PETROLEUM PRODUCTS DELIVERY IN NIGERIA: THE INFLUENCE OF TOTAL QUALITY MANAGEMENT PRACTICES.

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Abstract

The effective delivery of petroleum products over the years has reduced and this motivated the study to examine the influence of total quality management practices on refined petroleum products delivery in Nigeria.
The survey research design was adopted and primary data was sourced through the administration of structured questionnaire to eighty-two (82) respondents comprising management and employees through a census approach. The data were analysed, using the multi-linear regression analysis.
The results showed that quality planning ($\beta = 0.149, p > 005$), quality control ($\beta = 0.079, p > 0.05$) and quality improvement system ($\beta = -0.021, p > 0.05$) are not significant predictors while management commitment ($\beta = 0.302, p < 0.05$) significantly influenced refined petroleum products delivery.
The company's management should be committed to the ideals of business excellence that would drive efficient delivery.

Key Words: *Total quality management, total quality management practices, refined petroleum product delivery, Nigerian petroleum industry.*

Introduction

Globally, the use of petroleum products is inevitable with significant contributions to the Nigerian economy because the products are for numerous uses such as transportation (road, aviation, rail and maritime), petrochemicals (cosmetics, clothing, paints, and building components), and home heating which makes it important to lives (Akpan, 2020). Refined petroleum products like Premium Motor Spirit (PMS), diesel, aviation turbine kerosene, kerosene and motor oil are outputs of refined crude oil to be made available in usable forms.

Product delivery entails activities geared towards getting the product at the right time, place, and quantity (Ciani & Mau, 2021). The time factor is a function of the period it will take the products

to get to the final consumers of the refined products. This is not uniform across the country as point of loading, geographical distance, mode of product distribution and state of the road would determine this.

However, this is not always the case as other issues can obstruct the steady supply of refined petroleum products such as labour unrest, pricing issues, and government and international regulatory bodies' policies (Agu*et al*, 2018). These factors when properly handled would guarantee uninterrupted product supply. Close to this is the issue of operation efficiency which has to do with the day-to-day running of activities of petroleum business in firms. It is on record that there are issues of corruption in the downstream sector which continue to threaten the ease of doing business at that level (Salman, 2022). This development has affected product distribution in many instances and requires urgent attention to check the menace. It is not unlikely that the management of the downstream sector of the oil and gas industry is not pleased with the happenings around product delivery failures and quality but is often helpless. Deploying appropriate management tools such as Total Quality Management (TQM) practices can help to salvage the situation. According to Salman (2022), TQM includes a set of management practices deployed to ensure the attainment of stakeholders' interests. Reflecting on Total Quality Management Practices (TQMP), Fauzian *et al* (2014) suggested four proxies as contained in the literature survey. In this regard; quality planning, quality control, effective quality improvement and management commitment are adopted for TQMP in this study.

Quality planning entails a structured process towards ensuring the desired standard is met. This has to do with all resources that will be required for a product (Tallentire *et al*, 2019). This plan covers raw materials, and human resources, among others with timelines properly defined. Quality control is maintained throughout the product production process to attain the desired product quality. There have been cases of compromised petroleum products in Nigeria which can be attributed to a lack of quality control (Nnadi *et al*, 2018). It is not enough to attain quality; this quality should effectively be improved upon. Effective quality improvement thus becomes an attempt at stepping up the current quality level of the product by strengthening the components of the existing products for better usage in terms of potency and reduction in evaporation. The proxies need someone to drive it and that is why the management of firms is anticipated to be involved. In other words, management must be committed to getting TQM work (Fauzia *et al*, 2014). In context, management commitment is the dedication of those in charge of firms to producing quality products (Salman, 2022). This is often pursued through the allocation of resources to achieving quality. The irregular and unstable petroleum product distribution in Nigeria is abnormal. This can be addressed by adopting TQMP because it can change the narrative, all things being equal, the era of unstable and scarcity of petroleum products will remain with the country.

