, which was reflected in the competition, which became more intense and complex . Many organizations have adopted a set of improvement approaches in response to these forces. In the last years of the last century , we have witnessed an increasing adoption of a set of standards of quality and management systems , the emergence of TQM , business process re-engineering, business excellence , performance excellence, and empty thinking . Waste, Six Sigma , Statistical Process Control, etc . This long list of challenges can be mitigated or controlled by following quality offers in general, which share many of the practices and elements found in total quality management. Strategically, quality works to win customers, obtain business resources or finance, and thus achieve competition . A reputation for good and bad quality lasts for a long time and this reputation can become national or international, however quality management can be learned and used to improve reputation (Oakland, 2014 : 3).

Within the framework of accelerating technological change, executives and Researchers have begun to realize that knowledge is not a one-way street, and that it is in everyone's interest to share experiences. The Reverse Mentoring may be seen as an opportunity for human resource practitioners to facilitate knowledge exchange across generations, as Research has proven (Allen et al., 2004 ; Allen & Eby, 2007 ; Ragins & Kram, 2007) that mentoring is beneficial to individuals and organizations. Traditionally, mentoring relationships have consisted of a senior executive advising a younger colleague, while reverse mentoring turns this formula on its head (Murphy, 2012 : 550) . On the other hand, educational organizations are still seeking to improve the education process and take care of the student as a central focus of the educational process . This endeavor is reflected in the quality of curricula, training of teachers, attention to teaching methods and the introduction of technology, and striving to introduce the concept of total quality management, which moved from industry to education by subjecting the curricula, teaching and university to services within the university . To the standards of TQM in order to reach the student, which is the final product of the best that is required in the labor market, with its knowledge and skills . The importance of TQM in education can be summarized in many aspects . The adoption of TQM within educational organizations helps to determine educational losses in terms of time, mental energies and subject matter, as well as helps the quality of other services, appropriate organization of material resources, and enables the organization to evaluate its performance . It motivates employees to work successfully by granting them powers, and also contributes to meeting the aspirations of the beneficiary , keeping pace with development and increasing leadership skills (Hassan & Al-Dahhan , 2020 : 3271) . In our country, private education organizations had a large space and a large share of students, and to know the extent of their interest in aspects of education quality, this Research focused on determining the relationship between quality management through its practices and Reverse Mentoring .

II. RESEARCH METHODOLOGY

1. THE RESEARCH PROBLEM

Although TQM was originally intended for the industrial sector , (Deming, 1986) indicated in the introduction to his book "Out of Crises" that TQM practices can be applied well in the service sector . He stressed that the service sectors include governmental and non-governmental services in a wide range of fields, including education, post, health, tourism and others. In fact, when the organization has a series of activities directed towards a specific end result, its operations can be analyzed and improved through the techniques of TQM (Crawford & Shutler , 1999 : 67) .

Since education organizations are among the most prominent and most important service organizations as they are responsible for building an educated society that contributes to the success of all governmental and non-governmental institutions, and since the Corona pandemic imposed great challenges on education organizations, it made them in their beginnings abnormally confused, which formed disturbances in the work of many colleges and departments Even the teachers, and many teachers have faced problems in dealing with technology and means of communication with students, so this Research came to test important aspects that are the practices of TQM and Reverse Mentoring in mitigating these disorders and acting on the size of the impact they have on adaptive performance. Therefore, the main features of the problem can be clarified by asking the following questions :

a. What is the level of adoption of TQM Practices by the universities in the Research community ?
b. To what extent is Reverse Mentoring adopted in the universities of the Research population ?
c. Is there a correlation relationship between the practices of TQM and Reverse Mentoring in the Researched universities ?

2. THE RESEARCH IMPORTANCE

derive Research its importance From Importance Variables Which ate it , so eat Research variables Realize everyone its importance. The first variable represented the practices of total quality management, which is an administrative entrance and a strategic weapon through which organizations can enhance their growth, productivity and profitability. In such cases, the main strategic objective behind the application of TQM practices is to ensure the commitment of employees and their participation in a continuous innovation process for the purpose of improving operational efficiencies and developing a competitive advantage in the ever-expanding dynamic market (Dawson , 1994 : 54).

