

A Comparison Of Overall Quality Management Methods In Public And Private Schools In Pakistan's Southern Punjab

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Abstract

Total Quality Management (TQM) is a management philosophy that emphasises continual improvement. Secondary education is offered in Pakistan by both the public and private sectors, and the purpose of this study was to examine comprehensive quality management techniques in two different categories schools in Pakistan's southern Punjab. Quantitative research design was used to collect data from 346 secondary school teachers, and the instrument of TQM used in this study was developed and tested by different researchers and Mahmood et al., (2020). Reliability coefficient was found to be above 0.80. Descriptive statistical analysis and factor analysis were also performed, and an independent t-test was used to evaluate the data. TQM practises differed significantly across private and public schools, resulting in higher quality schools. The findings add to the body of knowledge by presenting TQM components that can help teachers and school administrators establish quality management systems.

Keywords: TQM, TMC, Continuous improvement, Customer focus, Training & education, Involvement of Staff, Public & Private schools

INTRODUCTION

TQM practices need to be introduced as an approach to access organizational growth that is necessary for enhancing school performance. Education is critical in building a nation's social and economic environment, as well as in passing on knowledge and talents to future generations. Not only that, but education is also important in shaping a person's future personality. (Mahmood, Ismail, & Omar Fauzee, 2020b). Due to increased global competition in education and technology in the twenty-first century, education plays a critical

role in national growth (Awan & Zia, 2015). The success of nations is dependent on the quality of their education, making it an important concern internationally (Akareem & Hossain, 2016; Masino, 2016). It is well known that in today's globalised world, education quality is seen as a critical prerequisite. As a result, educational institutions try to meet this need while also addressing the issues that come with it by looking for a realistic and inventive solution to improve their entire quality management system (Mahmood & Ismail, 2018). There are few studies on quality

management, and there are several obstacles associated with it because of diverse conceptions of quality, particularly in developing nations (Adu, Olatundun & Adu, 2016). Quality management a whole has been identified as one way for improving educational quality (Alobiedat, 2011). Similarly, Ahmad, Altaf, Mahmood, & Muzammal (2022) advocated for the use of quality management in schools and colleges to deal with fast changes and enhance educational institutions.

Total Quality Management (TQM) is a mentality and a methodology to facilitate quality performance and a tool that enhance the quality of The performance of any school is intrinsically linked to the performance of its students, parents, teachers, and relevant authorities (Sallis, 1996). There are various issues in providing quality secondary education in Pakistan. The major causes, as stated by Pakistan National Education Policy (2018), low admission criteria, student absenteeism, a lack of engaged instructors, an imbalance in teacher-student ratios, The challenge of quality education has been aggravated by a lack of a supporting atmosphere, physical infrastructure, and an ineffective assessment system. As a result, we cannot satisfy international standards.

TQM does not support the “institutionalized model” and views schools as systems. Several scholars cited that “business and human endeavours are systems” (Arnold & Wade, 2015). Moreover, according to Deming (2000), “a system is a network of interdependent components that work together to accomplish the aim of the system”. According to Costin (1999), education is a system that entails inputs from students, teachers, classrooms and educational materials amongst others as mediated by critical teaching and learning processes, resulting in students that are equipped with certain skills and quantifiable knowledge or even more general results such as knowledgeable and prolific workforces. Secondary education in Pakistan is divided into

four grades: 9th, 10th, 11th, and 12th. It provides both middle-level labour for the economy and raw materials for higher education As a result, “education should be quality-focused in order to develop the necessary attitude knowledge and abilities for increased performance”. In this light, it is reasonable to assume that TQM has become the most important component of increasing educational quality in any country (Mahmood et al., 2020b).

PROBLEM STATEMENT

TQM-related research has indicated that TQM has deep roots in business and has contributed to company performance (Imran et al., 2018; Karia & Hasmi Abu Hassan Asaari, 2006). Furthermore, additional researches have demonstrated that using TQM can improve the performance of educational institutions. “TQM components include leadership, top management commitment, training and education, continuous improvement, customer focus, staff engagement, empowerment, communication, employee happiness, and assessment, according to TQM theories, models, and past research” (Mahmood, Ismail, & Omar Fauzee, 2019, 2020; Mahmood et al., 2020; Mahmood & Ismail, 2018b, 2022; Peat, Taylor, & Franklin, 2005; Venkatraman, 2007).