Statement of the Problem

As Nigerians continue to suffer from petroleum products supply shortage; it is obvious that the petroleum products supply chain is confronted with myriads of challenges that have incapacitated it from making the products available (Atela *et al*, 2021). One of the challenges undermining the performance of the downstream layer is product distribution which is one of the main functions of the layer (Aminu & Olawore, 2014). This challenge is caused by infrastructural constraints, endemic corruption, bureaucratic and internal process compromise, and lack of transparency,

among others (Akpan, 2020; Olujobi *et al*, 2020), which often renders effective delivery of products impossible. Although each of the available refined petroleum products delivery options like trucking, pipeline and barges have their peculiar challenges.

Furthermore, there is an obvious disparity in the quality of what users used to have as petroleum products in the past and now as incidences of unpleasant products have been acknowledged in the recent past, which have caused havoc (Tallentire *et al*, 2019). This implies a gap between what is expected as

petroleum products and what consumers get. This variation suggests a lack of adequate quality control mechanisms despite the existence of quality assurance and compliance departments in these companies. A sort of compromise persists, and the industry players remain helpless which has termed the industry to be inefficient. The complaints are enormous as this has caused damage to vehicles and generators of many users (Stakeholder Democracy Network, 2020). Given this, it is also pertinent to investigate the quality control, quality improvement system, and management commitment to quality and operational efficiency of the Nigerian downstream sector to provide solutions to this issue to forestall reoccurrences. The happenings in the Nigerian downstream sector of the petroleum industry have grossly undermined the effective delivery of petroleum products over the years and must be addressed. In line with this, this study has considered examining total quality management practices and refined petroleum products delivery in the Nigerian downstream sector.

Studies that exist in TQM (Aminu & Olawore, 2014; Nnadi *et al*, 2018; Akpan, 2020; Olujobi *et al*, 2020; Atela *et al.,* 2021; Hassis and Saleh, 2023) have been extensive with limited adoption into the downstream sector of the Nigerian petroleum sector. Therefore, it is imperative to investigate this direction owing to the dissatisfied trend of petroleum product deliveries across the country which suggests TQMP are not fully adopted in the sector. Based on extant literature, there are assumptions of this negligence in the adoption of TQMP to improve petroleum product deliveries, hence this study.

Literature Review

Total Quality Management (TQM)

Total Quality Management (TQM) is a management approach that aims to improve the quality and efficiency of an organization by involving every level of the organization in a continuous process of improvement. Quality in literature represents excellence in terms of performance and expectations (Defeo, 2016). Some studies (Anu & Satish, 2016, Dahlgaard, 2019) described TQM as a philosophy that encapsulates all activities of an organization's stakeholders with the view to achieving efficiency and cost-effectiveness. In this regard, customers, employees, host community, management, investors, and government, among others have their interests and objectives subsumed and pursued for its joint achievement. Accordingly, it can be said that TQM has been an effective tool in the hands of those who have embraced integrating different stakeholders. Within this context, such TQM practices entail but are not limited to quality planning, quality control, quality improvement and management commitment as suggested by

extant studies (Dahlgaard *et al.,* 2019; Anu & Satish, 2016). By implementing TQM principles and practices, organizations can achieve improved quality, increased efficiency, and better customer satisfaction.

According to Salman (2022), quality planning is a process of ensuring an adequate level of quality as proposed through a systematic approach to defining quality requirements and developing strategies to ensure that these requirements are met. In practice, Tallentire *et al* (2019) described quality planning as a systematic process for either evolving products or ensuring customer needs are met. However, some conditions must be met in quality planning such as preliminary analysis which defines the aims of the quality plan, tasks of the quality plan, guidelines for the quality planning activities, persons in charge, available resources, operational procedures, production schedule, and anticipated effects (Othman *et al*, 2017).

One of the core issues in TQM is quality control, which has become a practice widely adopted across many industries. It involves a set of activities designed to ensure that products or services meet the desired quality standards (Nnadi *et al*, 2018). Quality Control is an integral part of TQM, as it helps to prevent defects, reduce waste, and improve overall product and service quality. It is about eliminating wastages from the production line to meet specifications anticipated in the quality plan. For this reason, contemporary managers and management have adopted it as a practice to achieve stakeholders' interest especially final users of products.

