

EFFECT OF TOTAL QUALITY MANAGEMENT ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NASARAWA STATE

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Abstract

SMEs especially in Nasarawa state have observed to be experiencing abysmally stagnant growth with many even dying off at a tender stage usually between 1-3 years. This study examined the effect of total quality management on performance of small and medium enterprises in Nasarawa State. The population of the study consist of all registered (10,728) SMEs owners/managers in Nasarawa state, with the sample size of 386 registered SME. Primary data was used for this study, the data was collected using 5point Likert scale structured questionnaire. The Partial Least Square Structural equation model (PLS-SEM) was used as model for regression analysis. The finding revealed that customer focus and continuous process improvement had positive and significant effect on performance of SMEs while top management commitment shows negative but significant effect on performance of SMEs in Nasarawa State. Based on the research findings, the study concludes that TQM is integral to performance improvement of SMEs if implemented properly. The study recommended that SMEs should involve employees' by encouraging them to provide feedback and suggestions for improvement in the processes. Employees can be encouraged to form focus groups where they are provided with tools and resources to identify and make changes in areas needing improvement. In addition, adequate training should be provided to the employees.

Keywords: customer focus; continuous process improvement; top management commitment

INTRODUCTION

Small and medium enterprises (SMEs) are considered as the engine of economic growth both in developed and developing countries, as they account for about 80 percent of global economic growth and contribute in employment generation and poverty alleviation. Today SME sector spread worldwide plays a significant role in the economy (Adewale, 2017). At present the vibrant SME sector is identified as engine of growth playing a significant role in economic growth, innovation, employment generation and poverty reduction. SMEs generally are the suppliers of larger organizations, as latter outsource a part of their production to these small enterprises and therefore, there existence of a dependence relationship between SMEs and larger organizations. The situation of SMEs in Nigeria appears more pathetic as government economic policies are changed at ease without concern to its industrial development impact, the political terrain has proven to be unstable and the lack of policy direction and investment on technological development and sociocultural affairs has created a knowledge gap in the economy that hampers the productivity of SMEs (Petersen, 2019).

Total Quality Management (TQM) is more than a philosophy; it can be well-thought-out a suitable outline used in and by organizations to assure a methodical and enduring optimization of the additional value so as to get the most out of the realization of their aims. TQM has its backgrounds in the industrial sector, there has been a solid push for accepting TQM in educational organizations from the stakeholders (Sakthivel & Raju, 2016).

TQM is applicable to any organization irrespective of size, and motives, even the public sector organization will soon start adopting the ideology in order to make them effective in meeting public demands. However, the adoption of the ideology by most organization has been hampered due to their noncompliance with the procedures and principles of TQM implementation, (McCabe & Hutchinsun, 2015). TQM is the holistic perspective of quality held by organizations regarding the functions and

activities engaged in by the organization that involves the people who work in such organizations to offer products or services to its end users.

In the business world, performance becomes one of the centers of attention. A lot of research is done related to performance. Performance is a condition that must be known and informed to stakeholders to know the level of achievement of the organization. Organizational performance is based on how effectively objectives are achieved through efficient utilization of resources (Lussier, 2006). Managers must be able to utilize management tools to achieve organizational goals despite limited resources in the organization. This is in the bid to increase performance and in the face of SMEs to adopt various approaches, such as innovation, Total Quality Management.

TQM is an integrated management philosophy and set of practices that emphasize, among other things, continuous improvement, meeting customer's requirements (customer focus), reducing rework, long-range thinking, increased employee involvement and teamwork, process design, competitive benchmarking, team-based problem solving, constant measurement of results, and closer relationship (Ross, 1993). While Mukhtar (2016) held that management leadership, continues improvement and customer focus are key indicators of TQM. Sin and Jusoh (2018) classified TQM into leadership, strategic planning, supplier's quality management, process management, product and service design, employee management and customer relationship management. However, the most popular dimension of TQM is seen in the areas of continuous process improvement, customer focus and top management commitment (Samer & Ahmad, 2020; Anan, et al., 2018; Zakiah & Nurazwa, 2020) and hence the focus of this study.

Continuous process improvement is concerned with a systematic and structured approach to control, manage and optimize the business processes design so that productivity, quality and innovativeness can be attained (Kafetzopoulos et al., 2015). Basically, the most influential factor in process improvement is technology (Fotopoulos et al., 2010) especially firms with strict quality systems that need to adopt up to date technologies in their processes (Ooi, 2014). Therefore, process management ought to focus on managing processes so that they operate as expected (Al-Ababneh et al., 2012)

Customer focus can be defined as the continual and persistent effort in maintaining a closer relationship with customers by acquiring constant feedback from customers to ensure customer's needs and requirement are met (Elshaer, et al., 2016). An organization should determine the current and future needs of customers and consider their needs as requirements for the whole organization (Yusr, et al., 2014). This could result in more loyal customers and higher organizational performance (Barouch, et al., 2016).