While the second variable represented in Reverse Mentoring provides a special opportunity to build relationships between generations with different roles, as this type of guidance allows for better and more responsible cooperation, achieving common goals or Researching for inspiration, and knowledge is a critical element for the success of any organization, as it gives the ability to transfer knowledge in a way Effective within the organization and help it achieve a competitive advantage and enable it to better understand the consequences of changes in its environment (Tomlinson , 2020 : 9) .

add to me that then Research current derives its importance From Importance organizations Researched , Except she universities in the Middle Euphrates (Warith Al-Anbiya University , Al-Ameed University , Ahl Al-Bayt University (peace be upon him) , Al-Zahra University (peace be upon him) , the Islamic University , and Al-Kafeel University) due to the importance of educational organizations in the progress and development of any A country because it contributes to preparing an educated generation in various scientific disciplines .

3. The Research model and its hypotheses

The Research dealt with two variables:

- The independent variable : TQM Practices : TQM can be defined as a comprehensive management philosophy that strives for continuous improvement in all functions of the organization, and it can only be achieved if the concept of total quality is used from acquiring resources to serve customers after sales (Kaynak , 2003 : 406) . TQM has several practices, Researchers differed in agreeing on a specific set of practices, so the focus will be on a number of practices that fit with the current Research community, as it was based on the Research of (Dahlgaard et al. , 1995 ; Bayraktar et al. , 2008 ; Talib et al. , 2012 ; Abu Karim et al. , 2019) which are (Top Management Commitment , strategic planning , focus on beneficiaries , employee involvement , and continuous improvement) .
- Dependent variable : Reverse Mentoring : it is about exchanging experiences and skills with the elderly who need such competencies and building a community whose members support each other (Gadomska-Lila , 2020 : 6) . (Murphy, 2012 ; Chen , 2013 , 2014) believes that reverse mentoring consists of three dimensions (career development , psychological support , and role modeling) . Figure (1) shows the hypothetical scheme of the Research .

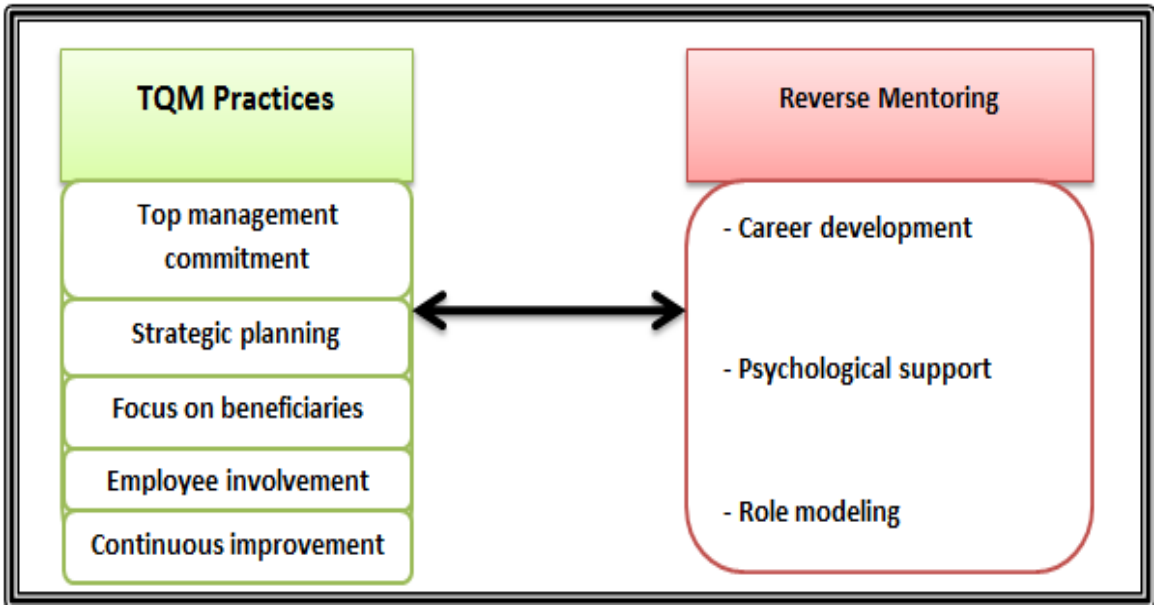

Figure (1)
The hypothetical model of the Research
Source : Prepared by The Researcher

III. PREPARED BY THE RESEARCHER

Based on the above hypothesis, the Research hypotheses can be formulated as follows :

The main hypothesis : There is a positive correlation between the practices of TQM in its dimensions and the Reverse Mentoring with its dimensions, and several hypotheses are branched from it :

a. There is a positive correlation between the Top Management Commitment and the Reverse Mentoring dimensions .
b. There is a positive correlation between strategic planning and the Reverse Mentoring dimensions .
c. There is a positive correlation between the focus on the beneficiaries and the Reverse Mentoring dimensions .
d. There is a positive correlation between employee involvement and the Reverse Mentoring dimensions .
e. There is a positive correlation between continuous improvement and the Reverse Mentoring dimensions .