A Quality Improvement System is a key practice of Total Quality Management (TQM) that involves a systematic approach to identifying and implementing improvements in product or service quality (Hill *et al.*, 2020). This component may lead to higher and improved quality processes. Expressions of managers' meaning and lived experiences regarding total quality management practices lead to a planned change in organizational processes for continual improvement of the quality process.

In the words of Tzempelikos, (2015), management commitment entails the extent to which senior management teams are dedicated to business organisation activities. This description involves resource allocation, sacrifices on their part for rights and privileges, staff motivation, customer focus, and service delivery, among others. It could also imply management's drive to achieve the business intent against all odds. From all perspectives, the rationale behind this commitment is to justify the essence of overseeing the business. Management commitment also involves the dedication and support of an organization's top leadership towards achieving its goals and objectives (Suta, 2018). Examples of management commitment include setting clear expectations for employees, providing training and support, regularly monitoring progress, and rewarding achievements (Najam et al., 2020). By demonstrating a strong commitment to their organization's success, leaders can inspire and motivate their employees to achieve their best work and contribute to a positive and productive workplace culture.

Refined Petroleum Product Delivery (RPPD)

Refined petroleum products are of different kinds and the common ones are Premium Motor Spirit (PMS), diesel, aviation turbine kerosene, kerosene and motor oil. Getting these products to final users from the source captures the delivery aspect which in the downstream sector involves trucking, pipeline or backloading, and barges or small ships (Olujobi *et al*, 2020). The delivery process typically involves a network of pipelines, tanker trucks, railcars, and ships, depending on the location and distance of the delivery. Efficient and reliable refined petroleum product delivery is essential for the smooth operation of transportation, manufacturing, and other industries that rely on these fuels.

Four measures of refined product delivery were considered as identified in the study of Ciani and Mau (2021) which include: product timely delivery, product inventory management, product stable supply, and operations efficiency. Product delivery is getting the commodity to the final users' point of need (Ciani & Mau, 2021). Timely delivery of refined products is essential to ensure that customers have access to the products they need, and that fuel prices remain stable and competitive. Delivery speed is at the heart of this concept and on-time delivery is crucial (Modak, 2017). According to Dündar and Öztürk (2020), businesses need distribution channels to market their products to consumers, and a channel's performance is associated with increased product sales, market share and adequate customer service support. Inventory management of refined products is critical for ensuring that there is a sufficient supply of fuel to meet customer demand, while also minimizing the costs associated with holding excess inventory (Agu*et* al, 2018).

A stable supply of refined product delivery is essential to ensure that customers have access to the fuel they need, and that fuel prices remain stable and competitive. The stability of product supply without hinges remains topical in the existing literature and it is described as the smooth distribution of products without cut-off. It is about planning, implementing and controlling the flow of products (Ciani & Mau, 2021). In the words of Ehinomen and Adeleke (2012), petroleum products supply entails the movement of refined petroleum products from the refinery to the final users across different locations in the country. This implies the supply of petroleum products like Premium Motor Spirit (PMS or petrol), Liquefied Petroleum Gas (LPG), Household Kerosene (HHK), Automotive Gas Oil (AGO or Diesel), Aviation Turbine Kerosene (ATK or jet-AL), High Pour Fuel Oil (HPFO), among others steadily. By prioritizing these factors, delivery companies can help ensure a stable supply of refined product delivery, supporting the smooth operation of transportation, manufacturing, and other industries that rely on these fuels. A stable supply of fuel can also help keep fuel prices stable and competitive, benefiting both customers and the broader economy.

Efficient operations are critical to the success of refined product delivery, as they help ensure that fuel is delivered to customers in a timely and cost-effective manner (Nandom et al., 2019). Operational efficiency is the basis for market leadership and business sustainability which require a business to produce a certain level of output using minimal input. Operational efficiency is judged on business operating expenses (Ghebregiorgis & Atewebrhan, 2016), inventory turnover (Yameen & Pervez, 2016) and account receivables turnover (Yameen & Pervez, 2016).