Many studies support leadership or top management commitment as one of the most important factors that impact a firm's performance (Ooi, 2014). Leadership or top management support is expected to have an integral role in encouraging the practices and behaviors that lead to quality goals establishment, resources allocation, quality performance evaluation and quality improvement (Barouch et al., 2016; Alidrisi & Mohamed, 2012). Furthermore, the leader of a firm is responsible for creating the appropriate environment/culture for innovation besides cultivating the innovation process, quality, finance management and aligning the current strategy with the innovation strategy in order to achieve innovative and competitive performance (Frolova et al., 2015).

Statement of the problem

Every business desire is to grow from being a small enterprise to a large enterprise. Also, in recognition of the importance of SMEs to every nation's economy, the Nigerian government has overtime tried to create a conducive atmosphere for SMEs, to thrive through provision of soft loans, at lower interest rate, exempting certain SMEs from tax payment (Finance Act, 2020), establishment of SMEDAN to regulate and provide support to SMEs. However, despite this effort, SMEs especially in Nasarawa state have

observed to be experiencing abysmally stagnant growth with many even dying off at a tender stage usually between 1-3 years. This situation is worrisome thereby creating the need to examine factors that are likely to be responsible and hence this study which seek to examine the effect of total quality management (TQM) on SMEs performance in Nasarawa state.

Several studies have been conducted on TQM and SMEs, this include the study of Singh et al (2018), Aburayya et al., (2020), Md Fauzi et al., (2018), Farish et al (2017), Khaled (2019), all conducted a study on the effects of total quality management on the performance of small and medium enterprise however most of these studies where not conducted in Nigeria and the ones conducted in Nigeria were not in Nasarawa state.

Objectives of the Study

The main objective of this study is to examine the effect of total quality management on the performance of small and medium enterprises in Nasarawa state. Accordingly, this study was guided by the following specific objectives which are to:

- i. examine the effect of customer focus on the performance of SMEs in Nasarawa state;
- ii. determine the effect of continuous process improvement on the performance of SMEs in Nasarawa state;
- iii. ascertain the effect of top management commitment on the performance of SMEs in Nasarawa state; and

LITERATURE REVIEW

Total Quality Management

Ciama (2018) defined total quality management as the state in which all the activities of all the functions are designed and carried out, in such a way that all external customers' requirements are met while reducing internal time and cost, thus enhancing the work place climate. Ndiokho (2019) notes that total quality management involves making constant effort to identify what the customer wants from time to time and determining how to cater for them. This is based on the recognition of the fact that customer's needs, desires, and wants normally changes overtime in relation with changes which may occur in key aspects of the environment such as social, political, economic and technological changes. In particular, TQM is a culture of continuous improvement based on continuous learning and adaptation to changes in customer demand and product or operational method.

Godfrey (2019) defined total quality management as a method that attempts to improve performance and quality to satisfy customer expectations. This can be attained by combining and linking all quality-related functions and processes throughout the organization. Cornish (2018) define total quality management as the use of production tools to aid in quality of services and products to consumers. From the researcher, total quality management seeks to satisfy consumers or customer by fostering quality in the products and services rendered thus creating a competitive advantage in the market front. Aladwan et al., (2017) states that total quality management serves to enhance organizations' ability to deliver quality products and services through continuous improvements. These improvements involve directed efforts to introduce interventions that specifically are directed at identifying gaps in identifying, listening to and addressing customer needs, and identifying needs and gaps in customer service speed and quality.

Customer Focus

Ezenyilimba et al., (2019) refers to customer focus as set of beliefs in sales that says that customer needs and satisfaction are the priority of an organization. It focuses on dynamic interactions between the organization and customers as well as competitors in the market and its internal stakeholders. It involves a continuous improvement in business processes.

Olimpia (2014) defines customer focus as a strategy that reflects the firm's ability to create and deliver superior customer value through the processing of market intelligence. This market intelligence involves

the acquisition of customer information, the analyses of this information to create customer knowledge, the dissemination of customer knowledge throughout the firm, and the planning and coordinating of an organization-wide response, such as in solving customer problems.

Taylor (2014) customer-focus is the set of beliefs that puts the customer's interest first, which does not exclude those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitability. Customer-focus places the highest priority on the profitability creation and maintenance of superior customer value considering the interest of stakeholders.

Top Management Commitment

Award (2019) defines top management commitment is defined as the ability to inspire confidence and support among those needed to achieve organizational goals. He explained the concept of leadership as: The ability of top management to establish, practice, and lead a long-term vision for the firm, driven by changing customer requirements, as opposed to an internal management control role. Rubiandini (2019) refers to top management commitment as a very strong and strong feeling of a person toward the goals and values of an organization, in terms of their role toward achieving the goals and values.