Pakistan Education for all (2015) reported that government school did not achieve their ten years educational goals due to the poor quality of education. Pakistan's educational authorities are concerned of the low level of quality of education in public institutions while the public praises private schools for delivering high-quality education. The fact that public schools have superior facilities than private schools is an astounding phenomena that public schools have better facilities than private schools; consequently, why is such a concept widely held by the public? As a result, experts believe it is critical to evaluate the adoption of TQM methods in both private and public secondary schools.

LITERATURE REVIEW

Total Quality Management in Education

The concept of TQM was introduced by Professor Edwards Deming, and Mahmood et al., (2022) defined “TQM as a focused operational role used by both managers and employees to meet the needs and expectations of the customer through the use of quantitative methods to continuously enhance the processes, goods and services of the organization”. Quality in education is centred on the quality of the teachers, the teaching methods and the overall management. The school’s quality is influenced by the level of adherence to the quality standards of education. The TQM concept is not only applicable in the industrial field, but also in the academic field. This is because the quality culture consists of: (1) “top management commitment”, (2) students and stakeholders, (3) “employee involvement”, (4) continuous improvement, (5) “training and education”, (6) organization structure, (7) empowerment, (8) team work, (9) financial and academic condition, and (10) communication. Mahmood et al., (2020) identified several key rudiments of TQM in education such as: (1) “Top management commitment”, (2) Continuous improvement, (3) Employee involvement/staff involvement, (4) Training & Education (5) “customer focus”.

Top management commitment offers leadership that actively encourages people to work towards achieving defined goals. Top management refers to school administrators including the principal, assistant principal and heads of units (Mahmood et al., 2020). Leadership is the process of encouraging and helping employees to work enthusiastically towards attaining organizational objectives (Okumbe, 1998). In other words, school principals should perform these responsibilities to realize the quality of their school Fullan (2002) namely: (1) building and deploying a vision of quality, (2) ensuring that members of the organization understand and appreciate the vision/policy of the organization, (3) giving

priority to the quality of programs, and (4) not compromising on quality.

The Japanese word 'kaizen' is the basis of continuous improvement. Kaizen is one of the key concepts in Japan’s management organization (Watson & Gallagher, 1999). Kaizen means continuous improvement towards enhancing excellence and decreasing disaster (Juergensen, 2000). Continuous improvement is a task that requires changes to both the quality and the process enhancement. According to Watson and Gallagher (1999), the process for improvements that were first introduced by Shewhart and implemented by Deming is called the PDCA (plan, do, check, act) cycle which can also be used in the development of the teaching process. Continuous improvement is a body of knowledge that describes how to achieve improvements safely and consistently. In education, continuous improvement represents the school’s ongoing commitment towards quality improvement efforts to enhance success and reduce failure. Continuous improvement entails improvements in the quality of school administration and teaching as well as the adoption of new teaching innovations to improve the quality of education (Mahmood et al., 2020).

The specific needs of consumers (customer focus) should be fulfilled by the goods and services. The main focus of TQM's fundamental principles is the customer. In an education system, students and parents are considered as valued customers who seek services from educational institutions (Mark, 2013). Customer focus refers to customer feedbacks about the quality of service provided, either through complaints or given questionnaires. Improving communication between students and parents can have a lasting impact on the student learning and experience, and even how prepared they are to enter the real world. By getting feedback from parents, teachers can serve better way to the students.

Parent's recommendations are necessary for school improvement.

Staff involvement refers to the commitment given by the teachers and the administration staff to improve the quality of their school, particularly their involvement in activities and programs for improving the quality of learning and teaching (Carlopio & Gardner, 1996). Employee engagement in professional business organization has a major positive association with affective reactions on the part of employees.

Education is among the major elements that determine the performance and productivity of an organization. In this current study, training and education refers to education quality awareness given to the teachers and staff including quality improvement training related to R&D, interactive communication and leadership skills as well as employment of methods or tools for quality management. The success of TQM implementations is significantly determined by the aspect of training and education. The study by Zhang, Waszink, and Wijngaard (2000) showed that most organizations realize that training and education are key factors of the TQM initiative. Zhang et al., (2000) stressed the importance of training and education for the continuous improvement and success of an organization. It was revealed from various studies that "training and education" is vital for successful TQM implementation (Owlia & Aspinwall, 1998; Quazi & Padibjo, 1998; Sanjay, Damodar & Matthew, 1996; Thiagaragan et al., 2001; Zairi, 1996a). Das, Paul, and Swierczek, (2008) supported the findings that described training and education as one of the most significant influences for the fruitful implementation of TQM. According to Ahire, Waller and Golhar (1999), training and education acts as a tool to understand the concept of quality, equipment and technique because it is important for employees to understand issues related to quality.

