

SYSTEMATIC REVIEW: THE IMPACT OF TOTAL QUALITY MANAGEMENT ON GOLD MINING INDUSTRY PERFORMANCE IN SUDAN

Traditional management was more concerned with the organization's internal workings and focused on producing high-quality products and services. Instead of that specialize in the way to manufacture a product or service, total quality management focuses on a way to please the client. The assignment of quality responsibility to management is one among the elemental contrasts between total quality management and traditional management approaches. TQM entails efforts the least bit levels of a corporation to "create and maintain a climate during which employees continually improve their capacity to supply on-demand products and services." While there is no universally accepted approach, TQM operations often rely largely on quality control tools and techniques that have already been created. Total Quality Management (TQM) is a strategy used by businesses to improve internal operations and boost customer satisfaction. Manufacturing, banking, and finance, and medical are all examples. All personnel are involved in achieving common objectives. On a regular basis, assess the efficiency of the team members (Nicolas Nicolaou and George Kentas, 2017). You'll have to replace him if he can't keep up with the pace or give consistent quality. During the late 1980s and early 1990s, TQM drew a lot of attention before being eclipsed by ISO 9000, Lean manufacturing, and Six Sigma (Sabet, Adams and Yazdani, 2016). While there is no universally accepted approach, TQM operations often rely largely on quality control tools and techniques that have already been created. Total

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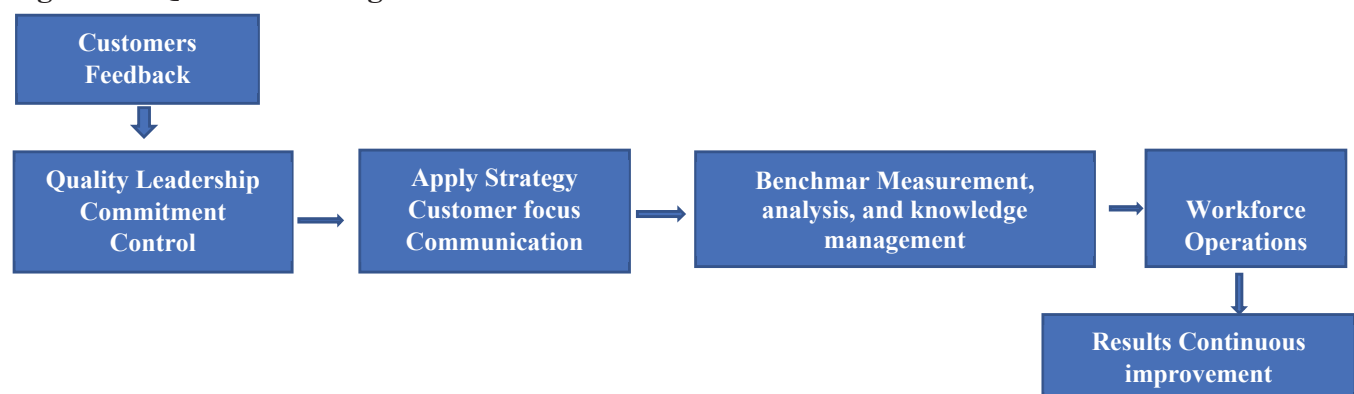
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Quality Management (TQM) is a management concept designed to improve the quality of production and systems through time in order to meet the expectations of customers. TQM is a management method based on basic concepts and principles that encapsulate how a company should operate and, as a result, contribute to high levels of performance. (García-Alcaraz et al., 2019, Bigliardi and Galati, 2014), Vukomanovic, Radujkovic and Nahod, 2014) The TQM specifies the educational component's company strategy. Initiatives, approaches, and modes of education, as well as information technology and professional development, help improve the quality of instructional goals and the educational system as a whole. Aspects of the PDC are connected to the "Plan-Do-Check-Action" cycle (Larina, 2015).

They also established a high-quality assurance benchmark and ensured accurate measurement, analysis, knowledge management, and retention. As a result of using the whole quality management approach, the ultimate output would be a high-quality workforce operation and continual improvement. As seen below in (figure 1) TQM seven categories.