Setianingsih and NurIndriantoro (2018) states that top management commitment is the degree of which top management sets up quality management objectives and strategies, provides and allocates necessary resources, contributes in quality improvement efforts, and assesses quality management implementation and performance. Fadjar et al. (2021) defined top management commitment as an important factor to help operational managers successfully implement accounting information systems. Management plays a key role to encourage and create the right atmosphere to bridge the recruitment of employees with the use of new information system applications. Therefore, the use of an accounting information system requires a high commitment and management from various levels of management to ensure that all planned procedures are carried out properly, so that the information system built can be utilized as well as possible. Bahri et al. (2020) refers to top management commitment as an essential in environmental effect "business organizations can have on improving the effectiveness of environmental the planet – and its resources". This increasing management processes and it is one of the critical success consciousness has been also paralleled by stakeholder's factors.

SMEs Performance

Naelati et al. (2014) SME performance could mean the success level of the firm in the market within which it operates. They further state that SMEs performance as the ability of an object to produce results on a dimension that has been determined beforehand in relation to a set standard or target and often relates to action and processes that lead to some outcome and the result of the action is also generally included in the examination.

Yahya, (2014) refers to SME performance as a measure of how well a mechanism/process achieves its purpose. He explained further that SMEs performance is an important dependent variable in business research. It is clear from the above reviewed that SME Performance can be conceptualized as a process by which the business owner or manager of SMEs executes their functions and crucial elements to improve the standard of their businesses Performance.

Empirical Review

Customer Focus and SMEs Performance

Adebayo, (2020) examined the effects of customer focus on customer relationship management performance in Lagos state. Survey research design was used. The study makes use of descriptive statistics to analyze the data collected from a sample of 170 SMEs Lagos state. Percentages and frequencies were used to analyze the responses collected from the respondents. The study revealed a positive and significant effect of customer focus on SMEs performance. The study findings indicate that training orientation and customer information processing mediate the effect of customer focus on

Customer Relationship Management (CRM) performance. The study recommends that SMEs should get frequent feedbacks from customers as to their product quality and whether customers were satisfied with the quality of the products or else how the products could be improved to meet customers' expectations. Wei et al. (2022) investigated the role of customer focus on customer satisfaction DSG restaurant. Cross sectional research design was adopted with a sample of 346 university students from Jiangsu province, China. Primary data was used and was analyze using partial least squares structural equation. The study showed that customer focus positively and significantly influenced entrepreneurial alertness, entrepreneurial self-efficacy to entrepreneurial intention, and entrepreneurial behavior. The recommends that organization should be proactive in discovering what the customer's needs are and be able to passionately explore it in other to establish a business venture.

Malik, (2018) assess impact of customer focus on customer relationship management performance in Abuja. Survey research design was used. The study makes use of descriptive statistics to analyze the data collected from a sample of 200 SMEs Abuja. Percentages and frequencies were used to analyze the responses collected from the respondents. The study revealed a positive and significant impact of customer focus on SMEs performance. The study recommends that SMEs should get frequent feedbacks from customers as to their product quality and whether customers were satisfied with the quality of the products or else how the products could be improved to meet customers' expectations.

Continuous Improvement and SMEs performance

Musa, (2022) studied the impact of continuous improvement on business performance in Jigawa state. The study adopted a descriptive research design. A sample size of 300 employees was randomly selected from the ministries. Questionnaire was used for data collection and data were analyzed using the descriptive statistics, correlation statistics and inferential statistics. The study found that continuous improvement has insignificant effect on business performance. The recommended that to improve the quality of their products and respond to ever-increasing customer needs, there is need for continuous improvement.

Babakus, (2020) examined effects of continuous improvement on SMEs performance in Lagos state. Survey research design was used. The study makes use of descriptive statistics to analyze the data collected from a sample of 190 SMEs Lagos state. Percentages and frequencies were used to analyze the responses collected from the respondents. The study revealed a positive and significant effect of continuous improvement on SMEs performance. The study recommends that SMEs should be provision for workshops catered for SMEs have been on the rise, with government agencies and even NGOs committed to assist single parents, and house bound caregivers to make a decent a decent living through low overhead self-operated businesses.

Tamsah and Ansar (2020) ascertain the effect of continuous improvement on SMEs performance in Kumti county, Kenya. The study employed both descriptive survey and explanatory research designs and targeted a population of 400 employees of purposively selected hotels. The data was analyzed using descriptive and inferential statistics while multiple regressions were used to test the hypotheses. The results indicated that continuous improvement significantly affect organizational performance. The study thus recommends that the management should formulate policies that will ensure R&D and initiate new things within the organization should be encouraged.