First :TQM

The term quality is basically an economic term that arose on the basis of industrial and technological competition between advanced industrial countries to control production and gain the trust of customers, and although quality is a familiar word now, it still contains a variety of interpretations and uses, and there are many definitions of it Also , despite the large number of articles and books on TQM , it remains a vague and ambiguous concept, this may be due to the fact that it is a term that means different things to different people (Crawford & Shutler, 1999 : 67 ; Galperin & Lituchy , 1999 : 323 ; Saffar & Obeidat, 2020 : 77) . Crosby considers quality as conforming to requirements or specifications and requirements that are based on the needs of customers (Rashid et al. , 2020 : 134) . While (Bergman & Klefsjo , 1994) look at quality as the ability of a product or service to meet the needs and expectations of customers (Chebii & Chirchir , 2015 : 3) . As for (Saeed et al. , 2013), he believes that quality is the product's suitability for use, and thus the ability to provide the best performance and the most accurate qualities (Saffar & Obeidat , 2020 : 77) . TQM (Deming) defines it as a management philosophy that uses a specific set of principles, practices and techniques to expand a business and provides benefits to enhance productivity by avoiding rework, rejection, waste, customer complaints, and high costs (Chen et al. , 2018 : 2) . While he (Daft , 1997) defined it as a concept that focuses on managing the entire organization to provide quality to customers (Anderson & Sohal , 1999 : 859) . Some Researchers focused on employee involvement as a basis for launching quality management, so he defined it (Stevenson , 2018 : 390) as a philosophy based on the participation of everyone in the organization in a continuous effort to improve quality and achieve customer satisfaction . The importance of TQM in education has been highlighted through many aspects, including meeting the needs and requirements of society and beneficiaries , correcting business performance with the least time, effort and cost , developing many values related to teamwork, satisfying students' needs, increasing the sense of satisfaction among all in the educational organization, and improving

the organization's reputation. Education in the eyes of employees and beneficiaries, developing the spirit of competition among them, and achieving the quality of building the student's personality, whether in terms of knowledge, skill or emotional, achieving good and continuous monitoring of work, and the importance of quality in being a factor of global competition, especially in university rankings (Li et al. , 2003 : 1028 ; Jameel et al. , 2021 : 6830) .

Based on the foregoing and based on the point of view of (Deming ; Daft , 1997 ; Martinez-Costa et al. , 2008 ; Sadikoglu & Olcay, 2014), TQM is an integrated administrative framework consisting of a set of practices aimed at improving the work of the organization The production of a product or the provision of a service that meets or exceeds the expectations of customers with the participation of all departments of the organization to achieve the satisfaction or delight of customers. The current Research focused on five practices of quality management in line with the environment, nature and work of the Researched organizations, and these practices are: (Top management commitment and support (leadership) , strategic planning , focus on beneficiaries , employee involvement , and continuous improvement) .

1. Top Management Commitment

Most Researchers cite the critical factor which is The Top Management support , as the strong Top Management Commitment is vital in quality management and leads to higher performance in terms of quality. Most Researchers agreed with this idea (Juran, 1988 ; Saraph et al., 1989 ; Flynn et al., 1994, 1995 ; Ahire et al., 1996 ; Anderson et al., 1995). Top Management acts as a driver for the application of TQMand the consolidation of values, objectives and systems to meet the needs and expectations of customers and improve organizational performance (Jaafreh & Al-abedallat , 2013 : 96) .

2. Strategic Planning

Strategic planning for quality was defined by (Juran & Gryna, 1993) , and strategic planning for quality refers to an organized process for setting long-term quality goals at the highest levels of the organization, and defining the means to use to reach those goals (Jaafreh & Al-abedalat, 2013 : 97) . Strategic planning includes developing and disseminating plans, improving relationships with customers, suppliers and business partners and helping to achieve long and short-term goals through participatory planning. Strategic planning for quality also includes the vision, mission and values of organizations that are formed by taking into account the concept of quality (Talib et al. 2012 : 290 ; Sadikoglu & Olcay, 2014 : 5 ; Karim & Mahmud, 2020 : 6).

