The Perception of Total Quality Management among Head Teachers in the Kingdom of Saudi Arabia

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ABSTRACT:

The research sought to study how Total Quality Management (TQM) can affect Saudi school education, specifically focusing on the perception of secondary girls' school head teachers about the degree of application of TQM practices the level of focus on customers (students, parents, stakeholders). The sample consisted of a number of head teachers (totalling: 123 teachers in 123 schools) and a questionnaire as the instrument of data collection. The data were analysed by using the SPSS software using the frequencies means and standard deviations. The results have shown that there is a high degree of application of the TQM practices in Saudi schools and responses were affected by the qualification and experience of head teachers. It was also found that head teachers acknowledged the importance of applying the concept and practices of TQM and considered it as a useful tool that could contribute to the development of quality educational practices in the schools. The research has made important contributions to identifying the common patterns of perception of head teachers about the TQM practices. Finally, the study has also suggested ways that will facilitate the process of applying the concept and practices of TQM in Saudi schools and which will increase the standards of education; improve the quality of education process and increase customer satisfaction.

Keywords: Head Teachers, Total Quality Management, Perceptions.

تصورات المعلمات الأوائل عن إدارة الجودة الشاملة بالمملكة العربية السعودية

خديجه سعد القحطاني

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المستخلص:

هدف البحث الحالي إلى التعرف عن مدي تطبيق مبادئ وممارسات إدارة الجودة الشاملة (TQM) في مدارس السعودية، وتستهدف الدراسة الكشف عن تصورات المعلمين الأوائل بالمدارس الثانوية للبنات حول مدي تطبيق ممارسات إدارة الجودة الشاملة وسبل تفعيلها، مع التركيز على المستفيد (الطلاب، أولياء الأمور، الأطراف المعنية). وكانت عينة البحث ؟؟؟ من مديرات المدارس بالمملكة واستخدم الباحث استبانة من إعداده لجمع البيانات التي تم تحليلها باستخدام التكرارات والإنحرافات المعيارية والمتوسطات، وقد أظهرت النتائج أن المدارس عينة الدراسة تطبق مبادئ وممارسات الجودة إدارة الجودة الشاملة بصورة كبيرة . كما أوضحت النتائج أيضًا أن الاستجابات ترتبط بمؤهلات وخبرات المدرسات الأوائل – عينة الدراسة- ؛ حيث أكدت المدرسات الأوائل أهمية تطبيق مبادئ وممارسات إدارة الجودة الشاملة واعتبرنها أداة لها قيمتها المضافة التي يمكن أن تسهم في تطوير ممارسات تعليمية عالية الجودة في المدارس بالمملكة. وأخيرا اقترحت الدراسة عددا من آليات تسهيل عملية تطبيق مبادئ وممارسات إدارة الجودة الشاملة في المدارس السعودية والتي من شأنها رفع مستوى التعليم؛ تحسين جودة العملية التعليمية وزيادة رضا المستفيد.

الكلمات المفتاحية: المعلمات الأوائل ، إدارة الجودة الشاملة، التصورات.

Research Background

Total Quality Management (TQM) was defined by Oakland and Porter (1994, 163) as "a comprehensive approach to improving competitiveness, effectiveness and flexibility through planning for each individual at each level". The main aim of applying the TQM concept and practices in education is to boost continuous development and improvement as well as to achieve a high standard of teaching and employee development. Furthermore, implementing TQM in Saudi education would save time, money, and effort because it focuses on conducting tasks through a particular plan. This research aims to study how the Total Quality Management concept and practices can affect the system of education in the Kingdom of Saudi Arabia, specifically focusing on secondary girls' schools. Such methods could help head teachers to empower employees as well as disseminate the concept and practices of TQM among school leaders and staff, through organizing a variety of programmes such as training and workshops to enhance accomplishment of the desired quality.

The idea of this research came from the researcher's experience gained from working since 2000 first as a teacher, then a supervisor in the Ministry of Education in the Kingdom of Saudi Arabia (KSA). She observed substantial progress in the Saudi education system but noted that it is still looking to attain total quality in all instructional services and sectors. The Ministry of Saudi Education, recently, has tried to develop the learning process through applying many plans which reflect the practices of Total Quality Management. This initiative by the Saudi government is motivated by concern to meet the needs of national development and to face the dramatic internal challenges in social affairs and aspirations for development and progress, as well as the external challenges of globalization and the noticeable progression in the information world, technology and knowledge (Al-Qahtani and Al-metehheb, 1999).

The importance of TQM has been recognized by many organizations, including educational institutions. TQM has been regarded as a combination of different tools that can help educational institutions in effectively dealing with the environmental pressures of change, and enable them to implement actions that lead to continuous development in terms of quality (Valmohammadi, & Roshanzamir, 2015). Application of the principles of TQM has the potential to further enable educational institutions to develop the necessary skills in the students which would make them successful in their personal and professional lives.

Research Questions and Research Objectives:

Problem Statement:

Total quality management has been an area of interest for researchers because it focuses on continuing improvement, as well as extension of practices and theories that are aimed at developing quality. Application of the principles and practices of TQM enables educational institutions to develop further necessary skills in the

students which would make them successful in their personal and professional lives. Until now, however, some educational organizations in Saudi Arabia have not applied TQM principles, or applied them inappropriately. Thus, TQM cannot proceed the quality of its teachers, so we are in dire need to uncover the perceptions and conceptualization of the head teachers about how far their schools adhere to the principles and practices of TQM.

Research Questions:

The current study sought an answer to the following questions::

1. How do head teachers perceive the Total Quality Management concept and practices as a tool for continuing development?

2. To what extent do Saudi schools apply the concept and practices of Total Quality Management from the viewpoint of head teachers?

Research Objectives:

The main objective of applying the concept and practices of TQM in Saudi schools is for the many benefits head teachers will obtain. TQM can provide school leaders with a wide range of strategies, and it gives the right to every individual in the school to share in solving problems, decision making, and creativity, which will achieve satisfaction for head teachers, stakeholders, parents, teachers and students.

Theoretical Framework:

TQM is a long term continuous process which primarily achieves customer satisfaction but during the process, management and worker satisfaction is also achieved. Due to this factor, everyone working in an organization is equally responsible for implementing TQM techniques, because in the end it is not just the customer who will enjoy benefits, but everyone involved gets some sort of satisfaction or appraisal. Managing uses TQM as an integrative philosophy to continuously improve the quality of products and processes (Psomas, & Antony, 2017).

The concept and practices of TQM is defined as follows:

Total Quality Management (TQM) is a management approach that aims for long-term success by focusing on customer satisfaction. TQM is based on the participation of all members of an organization in improving processes, products, services, and the culture in which they work (Sohel-Uz-Zaman, 2016).

Thus, the concept and practices of TQM is described as a set of guiding notions or a type of philosophy that gives a comprehensive means of developing organization quality and performance by investigating each process in the work, which is prepared in a systematic, consistent, and integrated way. Although the origin of

TQM was in the development of Japan's economy, this concept and practices can be applied to all other sorts of sectors. This includes educational administration, and in particular schools, which aim to exceed customer expectations and meet their needs through commitment to achieving continuous improvement and development in process, planning, and all educational services.