Several studies have stated the application of total quality management (TQM) in their empirical studies; some example a study conducted in Portugal, TQM implementation in Portuguese Higher Education Institutions (Antunes et al., 2018) and (Fitriani, 2019) This is where TQM, which values performance and consistency, can be used in the realm of education to deliver the highest quality education possible in the

Figure 1. TQM Seven Categories



classroom. According to Lau, Tang and Li, (2015) Despite the fact that many of these improvement recommendations were implemented within ten years of the report's release, there is a paucity of literature documenting these accomplishments and the extent of TQM implementation. As stated by Nawelwa, Sichinsambwe and Mwanza, (2015) There is a scarcity of literature that documents accomplishments and the amount of TQM application in education. In other words, collaboration and teamwork are critical. Everyone is a client and a supplier in a TQM business; this perplexing idea underlines "the systematic structure of the activity in which all are involved." The key elements of TQM in secondary schools were discovered through research. The research focused on the principles 2, 6, 7, 10, 13, and 14 of Deming's 14 fundamental principles, which were amended by Lockwood (1992). The "Four Pillars of Total Quality Management" are well-suited to these six ideas. Synergistic relationships, constant improvement, and self-evaluation are the four pillars (Kaiseroglou and Sfakianaki, 2020). Management, teachers as employers, students as employees and customers, and learning information as a product are all explored in this study. As stated in (Nawelwa, Sichinsambwe and Mwanza, 2015) The 14 points of Deming's theory that can be applied to find improvement opportunities are: (1) Maintain a consistent goal of improvement. (2) Both management and employees must adopt the new mentality. (3) Instead of relying on quality inspection, include it into the product and process. (4) To minimize variance in raw materials and supply, choose high-quality suppliers over low-cost ones. (5) Continuously improve all aspects of planning, manufacturing, and service to eliminate variation. (6) Provide on-the-job training. If employees aren't professionally trained, they won't all work in the same way, resulting in variety. (7) Implement leadership rather than monitoring to motivate workers to do a better job rather than just fulfil targets. (8) Get rid of the dread. Fear, according to Deming, is counterproductive in the long run since it stops people from acting in the organization's best interests. (10) Get rid of slogans. It is not humans who make the majority of errors. It's the procedures they're following. Harassing employees while failing to improve the methods they utilize is ineffective. (11) Replace management goals with production goals to discourage the delivery of low-quality goods. (12) Remove obstacles to

employee pleasure, such as annual appraisals. (13) Encourage everyone to enhance themselves through education and self-improvement. (14) Everyone, especially top management, is responsible for continuous quality and productivity development.

According to Awwad and Mashagba, (2014) TQM is a management concept and practice that strives to maximize the effectiveness of an organization's human and material resources in order to achieve its goals. Many organizations hold organizational development programs such as seminars, workshops, and conferences to raise quality awareness and modify employees' attitudes about TQM. TQM is a modern management method developed by Edwards Deming and used by enterprises to improve management performance. The methodologies of total quality management (TQM) and their applications in the renewable energy sector are the focus of this research. We begin with a summary of Edwards Deming's conceptual model, noting major stages in its development as described in the literature. (Busu, 2019) On the other hand, L.K. Ejionueme, (2015) also explained the process in their study stating that Total quality management can be thought of as an administrative tool. Based on their reference to (Ojo 2006), it is a customer-focused, facts-based, team-driven, and seminar-led management style that aims to provide satisfaction in the achievement of corporate goals. This ideology also provides a framework for incorporating a variety of good educational trends, such as teamwork, site-based management, cooperative learning, and outcomes-based education. Total quality management is a systematic method to education improvement, according to Deming (2004). TQM highlights teacher competency, creativity, commitment, teamwork, effective communication, and how educational administrators are required to lead in order to reach the full potential of all educational employees (Okorie and Uche, 2004). In conclusion, TQM has been incorporated into Deming's mode and can be applied to any functioning organisation as stated in the literature. Evaluation of available research, comprising W. Edward Deming's publications, from the internet and other sources: fourteen quality assurance principles (-Billah and Karim, 2021)