Top Management Commitment and SMEs performance

Mohamed and Abdikarim (2020) examine effect of top management commitment and production improvement in SME's Enterprises through Lean. Survey research was adopted. A sample of 378 SMEs has been drawn from this population of 6930. The study adopted both descriptive and regression analyses to estimate the impact of innovation. The study reveals that top management commitment significantly affects the performance of SMEs in Hargeisa. The study recommends that top managements should commit themselves in providing leadership and key resources needed in quality management.

Yusuf, (2020) examined the effect of top management commitment on SMEs performance in Kano state. The adopted a Survey research design. The population for this study was leaders of nonprofit organizations in Delaware. Participants were purposefully selected for their successful experience in implementing continuous improvement strategies in nonprofit organizations. Data were collected through semi-structured face-to-face interviews from 4 nonprofit organization leaders. Data was analyzed using methodological triangulation through inductive coding of phrases and words. The study revealed that top management commitment significantly and positively affects SMEs performance. The study recommends that SMEs as well as other organizations who are implementing TQM take strategic measures in ensuring top management participation and commitment to quality initiatives.

Theoretical Review

This study is underpinned by Juran's Theory, which was developed by Joseph M. Jura in the 1950s which is another significant contribution to Total Quality Management (TQM) and its impact on SMEs performance. Juran's theory focuses on quality planning, quality control, and quality improvement, with an emphasis on the role of management in driving quality initiatives.

Juran's Theory is closely related to TQM in the context of SMEs performance. It emphasizes the importance of understanding customer needs and expectations, setting quality goals, and involving employees at all levels to achieve those goals. This aligns with the core principles of TQM, which emphasize customer focus, employee involvement, and continuous improvement.

One key aspect of Juran's Theory is the concept of the "Juran Trilogy," which consists of three interrelated processes: quality planning, quality control, and quality improvement. These processes provide a systematic approach for SMEs to manage quality and drive performance improvement. Quality planning involves identifying quality objectives, establishing processes to meet those objectives, and developing metrics for measuring progress. Quality control focuses on monitoring and controlling processes to ensure they meet quality standards. Quality improvement involves analyzing data, identifying root causes of quality issues, and implementing corrective actions.

Juran's Theory also emphasizes the role of management in quality improvement efforts. It highlights the need for leadership commitment, establishing quality councils or teams, and providing resources and support for quality initiatives. This management focus is crucial for SMEs to effectively implement TQM principles and drive performance improvements.

By applying Juran's Theory in conjunction with TQM principles, SMEs can enhance their performance. This includes improving product or service quality, reducing defects and errors, increasing customer satisfaction, and achieving operational efficiency. Moreover, Juran's Theory emphasizes the importance of continuous improvement, which enables SMEs to adapt to changing market conditions, identify new opportunities, and remain competitive in their respective industries. Overall, Juran's Theory provides SMEs with valuable strategies and frameworks for implementing TQM principles, focusing on quality planning, control, and improvement, and leveraging management commitment to drive performance enhancements.

METHODOLOGY

The study adopted a descriptive survey research design. The population of the study consist of all registered (10,728) SMEs in Nasarawa state, According to National bureau of statistics (NBS) and small and medium enterprise development agency of Nigeria (SMEDAN), (2021). The sample size of 386 registered SMEs was gotten after applying Taro Yamane formular. However, a 10% provision was made for attrition to cater for unreturned or damaged questionnaire bringing the total copies of questionnaire distributed to 425. Primary data was collected using 5-point likert scale structured questionnaire. The Partial Least Square Structural equation model (PLS-SEM) was used as model for regression analysis which was used to test the hypothesis to determine if there is a relationship between each of the

independent variables and the dependent variable. The Structural Equation Models are usually stated diagrammatically. Thus, the adopted model for this study is as follows;