The Need for TQM:

It is not surprising to note the need for many new ideas and management philosophies in organizations, in particular in the educational sector, in order to improve overall educational outcomes and cost effectiveness. Ritter (1993) stated that there are numerous reasons for applying the concept and practices of TQM in education, especially in schools. They include providing the best management philosophies and leadership, increasing the competitive advantage, more cost-effective products, achieving high quality, improved motivation and morale through participation, enhancing pupils' outcomes and attaining joy in learning, increasing retention and attraction of administrators, staff, and learners.

Among the reasons for applying the philosophy of Total Quality Management is to meet the needs of the current century, which emerge through the increased impact of technology on education, emphasis on international views, rethinking of the status, role and placement of education professionals, the insistent need for value for money, and integrating education from pre-schools to higher education, all of which will require change in school management (Sohel-Uz-Zaman, 2016). Furthermore, there are three steps influencing the modification of school education, according to Caldwell (1997). The first is that the public sector must create a self-managing school system to be able to manage changing and face challenges. The second is that all schools should place unrelenting emphasis on improving learning and teaching. The third is reengineering school learning in terms of structure and planning, and the use of ICT in teaching and learning across the school curriculum. In addition, there are factors which pose the most important challenges to established methods of working for school management. These could be determined as consumer rights, local management of schools, the national curriculum, social pressures, and inspection (West-Burnham, 1997). To face these factors successfully requires a professional leader able to manage the school and who has skills, qualities and knowledge suitable to the new position. In Saudi education, these factors are applied through some good leaders in their school management. They have a national curriculum, external pressures, inspection, and local management of schools.

It is widely accepted that there is little difference between academic and other organizations in the importance of applying TQM (Cox, 1996). Indeed, perhaps one of the most prominent points is that education is increasingly considered as a type of business. Many writers such as Sallis (1993) support the practice of TQM in education, claiming it may be useful in the financial area. This is because there

are three commercial factors that could be applied in any organization to be successful, which are finance, marketing, and production (Cox, 1996). Many educational initiatives are concerned to provide these three factors through funding successful projects and dissemination of information around new educational projects such as applying TQM, and guaranteeing the quality of product.

Gurus of TQM:

Undoubtedly, to obtain effective TQM, it is necessary to understand TQM theories, and this will be helped by highlighting the experience of its founders, as well as their methods and philosophies. Juran, Crosby, and Deming are considered the greatest experts of TQM, due to their influential contributions in building the knowledge and principles of TQM.

W Edwards Deming:

W Edwards Deming is considered as one of the main founders of the concept of TQM due to his contribution to building the TQM concept. In the 1950s, Deming was invited by the union of Japanese engineers and scientists to carry out a course on quality control. Deming's notion of quality was embraced by Japanese companies (Bergman and Klefsjo, 1994).

Deming encouraged the use of statistical approaches to decrease variability as well as develop production (Beckford, 2002). He claimed that 85% of production problems are the responsibility of management, not workers. He suggested an emphasis on performance, precision, and care for customers' needs.

W Edwards Deming stressed the need of involvement from all at individual as well as at collective level. He formulated a 14 point management plan which can be applied to small or large organizations in public, private or service sectors in order to modify the corporate culture (Deming, 1986). He believed that any organization which wants to stay in business will have no problem in adopting and acting on the execution of the 14 points. Deming also advocated a very systematic approach for the solution of problems, known as the Plan, Do, Check, Act (PDCA) cycle, also called the Deming cycle. PDCA is an improvement methodology, which will continuously bring improvement by reducing customer requirements and improving systems' performance. This cycle helps in learning what works for the betterment of the process and what does not work. All this takes place in a systematic way with repetition as a new cycle starts at the end of the previous one (Deming, 1986).

Joseph M Juran:

In the 1950s, Joseph Juran worked widely with the Japanese in the field of quality (Beckford, 2002). Juran developed the quality trilogy – quality planning, quality control and quality improvement

(Juran, 1992). A good process for managing quality will need actions to deliver quality by their proper planning and then subsequent improvement and finally the process will be under control (West-Burnham, 1997). When the process achieves control at any level of the process, the quality trilogy moves ahead to the next level of the process. The trilogy uses tools such as Pareto analysis, as follows:

Pareto Analysis essentially states that 80% of quality problems in the end product or service are caused by 20% of the problems in the production or service processes. In practice, then, it is beneficial to separate "the vital few" problems from "the trivial many," and thereby identify the individual problems that can be fixed and most drastically benefit the end product or service. Once these problems are identified, the 20% that are causing 80% of the problems can be addressed and remedied, thus efficiently obtaining quality (Logan, 2002).

This trilogy finally achieves the desired quality level which can be then kept and controlled at that point, because without control the quality could again decline.

Juran explained that if the product wins customer satisfaction, then it means the desired quality has been achieved and if the customer is not satisfied with the product, then it shows the quality of the product is not good. Customer satisfaction can be maintained by carrying out quality improvement projects in succession, throughout the organization. Juran set out 10 points to be implemented for attaining quality improvement (West-Burnham, 1997).

Briefly, Juran's methods emphasise team work and leadership. He considers that quality management is about the balance between the skills of statistical method control and the skills of human relations. Juran agreed with Deming that management has the main responsibility for quality.

Philip B Crosby:

Philip B Crosby worked in quality control in industry (Beckford, 2002). He is famous for the concept of "Zero Defects", which is a performance standard. Crosby considers that prevention is better than cure (Crosby, 1979). He bases quality improvement on four pillars of quality (West-Burnham, 1997):

• Quality changes with the set of requirements

• Quality can be sustained by methods of prevention

• The performance standard should be zero defects

• The measurement of quality is the price of non-conformance

It is obvious that quality in Crosby's view is quantitative and that is very evident through his assumptions. This can be explained by his experience in quality. He believes that most quality issues are within management control. He encourages employees and management to implement TQM. Crosby claims that product cost will

be decreased, if work is completed right the first time. Crosby has a different approach from Juran and Deming (Al Nabhani, 2007).

To summarize, the most prominent pioneers of quality are Deming, Juran and Crosby. They have fewer differences than commonalities. The differences are in the implementation forms and the concept usage. For instance, Deming views continuous quality improvement as essential, whereas Crosby proposes an isolated set of activities. Regarding quality, Juran agrees with Deming that the responsibility for quality lies with management. On the other hand, Crosby's method could be interpreted as proposing that staff have the main quality accountability. However, all quality gurus enhance the culture of quality and its significance for improvement. The three quality gurus propose training as a basis for changes. Another important point they agree on is cooperation. Besides, they favour motivating employees through rewards.

TQM in the Education Context:

Interestingly, TQM applications have attracted a large number of industrial organizations, from small projects to global companies. Although the TQM roots are based on statistical quality control, with statistical investigation of performance being the main technique for confirming the development of TQM measures, TQM also attaches importance to the human factor of any organization (Juran, 1988; Deming, 1986). This facilitates TQM practice in service sectors generally, and in the education sector in particular.

In the past, Saudi educational organizations did not recognize the great value of the concept and practices of TQM because it was a new concept for all employees in the education sector and they did not recognize what TQM means and how TQM can affect education. However, since 2010, in particular, with the King Abdullah project for developing the outcomes of schools, they are attempting to apply TQM in their administration to attain desirable outcomes (Alfawzan, 2010).