3. Focus on The Beneficiaries

In light of the continuous change in the environment, the organization of total quality directed to the implementation of innovative activities will give more attention to information and procedures to meet the needs of consumers, as success depends on the ability to listen to the customer's voice and build relationships with him and use the information obtained from consumers to enhance creativity . It has been shown (Sila , 2007 ; Shaukat Brah et al., 2002) that the long-term success of the organization depends on meeting the needs of customers effectively and efficiently (Sawaluddin et al. , 2013 : 16) .

4. Employee Involvement

Employee participation is the bottom line in TQM processes, and such participation requires employees to take responsibilities for achieving quality in accomplishing their tasks, and to actively participate in the process of continuous improvement. In particular, participation can improve the quality of products and services in various ways, including through self-examination, which reduces inspection costs and encourages employees to do things right in the beginning through problem-solving techniques, or by motivating employees and their creativity (Fuentes et al. , 2006 : 307) .

5. Continuous Improvement

Continuous improvement is the tendency of an organization to pursue incremental and innovative improvements to its processes, products and services. (Anderson et al. , 1994 : 488). As (Jonsdottir et al. , 2014) defines continuous improvement as a philosophy to ensure the success and progress of organizations, which is based on attracting and retaining customers, providing all their requirements and needs, and developing performance processes (Saffar & Obeiidat , 2020 : 79) .

Second : Reverse Mentoring

(Czaja et al. , 2006) explained that technology plays an important role in many aspects of daily life, which makes digital literacy of increasing importance. It was also found (Charness et al. , 2002) that compared to the younger population, the elderly face increasing difficulty in learning and using technology . However, Research has shown that older adults' anxiety about technology use is alleviated when they receive technical training from others, which is consistent with the position that digital competence has more to do with exposure and education about the digital world (Cotugna & Vickery, 1998 : 1166 ; Breck et al. , 2018 : 3) . Based on this gap, many organizations have adopted reverse directives to bridge the knowledge, cultural and technology gaps between generations. The concept of Reverse Mentoring was first issued and officially implemented by (Jack Welsh), president of General Electric (GE) in 1999 . (Welsh) asked 500 top-level managers in Electric to learn how to

use the Internet from young employees . Then, with the advancement of information technology, reverse guidance has gained increasing importance as junior employees share modern concepts and information media technologies with senior employees , and gradually this concept has increased in popularity among International and multinational organisations . For example, IBM, which is internationally listed among the best training companies, and the public relations firm Burson-Marsteller , have established official reverse routing systems in their organizations, and the reverse routing practice can also be found in leading organizations such as (The Hartford, Procter & Gamble, Cisco, General Motors) . Unilever, Deloitte & Touche, Wharton School of Business at the University of Pennsylvania) (Murphy , 2012 : 551 ; DeAngelis , 2013 : 4 ; Chen, 2014 : 205 ; Breck et al., 2018 : 3 ; Tomlinson , 2020 : 6) .

Reverse mentoring brings many benefits to both the younger generation (Millennials) being mentors. Some of these benefits include access to information, professional appreciation and respect, personal fulfillment and satisfaction, strength development, improved morale, and reduced turnover (Chaudhuri & Ghosh, 2012: 58). . Or for the elderly (the traditional generation , baby boomers generation , and generation X) , where reverse guidance is used in addressing social isolation that has recently been identified as one of the major challenges facing social work, as isolation is defined as the experience of reducing social bonding resulting from a process in which the influence of risk factors exceeds The effect of any protective factors present, and this process is common among the elderly, which can be addressed through the use of young people of their experiences to teach the elderly technology skills, including how to use social networking sites, which improves their social connection (Breck et al., 2018: 2-3).

Noe (1988) divided the function of guidance into two categories: Career development and psychological support, as Career development revolved around the advancement of junior employees in their careers under the guidance of senior employees, while psychological support referred to the process by which senior employees helped junior employees in building their personality While both Scandura & Ragins (1993) , identified the role model as the third directing function (Chen , 2013 : 201). Most of the Researchers, including (Murphy, 2012 ; Chen, 2013, 2014 ; Gadomska-Lila, 2020) agreed that these functions are the same in Reverse Mentoring , but by changing some aspects of each function .

1. Career development

The career path is visualized as a sequence of professional positions during the career period, where the development of the career path is described as the interactive progression of the formation of internal professional identity and the growth of external professional importance (Bowen & Lawler , 1992 : 10 ; Hoekstra , 2011 : 159-160). The traditional guidance includes some aspects through which the career path can be developed, such as learning , presenting challenges, exposure and clarity, and these aspects remain the same in reverse guidance except for replacing the protective effect of traditional guidance with the administrative effect of reverse guidance . Because of cultural and contextual differences, some of the available studies (Chaudhuri & Ghosh , 2012 ; Murphy , 2012) on Reverse Mentoring that occurred in the American workforce have suggested some different additions to career development, namely knowledge sharing, training, exposure and vision, skill development, and change Ideas, communication, and social affiliation (Chen , 2014 : 209) .