Theoretical Framework

One theory that showcased the total quality management techniques is the European Foundation Quality theory/model (EFQM). The European Foundation for Quality Management (EFQM) proposed the model in 1991 as a non-prescriptive framework based on nine criteria (Dubas & Nijhawan, 2005; Bukvič, 2023). The model's assumptions are grounded in nine criteria for measuring excellence and are grouped under two main categories: enablers and results (Sadeh and Garkaz, 2014). TQM believes that by effectively utilizing the five excellence enablers of leadership, policy and strategy, people, partnership and resources, and processes, the organization might produce positive results. The result criteria include: customer results, people results, society results and key results. The model may be used in two different ways: as a management control model and as a diagnostic model for self-evaluations (Doelemana, *et al*, 2014). The enabler criteria cover what an organization does while results criteria cover what an organization achieves. Results are caused by enablers and feedback from results helps to improve enablers. The theory is based on the premise that: excellent results with respect to performance, customers, people and society are achieved through leadership driving policy and strategy, which is delivered through people partnerships resources, and processes. The study has found applicability in various areas of business. The EFQM model is used as a useful instrument to implement TQM principles in organizations and could consequently raise the level of product and service quality and customers satisfaction.

Methodology

The study used Prudent Energy and Services Limited as a case study. The company is a major petroleum products company in Nigeria that owns controlling shares in Ardova Plc. It is a major supplier of products (asides NNPC and its subsidiaries) to Ardova Plc which controls about 450 retail stations. Prudent's trade volumes are significant and remains one of the leading companies in the Nigeria

downstream sector. The survey research design was adopted which made the study to concentrate on the management and employees of Prudent Energy and Services Limited in Delta State, Nigeria. The study was conducted from March to April 2023 and data gathered at the company's Office in Delta. The estimated population is eighty-two (82) comprising of both management and employees where the census method was adopted (Kothari, 2004). Primary data was sourced for the study through the administration of questionnaire. The measurement scale of Ebiringa (2012) was adopted with few modifications and the instrument was designed using the 5-point Likert scale. The multi-linear regression analysis was used to achieve the objective and was carried out using Statistical Package for Social Sciences (SPSS) version 26. Consent of participants was sought to participate in the study. Despite the consent, participants were encouraged to participate voluntarily. In addition, the researcher ensured professional relationship with the participants as the right, dignity, and integrity of the participants in the research were protected. The researcher made participants anonymous for confidentiality purpose and to avoid conflict of interest manipulation.

The study's model comprised of variables from Ebiringa (2012) and were adapted for the study as follow:

$$RPPD = f(QP + QC + QIS + MC) \quad \text{.....3.1}$$

Stating 3.1 in its functional form, we have

$$RPPD = \beta_0 + \beta_1 QP + \beta_2 QC + \beta_3 QIS + \beta_4 MC + \varepsilon \text{ .....3.2}$$

$$\beta_0 = constant;\ \beta_1 - \beta_4 = Coefficentsoftheindependentvariables;\ \varepsilon - errortermQP, QC, QIS\ AND\ MC\ (Independent\ variables)$$

RPPD- Refined Petroleum Product Delivery (dependent variable); QP- Quality Planning

QC-Quality Control; QIS- Quality Improvement System; MC- Management Commitment

Results

Eight-two copies of questionnaire were administered to the respondents who are staff members of African Prudent Limited, however, fifty-six copies were retrieved which represents 68.29% response rate. Male respondents (89.3%) participated more than female (10.7%). This implies that the company engages more male than female in carrying out its business operations. Most of the respondents (91.1%) have tertiary education. This implies that the respondents have the required level of education for participation in the study. In addition, 46.4% of the respondents are management staff and 53.6% are in other categories. This further revealed that the required management levels were involved in the study. Furthermore, 46.4% of the respondents have between 6 and 10 years of work experience. This revealed that most of the respondents have the required experience to address the issues raised in the study. Lastly, 30.4% of the respondents are from the operations department and 25% from the sales department. This showed that the departments concerned with quality and delivery of petroleum products are well represented in the study.