Mangan (1992) views that:

Faced with soaring operating costs and persistent public demands for accountability, a growing number of colleges and universities are turning to TQM and its principles of customer satisfaction, teamwork, and employee empowerment as a tool to improve how institutions are managed. (Mangan, 1992, p. 25)

There is a wide range of TQM application in school settings (Schmoker and Wilson, 1993; Weller and Hartley, 1994) and higher education (Wiklund et al., 2003; Sahney et al (2004)). Some of these studies tried to prove the possibility of applying TQM concepts in the educational context. For example, in Kenya, Ngware et al. (2006) carried out some research to investigate to what extent secondary schools applied Total Quality Management. They noticed that most

secondary schools were not able to commit towards strategic planning, although they encouraged human resource development initiatives.

For Saudi education, some research has been carried out on applying TQM in Saudi schools. For example, Alganam (2001) found that the effectiveness of school leaders' performance was enhanced in the light of TQM implementation in their administration, but they need further training and management of human resources and management of relations with educational officials.

TQM Advantages for Education:

Many authors shed light on the importance of applying TQM especially in the educational sector. Sallis (1993) claims that the education sector could gain great benefit by adopting a TQM approach, in financial and human terms. Some TQM concepts such as "right first time" cannot be immediately applied in the educational environment, but education organizations can still gain many advantages through using some TQM ideas. He illustrates that applying TQM in education will minimize educational mistakes through clarifying educational procedures and systems and will enhance team work through good planning. Indeed, it can be said that although the origin of TQM was in industry, and it has adopted business language, due to its flexibility it can be applied in the education sector.

Murgatroyd and Morgan (1993) highlight the advantage to general organizations of implementing the concept of TQM. They indicate that the purpose of TQM is not just to improve educational outcomes, in particular, the result of schooling, but is for the whole school nature as a process for all customers. Moreover, higher education can benefit from applying the concept of TQM, according to Howard (1996), as focus on customers can give great value for stakeholders, employee development and commitment through involvement, goal accomplishment by strategic planning, the improvement of services through increased process improvement, and minimized cost through eradication of unnecessary tasks. Howard asserts the benefit of applying TQM in education through three dimensions: the planning dimension, the financial dimension, and the human dimension. In the planning aspect, it facilitates goal achievement through strategic planning; in the financial aspect, it can save money and a variety of resources; in the human aspect, customers are satisfied and staff are committed.

Another study carried out by Ahamed (2003) illustrates the importance of applying TQM in educational administration, as TQM can create the best academic climate , it can create many management styles and methods to face varying situations, and improve the leadership and management skills of school leaders.

TQM is a philosophy that aims to achieve quality products with customer satisfaction and a pleasant internal environment in a manufacturing concern or even inside a school. TQM can be effective in a variety of contexts, as long as implementers have full knowledge

and full respect for its principles and techniques. Despite differences in quality and management theory, the gurus of quality have made great effort to prove the importance of TQM in organizations in order to attain total quality in all organizational outputs. However, it is extremely important that everyone in the organization knows about the principles of TQM, to assist them in recognizing and understanding these principles. To identify problems, a variety of TQM tools and techniques are available for organizations to use in their administration. Applying the concept and practices of TQM in education could bring many benefits for customers and the educational environment in general. Above all, everyone involved should participate in the improvement process, with confidence in the outcome of their efforts. On the other hand, many organizations have faced some obstacles which impede application of the concept and practices of TQM in their organization, because they were not committed to or familiar with this new concept and practices. However, educational organizations, in particular in Saudi, should enjoy applying TQM with work and patience because the TQM concept and practices is able to achieve quality in the educational process and desired goals.\

Method of the Research

Quantitative Method:

Quantitative research methods, as the name suggests, focus on information that is measureable in the form of numbers or numeric values. There are different statistical techniques that can be used to analyse the quantitative data obtained by the researcher. The main objective of using quantitative research methods was to study the recent situation in the Saudi learning environment regarding the concept and practices of TQM. Quantitative method was considered as the best approach as it can provide a huge amount of information in a short period. Moreover, quantitative method can evaluate the relationship between two or more variables/factors, or study the relationship between two or more variables based on objective data. These objectives are fulfilled by correlation research methods which help the researcher in analysing the degree and significance of association. On the other hand, experimental method allows the researcher to test the assumptions of causality between two or more variables according to Onwuegbuzie and Johnson (2004). Bryman and Bell (2003) stated that this method is utilized for the testing of a theory: it is deductive.

It is essential to use sophisticated software such as SPSS in order to deal with the computation side of things easily and it is likely to come up with several charts and tables almost immediately once the information is installed (Hohmann, 2006). This approach provided a comprehensive analysis of the data.

Justifications for the Research Method:

Awad (2004) stated that quantitative research method offers objective data to the researcher which is easier to codify, analyse and interpret as compared to qualitative data. The objective nature of data enables the researcher to provide research findings that can be more reliable than results obtained through qualitative analysis. The core justifications for choosing the quantitative method are generalization, individualism, unlike case study, causality, and saving of time and effort.

Another reason for using the quantitative approach in the current study is that it has enabled the researcher to gather information within a short period through using survey as a means of data collection, thus responding effectively to the limited time frame. Survey is regarded as one of the best approaches for collecting data as it provides quick and easy access to the sample, and provides information about people's attitudes, beliefs and opinions in a short time. Also, it is considered as a valuable instrument for collecting data offered in statistical form, as a basis to attain the research aims. In addition to that, females in Saudi Arabia tend to be more conservative, which means they are not comfortable with the idea of interviewing, especially if it is associated with audio or visual recording. On the other hand, the qualitative methods usually are descriptive which means that their results do not show us whether they are significant or not. This study will provide us with a significant amount of information which will allow us to evaluate the quantity and quality of TMQ so far in our schools and it may allow us to correct some incorrect practices or principles.

Research Strategy:

Why did not you mention this part in the research methodology???? Research strategy is the main plan which help the author to answer her or his research questions. Quantitative research designs are of two sorts, experimental design and non- experimental design. An experimental design was unsuitable, due to the impracticality of manipulating the variables of concern. In social science research, non-experimental design has four research strategies which are identified by Yin (2003) as: case study, archival analysis, histories, and survey.

The survey strategy was chosen in accordance with the research purposes. The aim of this study can be described as being predictive, descriptive, and exploratory. This research is descriptive simple sentence. Phenomena are identified by descriptive study as they occur, and the objective is to apply and identify data with reference to the characteristics of a particular issue. The purpose is to provide a real profile of an individual, or situation (Robson, 1999). The descriptive study could be an extension of exploratory study when it is necessary to establish a clear notion of the phenomenon about which the author needs to gather information before that information is gathered (Saunders et al., 2007).

However, Collis and Hussey (2003) argued that descriptive study digs deeper when examining a matter than exploratory study, since it is carried out in order to clarify and establish the pertinent characteristic issues. They also stated that when carrying out descriptive study, an investigator tries to determine the limits of earlier projected generalisations. Therefore, for this study the strategy of descriptive research is appropriate. In gathering information within the strategy of quantitative, descriptive research, statistical techniques are regularly utilized in order to summarise data (Collis and Hussey, 2003).

In this research, sufficiently representing the group and examining the variables necessitated collection of information in uniform form from a sample. The survey technique was considered suitable as it could help in gathering a variety of types of data, including perspective, attitudinal, behavioural, and motivational aspects, which could not be gathered by other information collection methods such as observation. Survey research designs can be expressed in several forms because it is flexible, but in general are categorized by data collection utilizing typical forms of questionnaire which can be managed in different ways, such as telephone or face to face, postal pencil – and – inquire form, web– based, or by e – mail forms (Saunders et al., 2007).