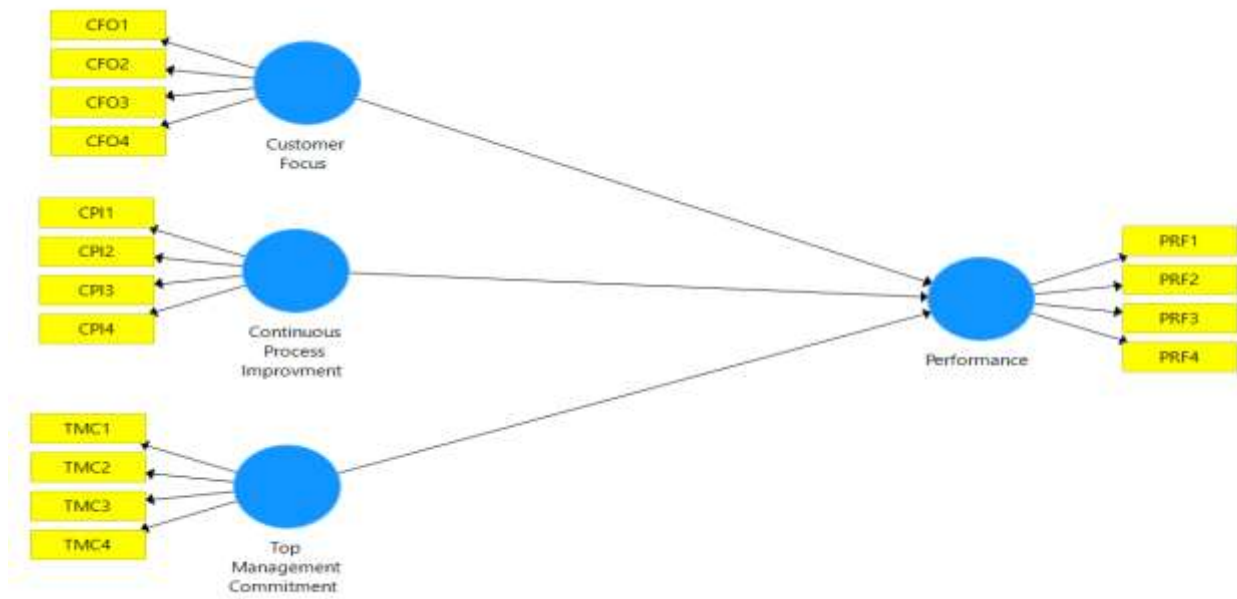


Fig.1: Structural Equation Model of the Effect of Total Quality Management on the Performance of Small and Medium Enterprises in Nasarawa State.

RESULTS AND DISCUSSION

Of the four hundred and twenty-five (425) distributed questionnaires, 408 were properly filled and returned giving a response rate of 96%. Subsequently, all further analyses were done using 408 responses data.

Table 1: Customer Focus

Items	5	4	3	2	1
The product/service/process system are design, develop and delivery based on meeting the needs of the customer	121(30)	115(28)	17(4)	72(18)	83(20)
Customers core value requirement are identified	12(3)	19(5)	49(12)	123(30)	205(50)
Complaint process and guidelines are established recorded and properly reported	189(45)	134(33)	19(5)	35(9)	31(8)
Communication and training processes emphasize customer focus	121(30)	19(5)	31(7)	72(18)	165(40)

Source: Survey, 2024

It is recorded that 20% of the respondents strongly disagreed that the product/service/process system are design, develop and delivery based on meeting the needs of the customer, 18% of the respondents disagreed that the product/service/process system are design, develop and delivery based on meeting the needs of the customer, and 4% of the respondents were undecided. 28% of the respondents strongly agreed that the product/service/process system are design, develop and delivery based on meeting the needs of the customer and 30% of the respondents agreed that the product/service/process system are design, develop and delivery based on meeting the needs of the customer.

The table shows that 50% of the respondents strongly disagreed that Customers core value requirement are identified, 30% of the respondents disagreed that Customers core value requirement are identified, and 12% of the respondents were undecided. 5% of the respondents strongly agreed that Customers core value requirement are identified and 3% of the respondents agreed that Customers core value requirement are identified.

Table 4 shows that 8% of the respondents strongly disagreed that Complaint process and guidelines are established recorded and properly reported, 9% of the respondents disagreed that Complaint process and guidelines are established recorded and properly reported and 5% of the respondents were undecided. 33% of the respondents strongly agreed that Complaint process and guidelines are established recorded and properly reported and 45% of the respondents agreed that Complaint process and guidelines are established recorded and properly reported.

The table shows that 40% of the respondents strongly disagreed that Communication and training processes emphasize customer focus, 18% of the respondents disagreed that Communication and training processes emphasize customer focus, and 7% of the respondents we undecided. 5% of the respondents strongly agreed that Communication and training processes emphasize customer focus, and 30% of the respondents agreed that Communication and training processes emphasize customer focus.

Table 2: Continuous Process Improvement

Items	5	4	3	2	1
There is a structured approach to problem solving?	157(38)	145(36)	33(8)	43(11)	30(7)
there is time formally allocated to resolving issues and implementing identified improvement opportunities.	58(14)	43(11)	39(10)	141(35)	127(30)
There is quality control processes in every parts produced	129(32)	167(40)	56(14)	33(8)	23(6)
Performance of corrective actions are been measured	30(7)	43(11)	33(8)	145(36)	157(38)

Source: Survey, 2024

It is recorded that 7% of the respondents strongly disagreed that there is structured approach to problem solving, 11% of the respondents disagreed that there is structured approach to problem solving and 8% of the respondents were undecided. 36% of the respondents strongly agreed that there is structured approach to problem solving and 38% of the respondents agreed that there is structured approach to problem solving.