OBJECTIVES OF THE STUDY

The researchers aimed to know that how many TQM methods used by "public and private secondary schools". Furthermore, the researchers compared various dimensions of total quality management dimensions which used by the skilled and competent authorities in both sectors secondary schools, such as top management commitment, training and education, continuous improvement, staff involvement, and customer focus, and want to highlight the main dimensions of TQM for practises in both schools.

- (a) the level of TQM" practices in public and private secondary schools;
- (b) the different level of TMC in public and private secondary schools;
- (c) the different level of continuous Improvement in two different categories secondary schools;
- (d) the different level of Training & education in two different categories secondary schools;
- (e) the different level of involvement of staff in two different categories secondary schools;
- (f) the different level of customer focus in two different categories secondary schools;

Research Questions

The subsequent research questions are as follows:

- RQ1: What is the level of TQM practices in public and private secondary schools?
- RQ2: Is there any significant difference between TMC in two different categories secondary schools?
- RQ3: Is there any significant difference between continuous improvement in two different categories secondary schools?

- RQ4: Is there any significant difference between training & education in two different categories secondary schools?
- RQ5: Is there any significant difference between involvement of staff in two different categories secondary schools?
- RQ6: Is there any significant difference between customer focus in two different categories secondary schools?

Based on the above study of the objectives and research questions, the null hypothesis was designed to be tested at the 0.05 significance level:

- Ha1: There is a significant difference between TQM practices in 2 different categories secondary schools.
- Ha2: There is a significant difference between TMC in two different categories secondary schools.
- Ha3: There is a significant difference between continuous improvement in two different categories secondary schools.
- Ha4: There is a significant difference between Training & education in two different categories secondary schools.
- Ha5: There is a significant difference between involvement of staff in two different categories secondary schools.
- Ha6: There is a significant difference between customer focus in two different categories secondary schools.

METHODOLOGY

This is a quantitative research that uses questionnaires. The questionnaire is divided into two (2) sections. Part A is on the respondents' backgrounds, while Part B is about

the degree of TQM procedures (27 items with a 7-point Likert scale). The TQM practises questionnaire included five main constructs: top management commitment, continual improvements, customer focus, employee engagement, and training and education (Zhang et al., Das et al., Ahire et al., Ngware et al., Anthony et al., Ismail, Mahmood et al.,). TQM questionnaire was adapted and the Validity and Reliability of the instrument was developed and tested through exploratory factor analysis (EFA) and Confirmatory factor analysis (CFA) by (Mahmood et al., 2020) and the Cronbach Alpha value was found to be above 0.80.

Participants And Procedures

This research included 346 teachers from 20 different schools who were chosen at random. The investigation's sample size was established using the Krejcie and Morgan (1970) approach. According to Creswell (2014), the study's population is a group of people who meet the same criteria as the study's objectives. The study's population comprised teaching workers from both public and private secondary schools in Pakistan, and a sample of 346 respondents was chosen using a stratified random selection procedure, including 190 private respondents and 156 public respondents. A survey method was used to collect the data. A seven-point Likert scale ranging from 1 to 7 was used for the structure questionnaire. To investigate the data, SPSS-25 was used. The normality of data was determined by skewness and kurtosis values were less to ± 3 and ± 10 (skewness = $< \pm 3$, kurtosis $> \pm 10$) that is the threshold values suggested by (Kline, n.d.). The z- score value is the value which lies outside the range of ± 3.3 which was considered as outliers or extreme outliers (Tabachnick & Fidell, 2018). Multivariate outliers were detected using the "Mahalanobis distance (D2) at $p < .001$ ". No unusual outliers were detected. To examine the multicollinearity test Hair, Black, Babin, & Anderson (2014) recommended that tolerance $> .20$ and VIF < 5.0 are considered there is not

multicollinearity problem. The descriptive analysis was used to evaluate the level of TQM practices, and the independent t-test analysis,

was utilised to analyse the differences between Public and Private secondary schools provided in this study.

Table 1 Calculations of sample size

Categories	Sample	Male	Female
Public Schools	156	$(156 * (55/100)) = 86$	$(156 * (45/100)) = 70$
Private Schools	190	$(190 * (55/100)) = 105$	$(190 * (45/100)) = 85$
Total	346	191	155

RESULTS AND DISCUSSION

There is a “significant difference between TQM practices in public and private” secondary schools.