These drawbacks can be overcome, according to Bryman and Bell (2007). For example, the secrecy and the confidentiality of a self-controlled questionnaire encourage more honest answers. The author used this sort of survey; thus, it is possible that the participants would be more truthful than if, for instance, carrying out interviews. Nevertheless, a self- administered questionnaire could pose other issues, particularly, if the participants are facing ambiguity in some questions, and they need to ask for questions to be made clearer. To overcome these issues and weakness, according to Bryman and Bell (2007), a pilot study is used.

The questionnaire was piloted with six respondents from the Education Faculty of Hull University, to get some of their observations in order to adjust the questionnaire before starting the process of distribution and data collection.

Another drawback can be overcome, which is the incapability of the investigator to obtain more information from participants, using open – ended questions, to obtain further data and allow for a large amount of data. However, as the response can be limited through the space available for the reply, and open questions usually have a low rate of response, most of the questions used in this research were closed ended and they were scaled. These sorts of questions can be answered easily, they can bring an answer more quickly and the data collection and analysis process is considerably streamlined (Saunders et al., 2007).

Questionnaires:

One of the most appropriate tools for gathering information from contributors is questionnaires. Nisbet and Entwistle (1970) indicated that a questionnaire is considered as a kind of conversation written on paper, for respondents to respond.

In this research, in order to obtain the maximum advantages from the questionnaire and minimize its limitations, the author designed the questionnaire in such a way as to attain its aim, which was to gather opinions and data from a large number of contributors. The procedure of creating developing the questionnaire took place in two phases:

1. Preparation by gathering a large volume of information relevant to the topic from previous research in this field, as well as reading and understanding the theoretical framework. The measures for the TQM concept and practices recommended by West-Burnham (1997) were taken as a starting point and discussed with two head teachers. Other head teachers were consulted and new articles linked to TQM researched.

2. Construction phase: on the basis of what is stated above, the author designed the questionnaire which contains 48 items in four parts:

The questionnaire should be attached to the research paper …

Section I: is about personal information: qualifications, experience, and training courses.

Section II: it contains 4 parts and 23 items concerned with the TQM criteria. It measures whether Saudi girls' schools know about and apply TQM and assesses the ability of head teachers to recognize that concept and practices. Statements are measured on 5-point Likert-type scale, where 1= strongly agree and 5=strongly disagree.

Section III: it contains 5 items which focus on the extent to which Saudi girls' schools apply the TQM concept and practices. Answers are on a five-point scale which explains to what extent the Saudi schools apply TQM, in the form (1= strongly agree,2=agree,3=unsure,4= disagree, and 5=strongly disagree).

Section IV: focuses on head teachers' perceptions toward the concept and practices of TQM as an instrument for on-going development. It includes 6 items which are in the form of (1= strongly agree,2=agree,3=unsure,4= disagree, and 5=strongly disagree).

Wiersma and Jurs (2005) stated that closed statements in a questionnaire enhance consistency of response across contributors; data tabulation is clearer and less time-consuming than open-ended questions. This questionnaire was designed with closed statements to limit respondents to selecting only one point.

The questionnaire was designed to help the process of profound analysis, which conflicts with the advice of Leedy (1997),

but the items were arranged logically to aid understanding (Knight, 2002). This questionnaire used Likert scales which were developed, according to Infosurve (2007), in 1932, by Rensis Likert. The purpose of using such scales is to improve the standard of measurement in social research. Research carried out by Infosurve (2007) showed that most contemporary studies adopt the 5-point scale, which is regarded as better and more common than the 6- point scale and normally a 5-point scale is adopted when carrying out survey research.

The Pilot Study:

The main purpose of the pilot study phase was to enable the investigator to discover any matters that might cause problems in the future. Meanwhile, it improves practice for the study before its application. The significance of a pilot test is to increase the possibility of success in the research and draw attention to where the study project may fail (Teijilingen and Hundley, 2004). The pilot test was particularly significant in the current study because it was used to gather preliminary data which showed whether the questionnaire would support the research aims and answer the research questions. However, if the outcomes gained did not achieve the desired quality, the questionnaire could be reviewed, to improve it based on the feedback.

A first questionnaire was designed and tested to find out if it offered beneficial information which could lead to a good outcome. The first draft was distributed to six postgraduate students in the Education faculty of Hull University; they found some points incomprehensiblenot understandable. After that, the questionnaire was modified and submitted to the supervisor. However, the supervisor had many comments and observations on the questionnaire. For example, it contained several different response formats; the first question was (strongly agree, unsure, strongly disagree), whereas other questions had different scales like (High, Medium, Low, Zero) and (Very good, Good, Barely acceptable, Poor, Very poor). The scales of the questionnaire were harmonized to be in the form: (Strongly agree, Agree, Unsure, Disagree, Strongly disagree).In addition, personal information was moved to be on the first page.

Sample of the Research:

Commonly, in education research, there are two sorts of sampling, which are non-probability and probability sampling (Plowright, 2011). Some researchers recommend using a random sample, in which any unit in the sampling frame has a determined, equal possibility of being chosen. However, authors usually utilize theoretical or information-oriented sampling, according to Eisenhardt (1989), if they choose a case study, instead of random sampling.

The purpose of randomisation is to utilize a representative sample selected from population. That will enable to generalisation of the research's findings to a broader population (Plowright, 2011). On the other hand, non-probability sampling includes choosing cases that do not necessarily represent a broader population but have information that will contribute immediately to responding the research question (Plowright, 2011).

In this research, 123 secondary public schools represented by 123 head teachers in Jeddah participated in this study. The participants' information was taken from the chief of the educational sector in Jeddah, and through the author's connections with her colleagues in the supervision department of the Ministry of Education, which authorized the author to utilize this information such rationale may affect the results attained. Jeddah was chosen as it is where the author lives and works as a supervisor. Her experience in the schools and important relations within the educational context, helped to encourage her to apply the TQM concept and practices in these schools and enable all head teachers to contribute to this study. The hope was that, if the study is successful and provides positive outcomes as strong evidence and attains its goals, then, it will be possible to generalize these results throughout the KSA. There are many benefits that can be gained through this data for the Saudi education authorities because it will provide them with feedback which will clarify how they can develop the Saudi girls' secondary schools, through practising the concept and practices of TQM within the city of Jeddah.

Data Collection and Data Analysis:

The questionnaires were distributed to 123 school head teachers who work in secondary girls' schools in Jeddah city, with assistance from colleagues who are employed in these schools. Then, the questionnaires were collected.

The SPSS program was used for treating the data by:

1. Percentages, frequencies, and means, to analyse the personal information of the sample and to evaluate the trend of responses that have been generated through the questionnaire.

2. Percentages, standard deviations, frequencies and mean scores for the responses of participants of the study sample.

The researcher identified that the sample of this study was secondary girls' school head teachers because they face many issues daily to gain satisfaction from customers and officials. The researcher distributed 123 copies of the questionnaire and received 52 replies. The questionnaire given to the contributors included a number of statements and each one of them had several response options to encourage them to answer easily and reveal the participant's point of view. The results are shown in tables comprising several items to test participants' attitude toward each of the five questions. The data collected through the questionnaire was analysed by using the

Statistical Package for Social Sciences (SPSS) program. Descriptive analysis was performed, using standard statistical methods.