The table shows that 30% of the respondents strongly disagreed that there is time formally allocated to resolving issues and implementing identified improvement opportunities, 35% of the respondents disagreed that there is time formally allocated to resolving issues and implementing identified improvement opportunities and 10% of the respondents were undecided. 11% of the respondents strongly agreed that there is time formally allocated to resolving issues and implementing identified improvement opportunities and 14% of the respondents agreed that there is time formally allocated to resolving issues and implementing identified improvement opportunities.

Table 2 shows that 6% of the respondents strongly disagreed that there are quality control processes in every part produced. 8% of the respondents disagreed that there are quality control processes in every part produced. 40% of the respondents strongly agreed that there are quality control processes in every

part produced and 32% of the respondents agreed that there are quality control processes in every part produced.

The table 2 shows that 38% of the respondents strongly disagreed that performance of corrective actions is been measured, 36% of the respondents disagreed that performance of corrective actions is been measured and 8% of the respondents were undecided. 11% of the respondents strongly agreed that performance of corrective actions is been measured and 7% of the respondents agreed that performance of corrective actions is been measured.

Table 3: Top Management Commitment

Items	5	4	3	2	1
Top manager communicates effectively the organization's vision, goals, plans and values for the quality program.	30(7)	43(11)	33(8)	145(36)	157(38)
Top management institute organizations change and make plans to implement it.	58(14)	43(11)	39(10)	141(35)	127(30)
Top management allocates adequate resources towards effort to improve quality.	23(6)	33(8)	39(10)	167(40)	146(36)
Senior executives insist on information and communication accuracy and reliability.	15(4)	21(5)	18(4)	145(36)	209(51)

Source: Survey, 2024

It is recorded that 38% of the respondents strongly disagreed that Top manager communicates effectively the organization's vision, goals, plans and values for the quality program., 36% of the respondents disagreed that Top manager communicates effectively the organization's vision, goals, plans and values for the quality program. and 8% of the respondents were undecided. 11% of the respondents strongly agreed that Top manager communicates effectively the organization's vision, goals, plans and values for the quality program. and 7% of the respondents agreed that Top manager communicates effectively the organization's vision, goals, plans and values for the quality program.

The table shows that 30% of the respondents strongly disagreed that Top management institute organizations change and make plans to implement it, 35% of the respondents disagreed that Top management institute organizations change and make plans to implement it and 10% of the respondents were undecided. 11% of the respondents strongly agreed that Top management institute organizations change and make plans to implement it and 14% of the respondents agreed that Top management institute organizations change and make plans to implement it.

Table 3 shows that 36% of the respondents strongly disagreed that Top management allocates adequate resources towards effort to improve quality. 40% of the respondents disagreed that Top management allocates adequate resources towards effort to improve quality. and 10% of the respondents were undecided. 8% of the respondents strongly agreed that Top management allocates adequate resources towards effort to improve quality. and 6% of the respondents agreed that Top management allocates adequate resources towards effort to improve quality.

The table 3 shows that 51% of the respondents strongly disagreed that do the employees have faith, trust and confidence in their manger and the junior would want to follow as a role model, 36% of the

respondents disagreed that do the employees have faith, trust and confidence in their manger and the junior would want to follow as a role model. and 4% of the respondents were undecided. 5% of the respondents strongly agreed that do the employees have faith, trust and confidence in their manger and the junior would want to follow as a role model. and 4% of the respondents agreed that do the employees have faith, trust and confidence in their manger and the junior would want to follow as a role model.

Table 4 Performance

Items	5	4	3	2	1
There is improved product quality	36(9)	67(16)	136(33)	121(30)	48(12)
There is increase in service speed in recent time	16(4)	59(14)	131(32)	149(36)	59(14)
There is increase in number of product varieties	65(16)	31(8)	139(34)	117(29)	56(15)
There is increase in productivity/services rendered	18(4)	67(16)	131(32)	136(34)	56(14)

Source: Survey, 2024

It is recorded that 12% of the respondents strongly disagreed that There is improved product quality, 30% of the respondents disagreed that There is improved product quality and 33% of the respondents were undecided. 16% of the respondents strongly agreed that There is improved product quality and 9% of the respondents agreed that There is improved product quality

The table shows that 14% of the respondents strongly disagreed that There is increase in service speed in recent time, 36% of the respondents disagreed that There is increase in service speed in recent time and 14% of the respondents were undecided. 32% of the respondents strongly agreed that There is increase in service speed in recent time and 4% of the respondents agreed that There is increase in service speed in recent time.

Table 4 shows that 15% of the respondents strongly disagreed that There is increase in number of product varieties, 29% of the respondents disagreed that There is increase in number of product varieties and 34% of the respondents were undecided. 8% of the respondents strongly agreed that There is increase in number of product varieties and 16% of the respondents agreed that There is increase in number of product varieties.