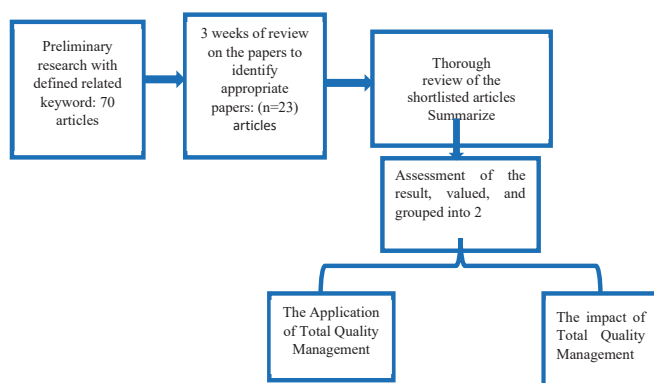
In this comprehensive literature review, several studies have emphasized the importance of TQM in their study. Nicolas Nicolaou and George Kentas, (2017) The study's major findings imply that by

implementing both TQM and JIT production techniques, flexibility performance may be improved, and TQM should be viewed as the platform for maximizing the influence of JIT production on flexibility performance. A study conducted in India by (Sinha, Garg and Dhall, 2016) TQM principles such as "Process Approach," "Mutually Beneficial Supplier Relationship," and "Factual Approach to Decision-Making" (TQM) have a favourable impact on the performance of Indian auto component SMEs, according to the study. (Alanazi, 2020) In their research, they discovered that primary TQM variables and strategy have a mediating role in the relationship between supportive TQM factors and organizational outcomes: The MBNQA model was used to make an empirical assessment. Primary variables and strategy alter the link between supportive factors and outcomes, whereas supportive aspects boost primary factors. The results support the MBNQA model's systems-based approach. Another study conducted in Turkey by Sadikoglu and Olcay, (2014) The findings revealed that the main challenges those Turkish businesses confront are a lack of staff involvement, employee knowledge and dedication, an inadequate firm structure, and a lack of resources. Firms should continue to use TQM across all factors in order to increase performance. Sari and Firdaus, (2018) The application of TQM has a substantial impact on competitive advantage. Similarly, a competitive edge has a major impact on the company's performance. Permana, Purba and Rizkiyah, (2021)

This is a review of 25 related publications discovered in several database such as Google Scholar, Elsevier, ScienceDirect. Directory of Open Access Journals (DOAJ) and PubMed databases.

Procedure and Process

Figure 2. Systematic Review Procedure for TQM



The finding of the systematic review is presented in table 1 below.

Table 1
TQM Systematic review findings

TQM	Findings
Quality Leadership Commitment Control Apply Strategy Customer focus Communication Cooperation knowledge management	Customers' requirements define quality
	Quality improvement is a direct responsibility of top management.
	Thorough assessment and enhancement of operational activities leads to increased quality.
	Quality improvement is a continuous process that takes place throughout the company.
Continuous improvement	organizations dedicated with resolving rapid operational concerns
	Long organization transformation is the responsibility of established cross-functional teams.

A word that was first accustomed describe a managerial strategy to improving quality. TQM may be a management technique that focuses on customer satisfaction as the way of achieving long-term success. During the late 1980s and early 1990s, TQM drew many attentions before being eclipsed by ISO 9000, Lean manufacturing, and 6 Sigma. there is no universally accepted approach, however efforts typically rely significantly on control technologies that have already been established. The human aspect, it's visiting be said, plays a serious influence in TQM. Everyone's contribution to the attainment of 1 goal is exceptionally significant and beneficial, leading to their adoption of TQM. A management approach of an organisation centred on quality, supported the participation of all its members and aiming at future success through customer satisfaction and benefits to any or all or any members of the organisation and society. Total Quality Management is also a technique for continuously improving performance at every level, and everyone told areas of responsibility. one ideal is that the Sadikoglu and Olcay study in Turkey (2014). the foremost issues that Turkish enterprises confront are a scarcity of employee involvement, employee knowledge and dedication, and an insufficient organizational structure. TQM implementation has a considerable influence on performance, based on the studies. As shown in a study conducted in India, TQM themes such as "Strategic Process," "Improved Supplier Partnership," and "Truthful Methodology to Decision-Making" (TQM) have a favourable impact on the development of Indian auto sector SMEs.

(Sinha, Garg, and Dhall, 2016). The article looks at the foremost QMPs which is able to affect the performance of SMEs within the Indian automotive component industry. These are other studies that have also supported the findings of this current review manuscript (Mehralian et al., 2016) if social responsibility toward stakeholders is entrenched in operational routines and procedures, managers can deepen their relationships with stakeholders and, as a result, increase organizational performance. This proposed framework would assist firms in implementing TQM efficiently in their organizations while taking into consideration both internal and external organizational aspects. The findings raise previous research that has revealed mixed results when it involves the direct link between social responsibility and organizational success (Nasim, 2018).