Validity of the Questionnaire:

For this research, content and face validities were attained through previous discussion with school leaders and careful review of the TQM literature as contributions to designing the questionnaire, and by eliciting opinions on the design of questionnaire during the piloting process. In relation to external validity, it should be observed that the Saudi education system is uniform according to government policy; thus, there is no difference between school systems in Jeddah and other cities, so questionnaire outcomes gained in Jeddah secondary girls' schools are valid and can be acceptable to generalize throughout the Kingdom's schools. Furthermore, internal reliability was examined by computing Cronbach's alpha (the combination of all split halves) for every scale in the questionnaire.

Results of the Study

For opinion data, a five-point Likert scale was used as follows: Strongly agree, Agree, Unsure, Disagree and Strongly Disagree, scored from 5 to 1in descending order (5, 4, 3, 2, 1). The range for the scale was calculated as 5-1 = 4, then divided by the number of categories (5), giving 4/5 = 0.80, which was the length of each category of the scale. Finally, the length of the category was added to the lowest grade of the scale, which was 1. Thus, the first category was calculated to be representing mean scores from 1 to 1.80. By adding the length of the highest limit for the category to produce the second category and so on for the rest of the categories, the following criteria were defined for the purposes of analysing the results:

Strongly disagree ⟶	0 to 1.80
Disagree ⟶	> 1.80 to 2.60
Unsure ⟶	> 2.60 to 3.40
Agree ⟶	> 3.40 to 4.20
Strongly agree ⟶	> 4.20 to 5.00

This information has been translated in diagrammatic form for analysis of the findings.

4.3. Findings of the Research:

This questionnaire began with gathering a participant profile, in terms of personal information. Question number one asked the contributors about their personal information relating to their

qualifications, their experience as head teachers and the number of training courses they had attended.

Figure 4.1: Qualifications

Figure 4.1 shows that out of a total sample of 52, all head teachers had a Bachelor degree and 11.5% also had a Master's degree.

4.2 The correlation between head teachers' responses and their qualifications.
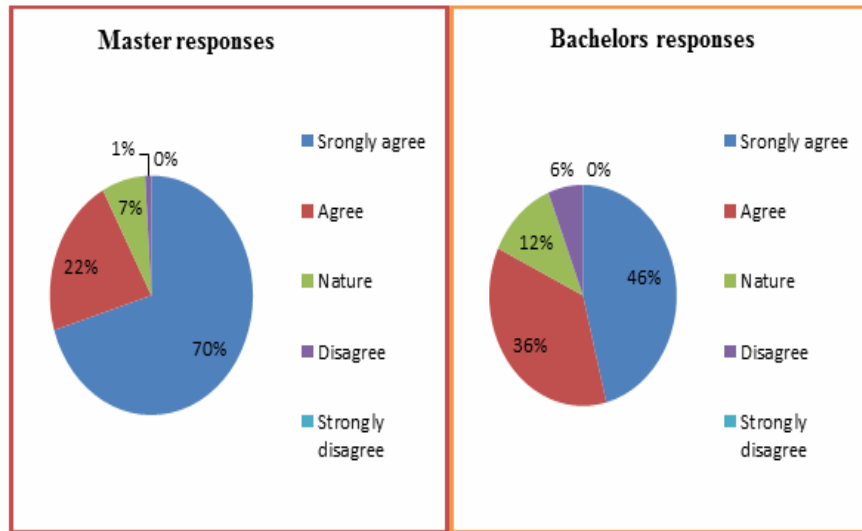

Figure 4.2 shows that 70% of head teachers who had a master degree strongly agreed with the four sets of items in the questionnaire which interpreted the four research questions, whereas 46% of head teachers responses who had Bachelor degree strongly agreed. In contrast, 6% of head teachers responses who had Bachelor disagreed,

whereas 1% of head teachers who had a master degree disagreed with the questions.

Figure 4.3: Work Experience.
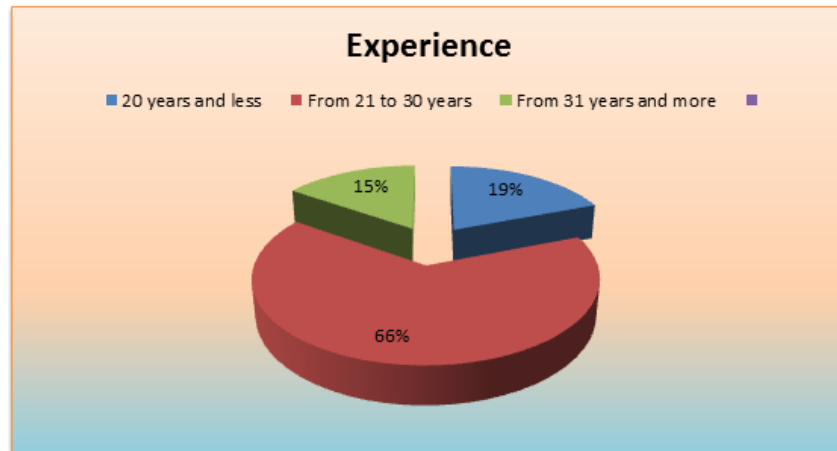
Figure 4.3 shows that the employees with 21 to 30 years' experience were the largest proportion of contributors, about two thirds of the total, while much smaller percentages were found in the 31 years and more and 20 years and less categories.

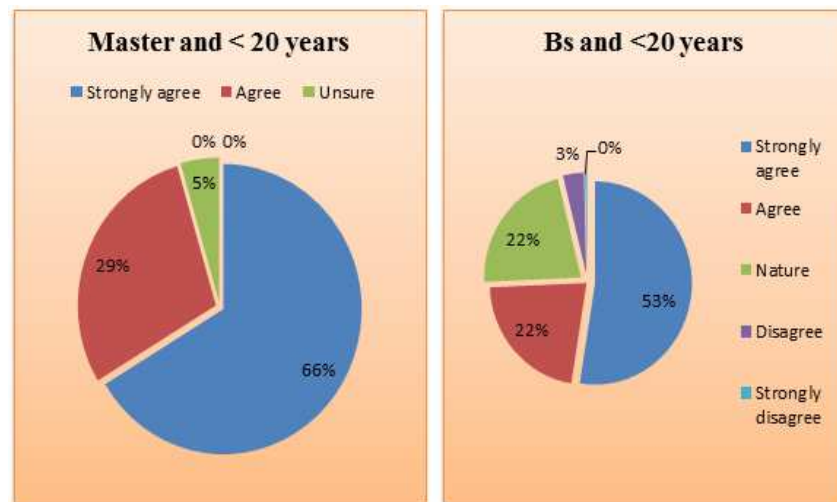**Figure 4.4: The correlation between head teachers who have Master and Bachelor degree and <20 years' experience with responses.**

Figure 4.4 shows that 66% of head teachers who had a Master degree strongly agreed, whereas 53% of head teachers who had a

Bachelor degree strongly agreed. In contrast, 5% of head teachers' responses who had a Master degree were unsure, whereas 22% of head teachers' responses who had a Bachelor degree were unsure.