As indicated in Table 2, the researchers used descriptive analysis to get an overall mean value for each domain of TQM practises, which was then compared for classification and interpretation, as well as defining the degree of TQM practises in two separate categories.

The level of TQM practices in Public and Private Schools

TQM Practices in Secondary Schools	<u>Mean value (M) and standard deviation (SD)</u>			
	Public Schools	SD	Private schools	SD
Top Management Commitment	3.78	0.44	4.02	0.52
Customer Focus	3.81	0.55	4.12	0.54
Training and Education	3.63	0.61	3.82	0.72
Involvement of Staff	3.77	0.49	4.01	0.51
Continuous Improvement	4.02	0.66	4.23	0.45
Total	3.80	0.55	4.04	0.54

According to Table 1, the levels of TQM practises in public schools are lower, with an average of 3.80, while private schools had higher average values for each TQM feature than public schools. On general, the degree of TQM practised in private schools is higher (M

= 4.04, SD = 0.54) than in public schools (M = 3.80, SD = 0.55). Table 3 shows that there are substantial “differences between the two groups of public and private schools, with values of F (2684) = 19.48, p 0.05”.

Table 3 “One Way ANOVA Test for the differences of two different categories”

Variation source	Total Square	Degrees of Freedom	Mean Squared	F value
Between groups	19.41	2	9709	19.48**
Within group	341.92	684	.50	

Total	361.34	686
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** $p < 0.01$

Table 3 shows how the researchers utilised a one-way ANOVA test. The ANOVA test results demonstrate a substantial difference between the two groups.

“There is a significant difference between TMC in two different categories secondary schools”

The research instrument's data was analysed, and the t-test was used to see if there was a significant difference in the adoption of TQM methods between two different categories secondary schools. The statistical analysis was given below.

Table 4 Level TMC in public and private schools

School Type	N	Mean	SD	t-value	Significant (2-tailed)
Public	190	4.19	0.40	-4.44	0.00
Private	156	5.16	0.77		

Table 4 compares public and private schools based on TQM dimension mean scores and top management commitment. In the table above, the test yields a significant t value = -4.446 at level 0.00. As a consequence of discovering a “significant difference in” TMC use between

public and private schools, the alternative hypothesis is embraced.

There is a significant difference between continuous improvement in two different categories secondary schools

Table 5 Level of Continuous improvement in public and private schools

School Type	N	Mean	SD	t-value	Significant (2-tailed)
Public	190	4.03	0.27	-3.06	0.00
Private	156	4.75	0.83		

Table 5 shows that there is a difference in the mean score of continuous progress between public and private schools. The test results in t value = -3.061 being significant at level 0.00 in the table above. As a result, the alternative hypothesis is accepted once it is discovered that “there is a significant difference in ongoing

advancement between public and private schools”.

There is a “significant difference between” Training & education in two different categories secondary schools

Table 6 Level Training & Education in public and private schools

School Type	N	Mean	SD	t-value	Significant (2-tailed)
Public	190	4.31	0.18	-2.49	0.00
Private	156	4.36	0.71		

Results of mean score showed from above table dimension of TQM, training & education showed the difference between public and private schools. In above table 6 the independent t-test showed t value = -2.49 are significant at α level 0.00. Training and education is backbone of any institute. Results show very less training is giving to the employees of both schools but private schools

is still showed better results as compared to public schools. Hence it is concluded that there is a “significant difference of education and training” between in public and private schools hence alternative hypothesis is accepted.

There is a significant difference between involvement of staff in two different categories secondary schools

Table 7 Level Involvement of staff in public and private schools

School Type	N	Mean	SD	t-value	Significant (2-tailed)
Public	190	3.78	0.44	-4.44	0.00
Private	156	4.02	0.52		

Table 7, Staff involvement demonstrates the difference between public and private schools using the mean score TQM dimension. The test results in t value = -4.44 being significant at level 0.00 in the table above. In comparison to private schools, the results indicated that school administrations include less instructors in decision making. As a result, it is determined

that there is a considerable difference in staff participation in public and private schools, and so the alternative hypothesis is adopted.