Recommendation

It is recommended that the procedures utilized during this study be applied to other sectors of the identical segment or new segments within the longer term to contribute to more relevant studies within the world. This review study describes and recommend total quality management (TQM) for the gold mining sector in Sudan, additionally because the key components of total quality management.

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Sistematik idarə: Sudanda qızıl hasilatı sənayesində məhsuldarlığın artırılmasına ümumi keyfiyyətə idarəetmə sisteminin təsiri

Ümumi keyfiyyətin idarə edilməsi metodologiyalarının meydana çıxması ilə müəssisələr məhsuldarlığın yüksəldilməsi prinsiplərini TQM tələbləri ilə birləşdirməyə başladılar. Sudanın qızıl hasilatı sektorunu narahat edən cari problemin potensial həlli ümumi keyfiyyətin idarə edilməsidir (TQM). Bu araşdırmanın məqsədi ümumi keyfiyyət idarəetməsini və onun əsas elementlərini, tətbiqlərini və Sudan qızıl hasilatı biznesinə təsirini təsvir etmək və nümayiş etdirməkdir. Biz ümumi keyfiyyətin idarə edilməsinin (TQM) təşkilatı fəaliyyətə təsiri ilə bağlı tədqiqatı hərtərəfli nəzərdən keçirdik. Ümumi keyfiyyət menecmenti keyfiyyətə nəzarət sisteminin və sənayedə güclü liderliyin tətbiqi ilə yüksək keyfiyyətli fəaliyyət konsepsiyalarını yaradacaq və həyata keçirəcəkdir. Liderlər başa düşürlər ki, məhsuldarlığın artması müştəri məmnuniyyətinin artması və xərclərin azalması ilə əlaqələndirilir. Tədqiqat icmalına görə, modelin əhəmiyyəti ondan ibarətdir ki, onu istənilən biznes və ya təşkilata tətbiq etmək mümkündür. Ümumi Keyfiyyət İdarəetmə keyfiyyətə nəzarət sistemi və güclü sənaye rəhbərliyinin yaradılması vasitəsilə yüksək keyfiyyətli performans modellərinin işlənilib hazırlanmasına və həyata keçirilməsinə imkan verəcəkdir. Hərtərəfli keyfiyyət idarəetmə sistemi Sudanın qızıl hasilatı sənayesinə fayda verəcək. Bu layihə yüksək səviyyəli performans konsepsiyalarını praktikada tətbiq edəcək. Bu araşdırma araşdırması Sudan qızıl mədən sənayesi üçün ümumi keyfiyyətin idarə edilməsi (TQM) təcrübələrini və TQM-nin əsas elementlərini təsvir edir və təklif edir.

Açar sözlər: *öhdəlik, nəzarət, idarəetmə, keyfiyyət liderliyi, strategiya*

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РЕЗЮМЕ:

Систематический обзор: влияние полного управления качеством на результативность золотодобывающей промышленности в Судане

С появлением методологий тотального управления качеством предприятия начали объединять принципы повышения производительности с требованиями тотального управления качеством (TQM). Потенциальным решением текущей проблемы, от которой страдает суданский золотодобывающий сектор, является TQM. Из-за низкого качества методов управления и лидерства, которые влияют на организационную деятельность в суданской золотодобывающей промышленности. Целью данного обзорного исследования является описание и демонстрация общего управления качеством, а также его основных элементов, применений и влияния на суданский золотодобывающий бизнес. Мы провели тщательный анализ исследования влияния всеобщего управления качеством на эффективность работы организации. Тотальное управление качеством позволит создать и реализовать концепции высококачественной деятельности за счет внедрения системы контроля качества и сильного лидерства в отрасли. Руководители осознают, что повышение производительности коррелирует с повышением удовлетворенности клиентов и снижением расходов. Согласно обзору исследования, значимость модели заключается в том, что ее можно применить к любому бизнесу или организации. Выводы статьи. Тотальное управление качеством позволит разработать и внедрить модели высококачественной деятельности за счет создания системы контроля качества и сильного лидерства в отрасли. Комплексная система управления качеством будет полезна для золотодобывающей промышленности Судана. Этот проект позволит реализовать на практике высококлассные концепции производительности. В этом обзорном исследовании излагаются и предлагаются всеобщие методы

управления качеством для суданской золотодобывающей промышленности, а также основные элементы TQM.

Ключевые слова: *приверженность, контроль, менеджмент, лидерство в области качества, стратегия.*