   Figure 4.5: The correlation between head teachers who have Master and Bachelor degrees and from 21 years to 30 years' experience, and responses.
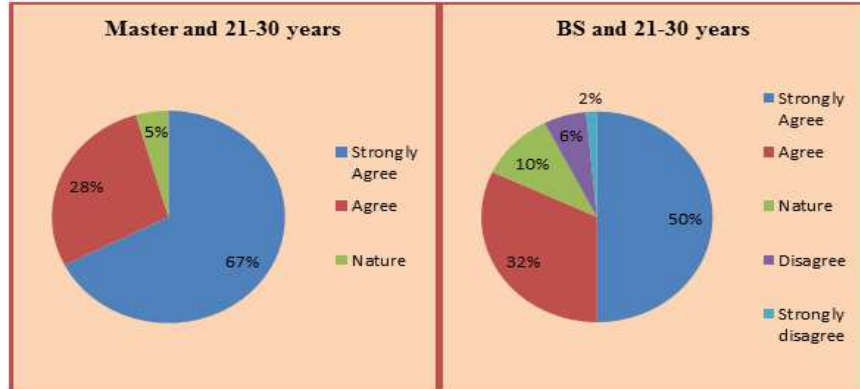

Figure 4.5 shows that 67% of head teachers responses who have Master degree and experience from 21 years to 30 years strongly agreed, whereas 50% of head teachers responses who had a Bachelor degree and experience from 21 years to 30 years strongly agreed. In contrast, 6% of head teachers who had a Bachelor degree and experience from 21 years to 30 years disagreed, whereas there were no head teachers who had a Master degree and experience from 21 years to 30 years who disagreed.

   Figure 4.6: The correlation between head teachers who have Master and Bachelor degrees and more than 31 years' experience, and responses.
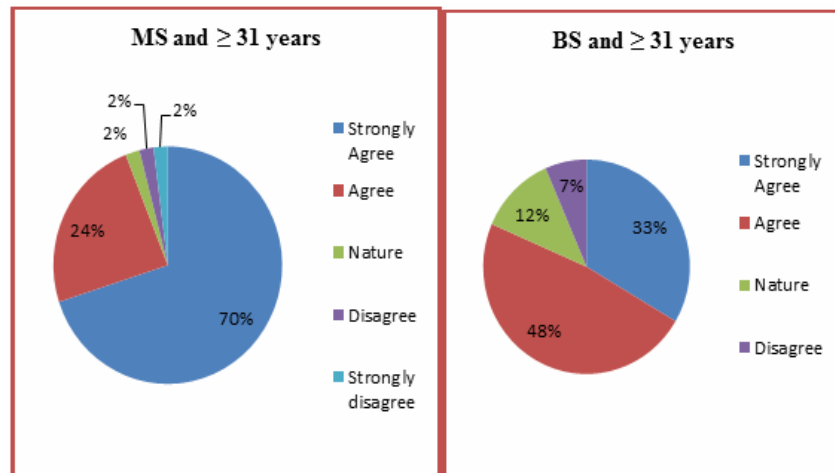
Figure 4.6 shows that 70% of head teachers who had a Master degree and more than 31 years' experience strongly agreed, whereas 33% of head teachers who had a Bachelor degree and more than 31 years' experience strongly agreed. In contrast, 7% of head teachers who had a Bachelor degree and more than 31 years' experience disagreed, whereas 2% of head teachers who had a Master degree and more than 31 years' experience disagreed.

Figure 4.7: Training courses.

Figure 4.7 shows that the largest category of participants was those who had attended 11 or more courses (57.7%). In contrast, the smallest category was employees who had received 5 and less (19.2%). However, there is little difference between the percentage of participants who attended 5 or less courses, and those who attended from 6 to 10 (19.2 % and 23.1% respectively).

Figure 4.8: The correlation between head teachers' qualifications and training course.

Figure 4.8 shows that the mean number of training courses for head teachers with a Master degree was 8.5 courses per head teacher for those with 20 years and less and 31 and more years' experience respectively. However, the mean number of training course for those with a Bachelor degree was 9.1, 11.6, and 20.3 courses per head teacher for those with 21 years and less, 21-30 years, and 31years and more experience respectively.

Question number two was concerned with whether or not Saudi schools apply the concept and practices of Total Quality Management, from the perspective of schools' head teachers. This was measured by whether they were convinced by TQM principles and highlighted the important role of leaders and staff, and understood the process of prevention to achieve the desired goals as well as achieve customer satisfaction. Figure 4.9 shows the results.
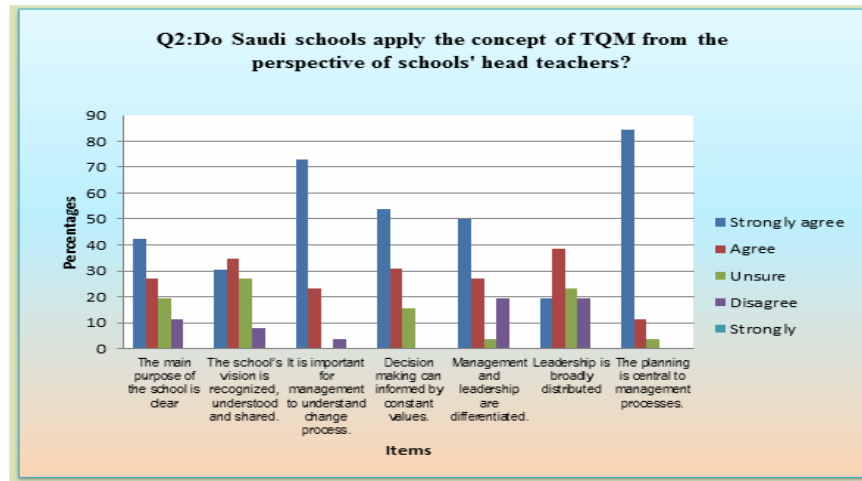
Figure 4.9: TQM Principles:

Figure 4.9 illustrates that the highest percentage (84.6%) strongly agreed that planning is central to management processes while even the lowest percentage of respondents (35%) represented agreement on the importance of the need for leadership to be broadly distributed. The results suggested that they understood TQM principles, because the value of the total mean (4.20) represents "strongly agree".

The second aspect of question two was about participation of staff, and the results are shown below.

Figure 4.10: People (staff, leaders)
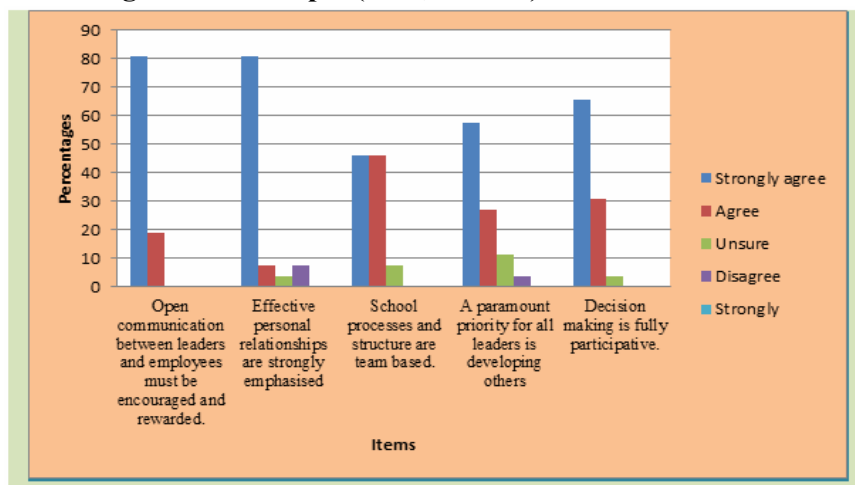
From Figure 4.10 it is clear that participants strongly agreed that open communication between leaders and employees must be encouraged and rewarded (80%) and that effective personal relationships are strongly emphasised (80%). However, even in the two lowest-scoring statements, i.e., that school processes and structure are team-based and that a paramount priority for all leaders is developing others, head teachers strongly agreed. In general, the mean score for this scale is 4.56, which still represents "strongly agree".