There is a significant difference between customer focus in two different categories secondary schools

Table 8 Level Customer focus in “public and private schools”

School Type	N	Mean	SD	t-value	Significant (2-tailed)
Public	190	3.82	0.56	-4.83	0.00
Private	156	4.13	0.53		

Table Number 8 Consumer focus demonstrated the difference between public and private schools using the mean score TQM dimension. In above table the test reveals t value = -4.83 are “significant at α level” 0.00. In comparison to private schools, the results indicated that school administrations include less instructors in decision making. As a result, “it is determined that there is a considerable difference in staff participation in public and private” schools, and so the alternative hypothesis is adopted”. The current study produced a new quality model for quality improvement. This concept may be used in

developing countries like Pakistan to bring about positive changes in the education system. As a result, this model is a noteworthy contribution to the present research for Pakistan.

CONCLUSIONS

TQM has positive impact on school quality. The results of both public and private schools showed the average level of TQM practices. The researchers recommended based on the findings, the “Ministry of Education” recommended providing a special allocation of

appropriate and adequate resources for conducting courses or internal trainings related to quality in their school. As stated in “Pakistan’s national education policy (Ministry of Education, NEP-2009)”, school effectiveness is essentially driven by good leadership, yet the minimum allocated budget for education (2% of the GDP) is not sufficient for conducting professional developments. The education budget is not sufficient in Pakistan’s national policy (Ministry of Education, 2018) for carrying out professional developments up in volume but down in reality. Thus, Ahmad et al., (2022) suggested that the education system develop itself. Furthermore, monitoring by the Ministry of Education is also necessary to ensure that all schools practicing TQM dimensions, concept and the culture of quality work towards achieving excellence and meet the standard of sustainable development goals. Hayes (2020) highlighted the terrible condition in Pakistan’s education system as a result of a lack of connection between labour market and future workforce requirements. Siddiqui, Haleem, and Wadhwa (2009) on the other side, suggested that the TQM method made the system adaptable to changing demands. That is why the country is currently working hard to improve the disposition of excellent education.

According to the findings of the research, the quality requirements of public secondary schools are insufficiently justified and undesirable. Furthermore, as compared to the public sector, the private sector lacked amenities such as computer, study rooms and scientific labs, common rooms, playgrounds, pharmacies, hostels, dorms, and mosque. Other amenities like as games, audio-visual aids and day care centres do not yet exist in private sector secondary schools. Notwithstanding this grave situation, Pakistan’s educational quality has been proved to be sufficient, despite the fact that teaching professionals and students do not have access to international quality standards for teaching and learning.

The current study by the researchers is an attempt to analyse and evaluate the usage of TQM methods in “public and private secondary schools” in Bahawalpur, Punjab. The current study discovered disparities in TQM approach application in public and private secondary schools. Similarly, the use of TQM concepts differs through top management commitment, continuous improvement, training and education, staff participation, and customer focus of secondary school instructors from private and public schools was noticed. According to the study’s findings, both schools have modest TQM practises; however private secondary schools outperform public sector schools in terms of following TQM concepts. As a result, the notion that private secondary schools provide superior instruction, seemed to be logical and hence proven true.

Implications for top management: The Pakistani government has only a 2% education budget allocation, which is inadequate to improve the quality of the schools. The model proposed in this study can therefore be used by top management to improve the quality of the country’s schools, without risking additional expenses. The model is appropriate for implementation in schools in Pakistan.

Implications for teachers: It is well acknowledged that the advancement and success of educational institutions are heavily reliant on the effectiveness of teachers. The Pakistani teachers usually hold a Master’s or Bachelor’s degree in education. However, their degrees have no realistic applications within the school background (Ministry of Education, 1998-2010). Most teachers see TQM as hard to practice in schools, and it is a waste of time, resources, and money. Therefore, once they’re exposed to TQM’s significance in education, they need to be trained about how to successfully implement TQM. If the teachers concentrate on behavioral issues like school climate, the top management will certainly work together to identify the mission of the school. This will lead to the creation of a school

climate that incorporates collaboration, student relationships, teaching innovation, teaching decision making and school resources, which in turn will affect school performance.

Implications for policy makers: The 1998-2010 Pakistani education policy indicated clear standards for determining school performance. The policy also indicated that solid top management is critical towards achieving school improvements. The 2009 Pakistani education policy (Ministry of Education, NP-2009) highlighted that a majority of the dimension of school effectiveness were derived from UNESCO. In light of this, TQM, school climate and job satisfaction dimensions must be directed towards the education policy so as to guarantee the development of Pakistani schools.

Implications for investors: As demonstrated in this study, the mediating level of TQM

practices in Pakistan. There is a low level of top management commitment (principal) which decreases the education quality of secondary schools in Pakistan. This offers a gap that can be fulfilled by investors in the province. With the implementation of this model, private sector investors can also increase the quality of their schools in the country.