2. Psychological Support

Psychological support includes the positive resources obtained from the mentor . A person who enjoys high levels of psychological support has a strong ability to deal with emerging work requirements with less training or mentoring time. The reverse guidance may share with the traditional guidance in some aspects such as acceptance, guidance, counseling and friendship. However, there is no content of approval in the reverse guidance due to the difference in age and job level between the mentor and the trainee . Finally, (Murphy, 2012) stated that some effects must be integrated into psychological support for Reverse Mentoring , such as affirmation, encouragement and feedback (Chen , 2014 : 210) .

3. Role Modeling

(Charters, 2000) asserts that the relationship in teaching and learning is a double relationship, conducted between two people with most of the learning acquired informally through a role model, and the term "role model" is often understood to describe the person who represents a behavior or social role for others to emulate, who sets a positive example and whose attitudes and values are assimilated by learners (Felstead , 2013 : 14) .

IV. RESEARCH DESIGN

1. The Research sample

The sample of the Research is represented in the middle administrations in private universities in the central Euphrates governorates represented by (deans' assistants, heads of scientific departments, heads of administrative departments) in those universities, which number (196) individuals, as shown in Table (1) .

Table (1) Preparing the Research sample members in each university

Seq	University Name	Location	The Number		
			Associate Dean	Head of scientific department	Head of administrative department
1	University of the Prophets	Karbala	8	7	19
2	Al-Ameed University	Karbala	8	15	19
3	Ahl al-Bayt University	Karbala	12	11	8
4	Al-Zahra University for Girls	Karbala	6	8	17
5	Islamic University	Najaf	8	10	22
6	Al-Kafeel University	Najaf	8	6	4
Total			50	57	89
			196		

Source : Prepared by the Researcher based on University Websites

2. Research Measurement

Several Researchers have developed valid metrics for TQM practices (Powell, 1995 ; Samson & Terziovski, 1999 ; Brah et al., 2000 ; Ahire & Ravichandran, 2001 ; Terziovski, 2006 ; Bayraktar et al., 2008 ; Talib et al. , 2012 ; Sadikoglu & Olcay, 2014 ; Akanmu et al., 2020), and reverse routing (Murphy, 2012 ; Chen, 2013, 2014). However, most of these scales have not been experimentally tested and validated in the context of our local environment, and to overcome this limitation, the current Research provided an adapted, controlled questionnaire from a group of experts in the field of competence, as shown in (Appendix 1) .

3. Descriptive Statistics

The results of Table (2) indicate the interest of the Researched universities in the practice of continuous improvement of total quality management, to show the consistency and consistency of the opinions of the Research sample on developing the skills of workers in order to ensure the improvement of the quality of the services of the Researched universities with an arithmetic mean of (3.92) and a relative importance of (78%) and an equal standard deviation to (0.642) , this matter indicates that the Researched sample did not improve by (18,359), and the results also showed the interest of the Researched sample to focus on the beneficiaries by understanding their requirements and working to satisfy them as much as possible with an arithmetic mean equal to (3.68) and a standard deviation of (0.728) to show The interest of the Researched universities in developing the capabilities, skills and abilities of their employees by (74%) and ensuring that there is no improvement with a value equal to (11.914), which means that the Researched universities require their higher management at the level of departments and colleges to support workers and encourage them to create new ideas that serve universities and develop their bodies and service operations provided.

From the foregoing, it is noted that the general average of the TQM Practices variable amounted to (3.77) and with a standard deviation of (0.475), to show the interest of the Researched universities in developing their capabilities in order to apply the practices of TQM to ensure that improvement is achieved in their internal operations, and this shows a relative interest of (75%) .