The third point of question two examined the attitude of head teachers toward achieving prevention. Figure 4.11 shows the results.

Figure 4.11: Prevention
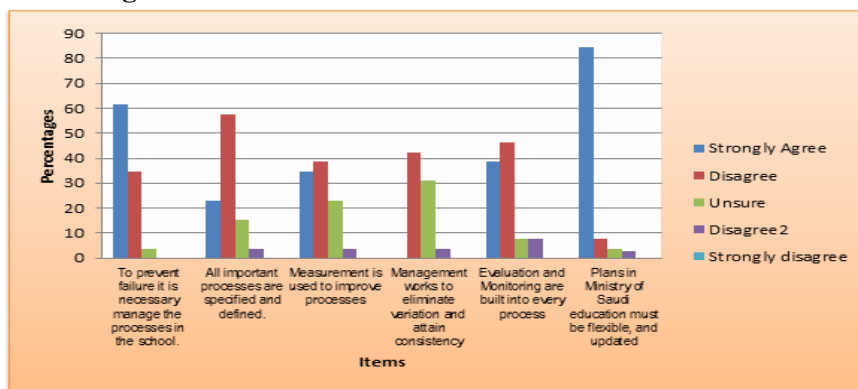
From Figure 4.11, it can be noticed that 48% of head teachers strongly agreed that plans in the Ministry of Saudi Education must be

flexible and updated, while 61.5% also strongly agreed that to prevent failure, processes in the school must be managed. The percentage of participants who were unsure as to whether measurement is used to improve processes was 23.1%. Briefly, the value of the total mean which reflects the prevention concept and practices was 3.70, which represents "agree".

The fourth scale examined participants' attitude toward achieving customer satisfaction. Figure 4.12 shows the results.

**Figure 4.12: Customers (student, parents, and stakeholders)**
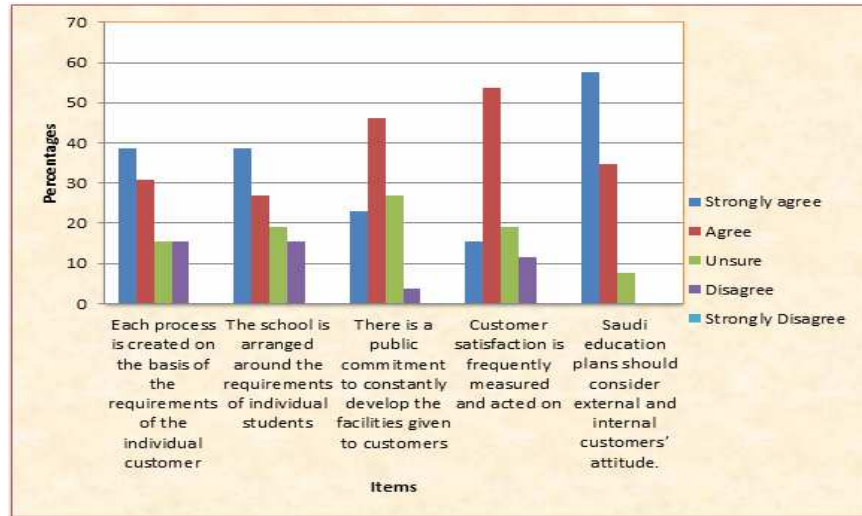
From the above table it can be seen that 57.7% of the head teachers strongly agreed that Saudi education plans should consider external and internal customers' attitude. However it is clear that only 15.4% strongly agreed that customer satisfaction is frequently measured and acted upon in the centralised Saudi education policy. In summary, for achieving customer satisfaction, which is one of the purposes of the TQM concepts, the value of the total mean is 3.98, which represents "agree".

Question number three asked participants to identify the extent to which Saudi schools applied the concept of Total Quality Management and it includes five statements, as below.

Figure 4.13: To what extent do Saudi schools apply the concept of Total Quality Management?
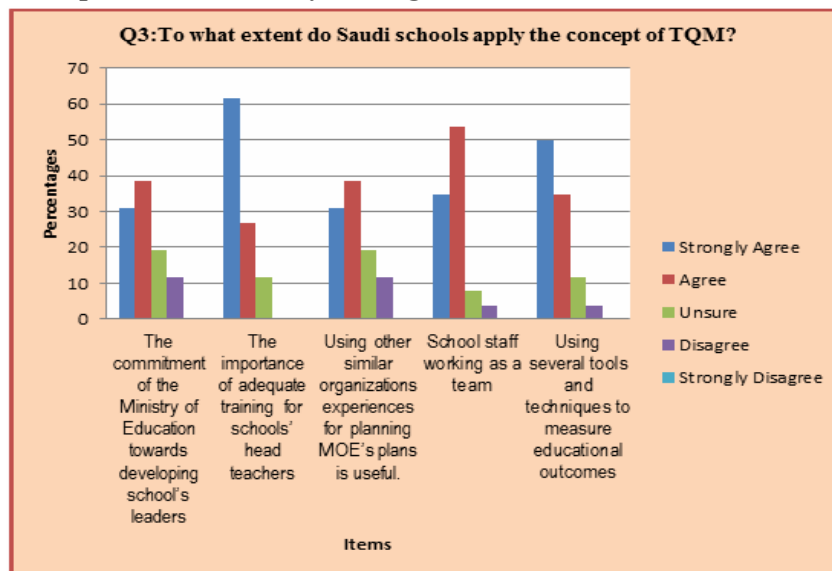
The figure shows that 61% of respondents strongly agreed on the importance of adequate training relating to TQM for schools' head teachers. However they disagreed that using other similar organizations' experiences for planning the MOE's plans is useful and that the commitment of the MOE towards developing school leaders is in place (19.2%). Briefly, it can be noticed that Saudi schools apply the concept and practices of TQM through giving the head teachers' sufficient training and enabling them to work with each other as a team ,so the value of the total mean is 4.15, which represents "agree" (see table 4.13).

Question number four aimed to identify head teachers' vision toward Total Quality Management as a tool for continuing development and includes six related statements. They are contained below.