Table shows that 14% of the respondents strongly disagreed that There is increase in productivity/services rendered, 34% of the respondents disagreed that There is increase in productivity/services rendered and 14% of the respondents were undecided. 32% of the respondents strongly agreed that There is increase in productivity/services rendered and 4% of the respondents agreed that There is increase in productivity/services rendered.

Assessment of Measurement Model

In assessing the measurement model, we begin by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). However, Hair, et al., (2019) posited that low but significant indicator loading of 0.50 can be included hence justifying why indicators with loadings less than 0.708 and above 0.50 were not deleted from the model as seen in figure 2 below.

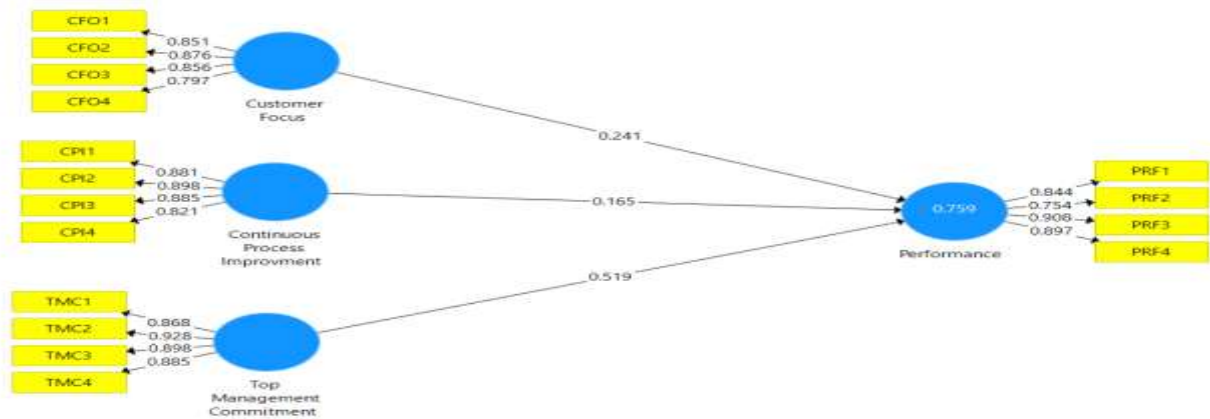


Fig 2: Indicator Loadings

Table 4.2: Reliability of study scale

S/N	Variables		Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	No of Items
1	Customer focus (CFO)	CFO1 CFO2 CFO3 CFO4	0.851 0.876 0.856 0.797	0.867	0.909	0.715	4
2	Continuous Process Improvement (CPI)	CPI1 CPI2 CPI3 CPI4	0.881 0.898 0.885 0.821	0.895	0.927	0.761	4
3	Top Management Commitment	TMC1 TMC2 TMC3 TMC4	0.868 0.928 0.898 0.885	0.917	0.941	0.801	
4	Performance	PRF1 PRF2 PRF3 PRF4	0.844 0.754 0.908 0.897	0.874	0.914	0.728	4

Source: SmartPLS Output, 2024

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair, et al., (2019) rating of good consistency. The Cronbach alpha value were above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Heterotrait-Monotrait Ratio (HTMT)

	CFO	CPI	TMC	PREF
CFO	1.000			
CPI	0.047	1.000		
TMC	0.058	0.462	1.000	
PRF	0.124	0.543	0.453	1.000

Source: SmartPLS Output, 2024

The variance inflation factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual's (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu & Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.030. This indicates the model is fit.

Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t-values, p-values and coefficient of determination (R^2). The bootstrapping procedure was conducted using a resample of 5000.