Table (2) Descriptive Statistics for TQM Practices Variable (n = 163)

Paragraph	Mean	Standard deviation	Mentoringof answer	Answer level	Relative importance	Availability level	Test T	Order of importance
Top management commitment	**3.68**	**0.634**	Agreed	High	**74%**	Good	**13.668**	4
Strategic Planning	**3.72**	**0.67**	Agreed	High	**74%**	Good	**13.721**	3
Focus on the beneficiaries	**3.68**	**0.728**	Agreed	High	**74%**	Good	**11.914**	5
employee involvement	**3.84**	**0.643**	Agreed	High	**77%**	Good	**16.605**	2
continuous improvement	**3.92**	**0.642**	Agreed	High	**78%**	Good	**18.359**	1
TQM practices variable								
Mean	**3.77**		Standard deviation		**0.475**	Relative importance		75%
Mentoringof answer	**Agreed**		Answer level		**High**	Availability level		Good
Test T					20.649			

Source : Prepared by The Researcher

Table (3) shows the results that indicate that psychological support for the Reverse Mentoring came in the first place with an arithmetic mean (3.75) and a standard deviation of (0.84) and a high level, and an answer towards agreement to show a relative interest of (75) to indicate that the Researched universities are interested By addressing the work pressures that the worker faces while performing the tasks assigned to him, the results also showed the interest of the Researched universities in modeling their roles by showing a relative interest

equal to (70%) and with a mean of (3.52) and a standard deviation of (0.763) to indicate that the Researched universities Interested in modeling the roles of total quality management.

From the above, it is clear that the general arithmetic mean of the Reverse Mentoring variable is (3.65) with a standard deviation of (0.597) and a relative importance of (73%) to indicate the interest of the Researched universities in showing the behaviors, attitudes and skills necessary to respect workers and take into account their ideas and aspirations.

Table (3) Descriptive Statistics for the Reverse Mentoring Variable (n=163)

Paragraph	Mean	Standard deviation	Mentoringof answer	Answer level	Relative importance	Availability level	Test T	Order of importance
Career path development	**3.68**	**0.71**	Agreed	High	**74%**	Good	**12.225**	2
Psychological support	**3.75**	**0.84**	Agreed	High	**75%**	Good	**11.379**	1
Role modeling	**3.52**	**0.763**	Agreed	High	**70%**	Good	**8.622**	3
Reverse Mentoring variable								
Mean	**3.65**		Standard deviation		**0.597**	Relative importance		73%
Mentoringof answer	**Agreed**		Answer level		**High**	Availability level		Good
Test T					13.855			

Source : Prepared by The Researcher

Fourth : Hypothesis Test Results

The research on testing the hypotheses of the association between the first variable (TQM Practices (TQMP) and by five dimensions (Top Management Commitment , strategic planning , focus on beneficiaries , employee involvement , and continuous improvement), and the second variable (Reverse Mentoring (REM)) . by three dimensions (Career development , psychological support , and role modeling), through the use of the statistical package (SPSS.V.26) to measure the hypothesis of the simple correlation (Pearson) by (n = 163), and in order to measure the strength of the link between Research variables The Research adopted a scale (Cohen et al., 1983 : 2) as shown in Table (4) .

Table (4) The level of availability of the relationship between the variables

The type and strength of the relationship	Correlation coefficient value
strong positive relationship	from 0.50 - 1
moderate positive relationship	from 0.30 - less than 0.50
Weak positive relationship	from 0.10 - less than 0.30
There is no relationship	**0**
Weak inverse relationship	From (0.10-)- Less than (0.30-)
moderate inverse relationship	From (0.30) – Less than (0.50)
strong inverse relationship	From (0.50-) – (1-)

Source : Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. , (1983) , "Applied Multiple Regression /Correlation Analysis for the Behavioral Sciences" , 3rd Edition, Mahwah, NJ: Lawrence Erlbaum Associates, P: 2 .

The main hypothesis : There is a positive correlation between the practices of total quality management in its dimensions and the reverse Mentoringin its dimensions .

The Research extracted a matrix of simple correlation coefficients between the dimensions of the TQM Practices variable and the dimensions of the Reverse Mentoring variable, as shown in Table (5), which It was received using the statistical program (SPSS vr.26) .

Table (5) Matrix of the correlation between TQM Practices and Reverse Mentoring and their dimensions[1]

Variables	Top management commitment	Strategic Planning	Focus on the beneficiaries	employee involvement	continuous improvement	TQM
Career path development	.533**	.533**	.510**	.482**	.442**	**.706****
Psychological support	.435**	.435**	.388**	.361**	.366**	**.500****
Role modeling	.422**	.422**	.436**	.492**	.295**	**.576****
Reverse Mentoring	**.595****	**.595****	**.570****	**.566****	**.473****	**.760****

Source : Prepared by The Researcher

[1](**) indicates a level of significance less than (0.01), i.e. a confidence level of (0.99)
(*)indicates a level of significance less than (0.05), i.e. a confidence level of (0.95)