Figure 4.14: How do head teachers view the Total Quality Management concept as a tool for continuing development?
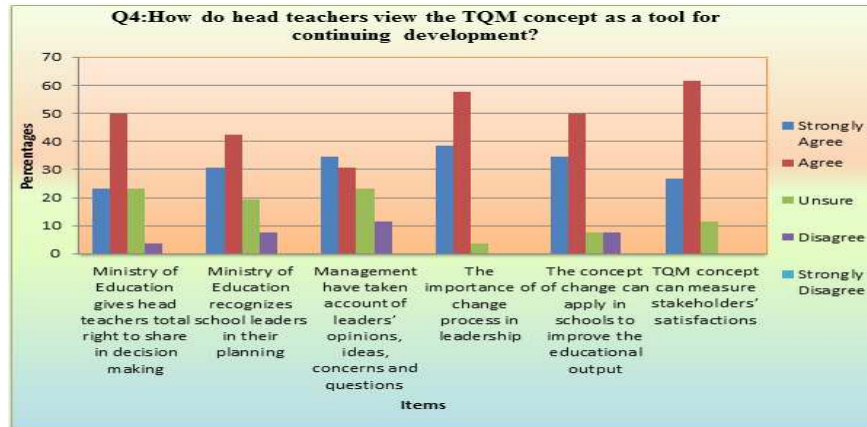

Figure 4.14 indicates that 61.5% of respondents agreed that the use of the TQM concept and practices can measure the satisfaction of stakeholders. In contrast, 7.7 % of participants disagreed that the Ministry of Education recognises school leaders in their planning and that the concept and practices of change can apply in schools to improve the educational output. Also, management have taken account of leaders' opinions, ideas, concerns and questions, with a mean of 3.88, which represents "agree". Moreover, giving head teachers the right to share in decision making scored a mean of 3.92, which represents "agree". Briefly, head teachers' vision toward the concept and practices of TQM as a tool for continuing development can be clarified through the value of the total mean (4.06) which represents "agree".

Discussion of the Results:

From the data and the literature that has been gathered regarding the theme of this research, it can be noticed that there is a strong link between the concept and practices of TQM and learning improvement. This link will be described by answering the research questions. The research focused on different dimensions of TQM, and the perceptions of head teachers related to the application and benefits of TQM in Saudi schools.

Before addressing the research questions, personal data were analysed.

The main reason for analysis of this information was to illustrate the correlation between the head teachers' experience, qualifications, and their training courses and responses to the four sets of items in the questionnaire which interpreted the research questions, which reflect on how the TQM concept and practices can affect Saudi Education. It can be seen that the qualifications and then the experience of head teachers play a significant role in understanding the four research questions about applying the TQM concept in Saudi

schools. 70% of head teachers who had a Master degree strongly agreed with the research questions. Moreover, 70% of head teachers who had a Master degree and 31 years and more experience strongly agreed with the four sets of items in the questionnaire which interpreted the research questions. 53% of head teachers who had a Bachelor degree and 20 years and less experience strongly agreed. However, there is no statistically significant difference between the head teachers who had a Master and Bachelor degree in terms of the number of training courses, so it did not affect head teachers' responses. This might be because these courses were different, and were not all about the TQM concept and practices.

The first research question was Do Saudi schools apply TQM from the perspective of school head teachers?

The responses of the head teachers indicated a high level of perception that schools apply the principles of TQM. The evidence is that the most frequent response to the relevant items was 'strongly agree'. Also, the majority of the head teachers understood the change process. Moreover, they acknowledged that good planning is central to management processes. Schools attempt to focus on their employees, team building and collaboration among employees. This trend indicates that Saudi schools acknowledge team building practices as an effective tool for improving the quality of the educational institutions.

Additionally, Saudi schools focus on prevention of problems in educational processes by means of continuous updating and flexibility in the plans of the Ministry of Education. Moreover, respondents saw managing school processes as necessary to prevent failure. The responses of the participants also have indicated that the schools' head teachers are able to address issues that can prevent the deterioration of quality or take steps to bring about improvement and consistency in the quality of educational processes.

Another focus of interest was the degree of customer focus of Saudi schools. The results indicate that the majority of the head teachers were of the opinion that their schools were customer focused. In the literature review, Sallis (1993) was quoted as arguing that one of the TQM principles was to be customer driven, in order to meet the customers' needs, which will in turn achieve their satisfaction. This is considered as one of TQM's aims. Sallis (2002) regards TQM as a tool which enables an organization to bring such quality in its processes which results in a high level of customer satisfaction. From the perspective of schools, the customers will be parents, teachers and other stakeholders. Saudi schools seem to be focusing on building consistency in their processes, or establishing a positive relationship with their customers. Briefly, Saudi schools have a high degree of application of the and practices of TQM in their educational processes. Therefore, the result is a high quality of education which is aiming to gain the satisfaction of many parents and students.

The second question investigated head teachers' vision around the Total Quality Management and practices as a tool for continuing development.

An interesting finding was that a majority of the head teachers perceived TQM and practices as a tool for continuing development. The results showed that the percentages of participants who agreed with the items contained in this scale were high compared to the percentages of participants who disagreed.

Recommendations of the Research:

The researcher has conducted this specific research in order to obtain some interesting materials to help her department in the Ministry of Education to be more successful and she will attempt to make some recommendations for the Ministry of Saudi Education. The recommendations are based upon the questionnaire findings and are in line with the researcher's experience as supervisor in the Ministry of Saudi Education.

Saudi schools are achieving a high level of learning quality in general. However, there needs to be more focus on some significant factors which could achieve learning quality effectively. On the basis of the above findings, it can be recommended that in order to enhance the work of Saudi schools, there is a need to focus on the process of how change is managed. Adopting TQM principles in the school processes is a practice that requires alterations in the focus and perceptions of the school management. The first step is to become aware of the need for bringing in change in the educational processes, and the second step will be to focus on the areas that need change and improvement. Once the management is able to identify the areas for improvement, effective steps can be taken to bring progress in the school systems and educational practices.

Saudi schools also need to develop a work environment that facilitates effective interpersonal relationships among the employees, and create an environment where the process of decision making takes place on a collective level instead of individually. Efforts also need to be made to build effective teams in the schools to achieve the aim of quality education and effective educational practices, which will in turn give rise to increased customer satisfaction.

As pointed out by the school head teachers, a major obstacle that Saudi schools are facing in effective implementation of TQM principles is lack of sufficient training for the head teachers. The Ministry of Education needs to provide adequate training for the head teachers to bridge the gap that exists between knowledge and its application. The value and likely interest in such training is supported by head teachers' awareness of the effectiveness of TQM and its role in the development of schools and improving the quality of education.

Conclusions of the Research:

This research gives more understanding of how the Total Quality Management practices can affect Saudi education. Moreover,

as has been mentioned previously, this current research provides useful insights into the current situation of implementation of the TQM concept and practices in Saudi schools. In addition, the study has provided information about the perception of head teachers in relation to the importance of TQM concept and practices. As shown in the results, the majority of the head teachers regarded TQM principles as of crucial importance in the continuous development and improvement of educational practices in Saudi education. Moreover, the research has also contributed by offering recommendations such as providing necessary training courses to school head teachers and enabling them to contribute effectively in decision making, which will not only result in quality education but will also give rise to customer satisfaction.

Suggestions for Further Research:

This research has been limited to head teachers in secondary girls' schools. However, future studies could analyse the trend of TQM application in Saudi education with reference to a broader sample, consisting of teachers, head teachers in other schools, students, and customers, to obtain a wider perspective of the situation.

The current study has been limited to secondary girls' schools. Further studies could gather data from other educational institutions as well, such as universities and technical institutes. This would enable them to compare the educational processes, and the degree of TQM application across different levels of education, providing a wider scope for analysis. Researchers could compare and contrast the educational practices in schools to analyse the different practices which have resulted in variation in the quality of education, and the differences in the implementation of TQM across different schools to achieve total quality.

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