Diagnostic Tests

Both TQM and RPPD were tested with the Cronbach Alpha test of reliability. The two constructs: TQM (alpha value is 0.865) and RPPD (alpha value is 0.70) met the required benchmark for reliability (>=0.7)

The also study used the variance inflation factor (VIF) to test for collinearity. The benchmark for this test requires the constructs to have VIF values that falls within 5 and all the constructs met this requirement which indicates there is no collinearity issue with the data as shown in Table 1.

Table 1: Collinearity Test Using VIF

1. Constructs	2. Tolerance	3. VIF
4. Quality Planning	5. .501	6. 1.997
7. Quality Control	8. .452	9. 2.212
10. Quality Improvement System	11. .732	12. 1.365
13. Management Commitment	14. .443	15. 2.259

Source: Field Survey, (2023)

The results shown in Table 2 revealed that total quality management practices had a positive relationship with refined petroleum products delivery ($r = 0.639$). Furthermore, the results showed that TQM practices account for 36.2% ($r^2 = 36.2\%$), variation in refined petroleum products delivery. This implies that 36.2% of the variations in refined petroleum product delivery is explained by total quality management practices. Quality planning ($\beta = 0.149, p > 0.05$), quality control ($\beta = 0.079, p > 0.05$) and quality improvement system ($\beta = -0.021, p > 0.05$) do not have statistically significant influence on refined petroleum products delivery while management commitment ($\beta = 0.302, p < 0.05$), has a statistically significant positive influence on refined petroleum products delivery. This implies that management commitment is a significant predictor of refined petroleum product delivery. This revealed that management commitment has 30.2% effect on refined petroleum product delivery.

Table 2: Regression Result I

16. Constructs	17. Unstandardized β	18. T-Statistic	19. *p*-value
20. (Constant)	21. 1.945	22. 3.971	23. .000
24. QP	25. .149	26. 1.521	27. 0.134
28. QC	29. .079	30. 0.469	31. 0.641
32. QIS	33. -0.021	34. -0.198	35. 0.844
36. MC	37. 0.302	38. 2.565	39. 0.013*
40. Statistics	41. Value	42.	43.
44. R	45. 0.639	46.	47.
48. R^2	49. 0.408	50.	51.
52. Adjusted R^2	53. 0.362	54.	55.
56. *F statistic*$_{(4,51)}$	57. 8.791 ($p<0.05$)	58.	59.
60. *(Significant at 5%)	*61.*	62.	63.

Source: Field Survey, (2023)

$$RPPD = \beta_0 + \beta_1 QP + \beta_2 QC + \beta_3 QIS + \beta_4 MC + \varepsilon$$

$$RPPD = 1.945 + 0.149QP + 0.79QC - 0.021QIS + 0.302MC + \varepsilon$$

Discussions

The study reported a positive relationship between TQM practices and refined petroleum products delivery which supported the findings by Lakhal *et al.*, (2006) where similar results were revealed. Three

TQM practices: quality planning, quality control and quality improvement system were not significant predictors of refined petroleum product delivery. This raises concerns for stakeholders in the downstream sector of the Nigerian petroleum industry. The study found that management commitment is a significant

predictor of refined petroleum product delivery. These findings also supported the work of Elias and Davis (2017) which reported that TQM practices influenced performance and customer

satisfaction. The findings also emphasized the importance of the TQM practices as suggested by Tiwari et al., (2018) which stressed that TQM considers all quality initiatives implemented at all levels and includes all workers in the firm to achieve high level performance. These findings also support the work of Hassis and Saleh (2023) through which the importance of TQM practices on the achievement of the corporate goal of sustainability was emphasized. Nevertheless, this study has brought to bear the significance of management commitment to TQM. In essence, it showed that management commitment is a vital practice that determines the applicability of other TQM practices. Therefore, the level of commitment shown by the management towards TQM could further improve other practices like quality planning, quality control and quality improvement system.