It is noted from the results of Table (5) that the existence of TQM Practices contributed to crystallizing the Reverse Mentoring of the Researched universities , as the results showed that the increased interest in applying the practices of TQM by one unit leads to an increase in the capabilities of universities, consolidation of the relationship with the rest of the sectors in order to encourage the Reverse Mentoring to them . And an amount of (0.760) to indicate the interest of the Researched universities in crystallizing the dimensions of reverse guidance from (0.760) for the dimension of career development to (0.500) for the dimension of psychological support, to show the Researched universities' endeavor to treat the psychological conditions that their workers suffer from as a result of work pressures and work accumulation significantly, which exceeds the efforts of the workers . Five sub-hypotheses are derived from this hypothesis :

1. There is a positive correlation between the Top management commitment and the Reverse Mentoring in its dimensions .

It is clear from the results of Table (5) that the commitment of the Top Management contributed to the crystallization of the Reverse Mentoring of the Researched universities, as the results showed that the increased interest in applying the commitment of the Top Management by one unit leads to an improvement in the universities' ability to commit to supporting workers by granting them independence and freedom in the Reverse Mentoring to them and by an amount (0.595) to indicate the interest of the Researched universities in crystallizing the dimensions of reverse guidance from (0.422) for the role modeling dimension to (0.533) for the dimension of career development, to indicate that the Researched universities seek to develop the career path of employees in order to achieve future success .

2. There is a positive correlation between strategic planning and reverse mentoring in its dimensions .

Table (5) shows that the presence of strategic planning contributed to crystallizing the Reverse Mentoring of the Researched universities, as the results showed that the increased interest in the application of strategic planning by one unit leads to an improvement in the ability of the Researched universities to develop strategic plans capable of crystallizing the Reverse Mentoring for them and by an amount of (0.513) to indicate the interest of The Researched universities by crystallizing the dimensions of reverse guidance from (0.241) for the psychological support dimension to (0.556) for the Career development dimension to show the Researched universities' endeavor to develop their career potential by introducing modern mechanisms to facilitate the performance of tasks for workers and support their psychological state .

3. There is a positive correlation between the focus on the beneficiaries and the reverse mentoring its dimensions .

It is clear from the results of Table (5) that the presence of focus on the beneficiaries contributed to crystallizing the Reverse Mentoring of the Researched universities, as the results showed that the increased interest in applying the focus on the beneficiaries by one unit leads to highlighting the universities' ability to consolidate the relationship with the rest of the sectors in order to show the Reverse Mentoring to them and by an amount (0.570) to indicate the interest of the Researched universities in showing the dimensions of reverse guidance from (0.388) for the dimension of psychological support to (0.510) for the dimension of career development, to show the striving of the Researched universities to develop their functional capabilities in order to ensure the achievement of the satisfaction of the beneficiaries, gain their loyalty , reduce their reluctance and go to universities The other by treating their own psychological state by meeting their requirements as much as possible .

4. There is a positive correlation between the employee involvement and the reverse Mentoring in its dimensions .

It is noted from the results of Table (5) that the presence of employee involvement contributed to encouraging the Reverse Mentoring of the Researched universities, as the results showed that increasing the interest in applying employee involvement by one unit leads to addressing the capabilities of universities by consolidating the relationship with employees and encouraging them to highlight the opposite Mentoring to them and by an amount of (0.566) to indicate To the interest of the Researched universities in crystallizing the dimensions of reverse guidance from (0.361) for the psychological support dimension to (0.482) for the Career development dimension to show the Researched universities' endeavor to urge workers to develop their skills, abilities and knowledge regarding facing the challenges that stand in the way of achieving the goals of universities .

5. There is a positive correlation between continuous improvement and the reverse Mentoring in its dimensions .

The results of Table (5) indicate that the presence of continuous improvement contributed to crystallizing the reverse guidance of the Researched universities, as the results showed that the increased interest in applying continuous improvement by one unit leads to enhancing the universities' ability to meet the requirements and principles of continuous improvement in order to encourage the reverse guidance to them, with an amount of (0.473) . to indicate the interest of the Researched universities in crystallizing the dimensions of Reverse Mentoring from (0.295) for the role modeling dimension to (0.442) for the Career development dimension, to

indicate the Researched universities' endeavor to improve and develop their functional capabilities through role modeling and restructuring in a manner consistent with the capabilities of the Researched universities .

From the foregoing, it becomes clear that the first hypothesis is correct (There is a positive correlation between the practices of total quality management in its dimensions and the reverse Mentoring in its dimensions) .