Finally, the findings of this study serve as a guide for school leaders to strengthen programmes and training courses in order to ensure effective TQM implementation in their schools. This study, however, is restricted to public and private performance schools in Bahawalpur, Pakistan. As a result, it is advised that a more extensive study be done throughout Pakistan in the future to guarantee higher generalizability. Future study should also look at the relationship between TQM and school environment, since this element may have an impact on TQM practises in schools.

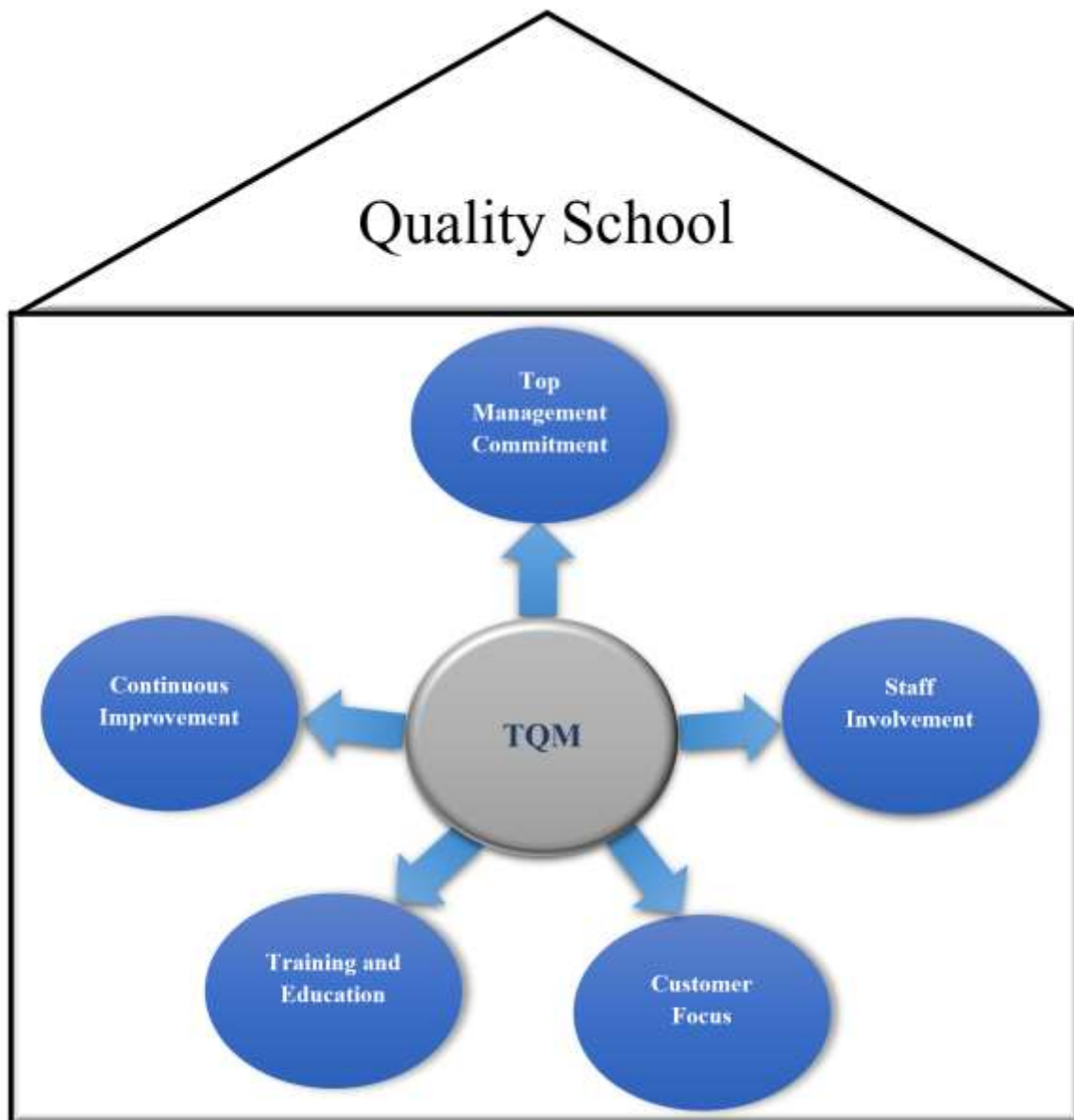


Figure 2. Excellent School Model

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