Conclusion

The study concludes that total quality management practices are vital to refined petroleum products delivery especially the commitment of management. Total quality management practices in terms of quality planning, quality control, quality improvement system and management commitment are vital to the efficient and effective delivery of refined petroleum products. It is also expedient for the company's management to continually be committed to the ideals of business excellence that would drive timely delivery of refined petroleum products delivery.

REFERENCES

Agu, O.A., Obi-Anike, H.O. & Eke, C.N. (2018). Effect of inventory management on the organizational performance of the selected manufacturing firms. *Singaporean Journal of Business Economics, and Management Studies (SJBem*) 5(4), 56-69.

Akpan, P. D. (2020). The petroleum downstream sector and national development in Nigeria: A long walk to nowhere. *Journal of Humanities and Social Science,* 25(4), 1-17

Aminu, S. A., & Olawore, O. P. (2014). Empirical investigation of challenges of distribution of premium motor spirit (PMS) in federal capital territory (FCT), Abuja and environs, Nigeria. *InternationalJournal of Management Sciences and Humanities, 2*(2), 11-38.

Anu, P., & Satih, K. (2016). Investigating the relationship between TQM practices and Firm's performance: A conceptual framework for Indian organizations. *Procedia Technology*, 24, 554-561.

Atela, M., Ojebode, A., Aina, T., Agbonifo, J, Oosterom, M, Makokha, R., Oluwajulugbe, O., & Okoyomoh, O. (2021). Demanding Power: Struggles over Fuel Access in Nigeria. *Institute of Development Studies*, Working Paper No 554. 1-69.

Ciani, A., & Mau, K. (2021). Delivery times in international competition: An empirical investigation, European Commission, Ispra, JRC125844. 1-52.

Dahlgaard, J. J., Reyes, L., Chen, C., & Dahlgaard-Park, S. M. (2019). Evolution and future of total quality management: management control and organisational learning. *Total Quality Management & Business Excellence*,30 (1),1-16.DOI: 10.1080/14783363.2019.1665776

Defeo, J.A. (2016). Juran's quality handbook. 7th edn. McGraw-Hill Education, 1-992.

Doeleman, H. J., Have, S. & Ahaus, C.T. (2014). Empirical evidence on applying the European Foundation for Quality Management Excellence Model, a literature review, *Total Quality Management & Business Excellence*, 25:5-6, 439-460, DOI: 10.1080/14783363.2013.862916

Dubas K, & Nijhawan I. (2005). *A test of the EFQM excellence model of TQM*. The Allied Academies International Conference: Academy of Marketing Studies, Las Vegas Nevada Encyclopaedia of the Nations: Africa: Nigeria: Nigeria Industry, (online), http:www.nationsencyclopedia.com/Africa/Nigeria-Industry.

Dündar, A.O. & Öztürk, R. (2020). The effect of on-time delivery on customer satisfaction and loyalty in channel integration. *Business and Management Studies: An International Journal (BMIJ),* 8(3), 2675-2693.

Ebiringa, O.T. (2012). Total quality managementfor service delivery by commercial banks: Analysis of critical success factors. *International Journal of Management Sciences and Business Research*, 1(3) 1-11.

Ehinomen, C., & Adeleke, A. (2012). An assessment of the distribution of Petroleum products in Nigeria. *Journal of Business Management and Economics*, 3(6), 232-241.

Elias, A.,& Davis, D. (2017). Analysing public sector continuous improvement: a systems approach. *International Journal of Public Sector Management*, 31(1). 2-13

Fauzia, S., Abid, H. & Faisal, H. (2014). Identification of variables in total quality management principles: Case study of Indian gas industry. *International Journal of Scientific & Engineering Research*, 5(12), 45-52.

Ghebregiorgis, F., & Atewebrhan, A. (2016). Measurement of bank profitability, risk and efficiency: The case of the Commercial Bank of Eritrea and Housing and Commerce Bank of Eritrea. *African Journal of Business Management*, 10(22), 554-562.