V. CONCLUSIONS, LIMITATIONS AND FUTURE PROPOSALS

By reviewing previous studies, the current Research found that there is a lack of agreement between Researchers on the practices of total quality management, neither in general nor even at the level of a particular sector, and this indicates that defining practices is subject to the environment, work and sector of the organization . The results of the Research also showed that universities are more interested in continuous improvement as one of the practices of total quality management, and this shows the interest of any university in using modern methods of providing education service, as well as using modern technical means in scientific laboratories, using modern sources, and interest in training and development. While the practice of focusing on the beneficiaries got the least in the middle of my account, and this indicates that the voice of the beneficiaries of the service is weak in the universities Researched. The results of the Research resulted in the existence of a correlation relationship between the two variables of the Research (TQM practices , and Reverse Mentoring), and this indicates that the construction of the Research title and its hypotheses are healthy and logical, and thus the possibility of reaching possible solutions to the problem of the Research . The Research faced many limitations through which future studies can be launched. In addition to the health restrictions from the outbreak of the Corona epidemic (COVID-19) that accompanied the Research, there was another limitation represented in the Research's use of cross-sectional surveys to collect data, meaning that the data were all collected in one time so that any causal inferences are temporary. Therefore, future studies should use a longitudinal or experimental design to verify the causal relationship between the variables. Future studies can also expand the analytical framework of this Research to explore the relationship between more TQM practices and adaptive performance in different sectors .

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Appendix (1)

TQM Practices Scale (following the Five-Year Likert Scale)

1. Top management commitment
   - The University Council pays great attention to the quality of teaching and scientific Research compared to its costs.
   - Staff performance appraisal depends largely on quality standards .
   - University leaders have an absolute conviction of the necessity of applying quality practices .
   - The University Council often discusses in periodic meetings the importance of quality .
   - The University Council strongly encourages change and pushes towards a culture of trust, participation and commitment in moving towards best practices .
2. Strategic Planning
   - The university develops and implements operational strategies and plans that focus on quality .
   - The university has a vision and clear quality goals .
   - The university's vision and mission actively encourage employees to improve the quality of education .
   - Sufficient resources are allocated for new facilities, improvement of teaching methods, and training, taking into account long-term goals .
   - Employees of all levels participate in the development of university policies and plans .
3. Focus on the beneficiaries
   - The university regularly seeks to obtain the information of the beneficiaries of the service to determine their needs and expectations .
   - The requirements of the beneficiaries of the service are published and effectively understood in all departments of the university.
   - In designing new services, the university uses the requirements of service beneficiaries .
   - The university has a system for collecting complaints from service beneficiaries, evaluating them carefully, and then finding appropriate solutions to them .
   - Service user complaints are used as a way to initiate improvements in existing service delivery methods.
4. Employee Involvement
   - The university encourages employees to be creative and to present new suggestions .
   - Most employee suggestions are carefully implemented .
   - We often work in teams with members from a variety of departments .
   - The university works to increase the interaction of employees with the beneficiaries of the service, and to increase their independence in decision-making .
   - The university supports employee participation in activities related to total quality management .
5. Continuous improvement
   - In our university there is a constant focus at all different levels on continuous improvement .
   - In our university, emphasis is placed on continuous improvement of staff skills through the training programs provided .
   - The university adopts continuous improvement as a long-term strategy to improve the quality of its services .
   - The university believes that continuous improvement distinguishes the university from other competing universities .

Reverse Mentoring Scale (following the Five-Way Likert Scale)

1. Career development
   - Young university employees possess technological knowledge and skills that they share with others of different age groups .
   - Young university employees adopt new approaches in diagnosing problems and proposing appropriate solutions .

- Young employees have greater skills than educational platforms and social networking sites, which they can pass on to those who are older .
- The feedback regarding the skills acquired by employees becomes more prominent when receiving training and guidance from young trainers .
- Young employees work to improve the efficiency of others in the use of information technology .

2. Psychological support
   - An atmosphere of mutual admiration and sharing of life events prevails among the employees through the exchange of informal dialogues and personal friendship across levels or departments .
   - Young employees have excellent communication and coordination skills .
   - The motivation and encouragement provided by the young employees enables the older trainee to try out new behaviors .
3. Role Modeling
   - Young employees provide a new perspective for the university by being open to new and creative ideas.
   - Young employees demonstrate trust and respect and demonstrate high standards in dealing with others .
   - Admiration for the youth's ability to motivate others to learn what is new .
   - The ideas of young employees are creative and reveal their high willingness to take risks .