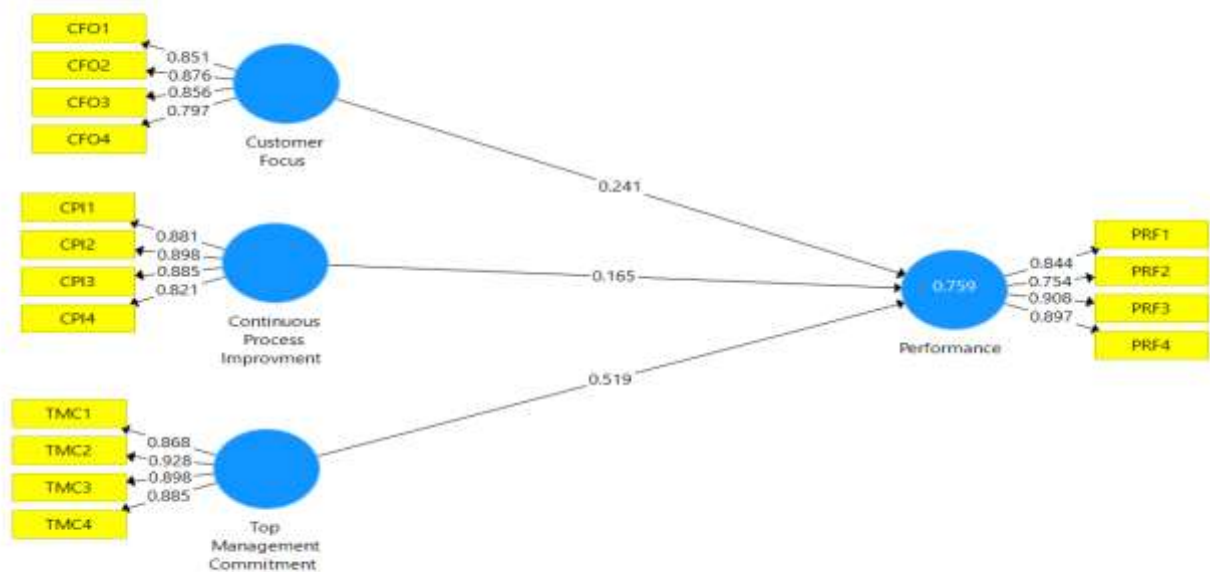


Fig. 3: Path Coefficients of the Regression Model.

The R-square value stood at 76% indicating that total quality management proxies by customer focus, contentious process improvement and Top management commitment are responsible for 76% variation in performance of SMEs Nasarawa State. The remaining 24% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered substantial but doesn't negate the findings of the study. The result of the path analysis is presented in the table below:

Table 4.4: Path Coefficients

Hypothesis	Variable		Beta	t-value	p-value	Findings	F ²
Ho ₁	Continuous Process Improvement -> Performance		0.165	2.859	0.013	rejected	0.433
Ho ₂	Customer Focus -> Performance		0.241	0.859	0.000	Rejected	0.572
Ho ₃	Top Management Commitment -> Performance		-0.122	2.418	0.000	Rejected	0.202

Source: SmartPLS Output, 2024

The result from the analysis indicates that Continuous Process Improvement has positive and significant effect on SMEs performance in Nasarawa State. The decision was reached based on the t-value of 2.859 which is greater than 1.964 and a beta value of 0.165 with a p-value of 0.013. Thus, implying that the null hypothesis lacks sufficient ground to be rejected and as such the alternate hypothesis which states that Continuous Process Improvement has significant effect on SMEs performance is accepted. This finding is in agreement with that of Babakus, (2020) who found Continuous Process Improvement to be positive and significantly effect on SMEs performance.

The result from the analysis indicates that customer focus has positive and significant effect on SMEs performance in Nasarawa State. The decision was reached based on the t-value of 0.859 which is less than 1.964 and a beta value of 0.241 with a p-value of 0.000. Thus, implying that the null hypothesis lacks sufficient ground to be accepted and as such the alternative hypothesis which states that Customer Focus has significant effect on SMEs performance is accepted. This finding agrees with that of Wei et al. (2022) who made similar findings about Customer Focus and SMEs performance.

Finally, the result from the analysis indicates that top management commitment has negative but significant effect on SMEs performance in Nasarawa State. The decision was reached based on the t-value of 2.418 which is greater than 1.964 and a beta value of -0.122 with a p-value of 0.000. Thus, implying that the null hypothesis lacks sufficient ground to be accepted and as such the alternative hypothesis which states that Top Management Commitment has significant effect on SMEs performance is accepted. This finding agrees with that of Wei et al. (2022) who made similar findings about Top Management Commitment and SMEs performance.

CONCLUSION AND RECOMMENDATIONS

This study examined effect of total quality management on the performance of SMEs in Nasarawa state. Based on the research findings, the study concludes that TQM is integral to performance improvement of SMEs if implemented properly. Also, based on the findings it is concluded that TQM ought to permeate every facet of the organization to produce the desired result. Furthermore, it was concluded that customers' focus and continuous process improvement as implemented by SMEs have contributed significantly to their performance, however, the desired level of performance is far from being experienced due to the negative effect of their top management commitment.

Based on the findings and conclusions above, the study recommends thus:

- It is recommended that SMEs managers should strive to understand the needs and wants of their customers by investing in surveys and interviews. This will avail them with relevant information regarding employees for which they will align their products and services.
- SMEs managers should involve employees' by encouraging them to provide feedback and suggestions for improvement in processes. Employees can be encouraged to form focus groups where they are provided with tools and resources to identify and make changes in areas needing improvement. In addition, adequate training should be provided to the employees.

- iii. Management of SMEs should be encouraged to key into TQM activities by encouraging open door policy wherein employees are allowed make suggestions for improvement. Also, SMEs should embrace technology to streamline operations and improve efficiency thereby reducing the burden on management, allowing them to focus more on strategic commitment.

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