Hassis, S.M., Othman, M.A. and Saleh, Y. (2023), The impact of total quality management on corporate sustainability in the manufacturing sector: corporate social responsibility as a mediator, *The TQM Journal,* 1(10). https://doi.org/10.1108/TQM-08-2022-0259

Hill, J.E., Stephani, A.M., Sapple, P., &Clegg, A.J. (2020). The effectiveness of continuous quality improvement for developing professional practice and improving health care outcomes: a systematic review. Implement Sci,15(1), 23. DOI: 10.1186/s13012-020-0975-2.

Kothari, C.R. (2004). *Research methodology, methods and techniques.* New-Delhi: New Age International Publishers, 1-418.

Lakhal, L., Passin, F., & Limam, M. (2006). Quality Management Practices and Their Impact on Performance. *International Journal of Quality and Reliability Management, 23, 625-646. https://doi.org/10.1108/02656710610672461*

Modak, N. M. (2017). Exploring Omni-channel supply chain under price and delivery time sensitive stochastic demand. *In Supply Chain Forum: An International Journal,* 18(4), 218-230.

Najam, U., Burki, U., & Khalid, W. (2020). Does work-life balance moderate the relationship between career commitment and career success? Evidence from an emerging asian economy. *Administrative Sciences*, *10*(4), 1-12. https://doi.org/10.3390/admsci10040082

Nandom, I., Mubarik, M., Alhassan, N., & Rahman, M. (2019). The Effectiveness of Internal Control System in Safeguarding Assets in the Ghanaian Banking Industry. *International Journal of Management and Commerce Innovations*, *5*(95116), 544–557.

Nnadi, C. F., Akawnonu, N. G., & Okafor, O. P. (2018). An Empirical Analysis of Quality Control Techniques and Product Quality in Manufacturing Firms in South East Nigeria. *International Journal of Academic Research in Economics and Management Sciences*, 7(3), 166–184.

Olujobi, O. J., Olujobi, O. M. & Ufua, D. E. (2020). A Critical Appraisal of Legal Framework on Deregulation of the Downstream Sector of the Nigerian Petroleum Industry. *International Journal of Management,* 11(6), 252-268.

Othman, I., Shafiq, N, & Nuruddin, M. (2017). Effective Safety Management in Construction Project. *IOP Conf. Ser.: Mater. Sci. Eng.* 291.

Sadeh, E. & Garkaz, M. (2014): Explaining the mediating role of service quality between quality management enablers and students' satisfaction in higher education institutes: the perception of managers. *Total Quality Management & Business Excellence*, 26(11-12), 1335-1356. DOI: 10.1080/14783363.2014.931065

Salman, M. (2022). Total Quality Management in Private and Public Sectors in Bahrain: An Exploratory Study. *Journal of Service Science and Management,* 15, 452-475.

Suleman, B., George, E. A. & Ernest (2018). Impact of inventory management on firm performance: A case study of listed manufacturing firms in Ghana. *International Journal of Finance and Accounting*, 7(4), 83-96

Suta, D. D. (2018). Human Resource Practices and Performance of Tanzania Local Governments. *International Journal of Science and Research*, *8*(10), 150–156.

Tallentire, V.R., Harley, C.A., & Watson, S. (2019). Quality planning for impactful improvement: a mixed methods review. *BMJ Open Quality*, 8, 1-6. doi:10.1136/ bmjoq-2019-000724

Tiwari, R., Tiwari, G., Wal, P., & Wal, A. (2018). Total quality management: A requisite approach to improve research. *Pharma Times*, *50*(7), 25–29. https://doi.org/10.31031/mapp.2018.02.000527

Tzempelikos, N. (2015). Top management commitment and involvement and their link to key account management effectiveness. *Journal of Business & Industrial Marketing*, 30(1), 32-44. https://doi.org/10.1108/JBIM-12-2012-0238

Yameen, M., & Pervez, A. (2016). Impact of Liquidity, Solvency and Efficiency on Profitability of Steel Authority of India Limited. International Journal of Approximate Reasoning, 2, 32-41.