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Quality Management Practices and Its Impact on Organizational Performance: A Case Study of the Libyan Higher Technical Centre for Training and Production

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Abstract

Performance is one of the most important targets that any organization seeks to achieve. This paper focuses on the implementation of quality management techniques at the Libyan Higher Technical Center for Training and Production (TPC). Although the center has been successful in its field, increasing performance remains a primary concern for top management. Therefore, this study evaluates the gap between the center's current operational reality and the requirements of the international standard ISO 17025:2017. By applying a descriptive-analytical approach and SWOT analysis, the research identifies critical operational gaps. The findings reveal that while the center has significant strengths, such as financial independence and experienced staff, it faces a severe 96% gap in formal quality management systems and significant structural weaknesses. The study concludes that restructuring laboratory identities, establishing documented quality processes, and providing targeted ISO 17025 training will establish

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a solid foundation for continuous improvement and formal accreditation.

Keywords: performance, quality management, SWOT analysis, gap analysis.

تقنيات إدارة الجودة وأثرها في رفع أداء المؤسسات: المركز الليبي التقني
العالي للتدريب والإنتاج (حالة دراسية)

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الملخص:

يعد الأداء أحد أهم الأهداف التي تسعى أي منظمة لتحقيقها. تركز هذه الورقة على تطبيق تقنيات إدارة الجودة في المركز الليبي التقني العالي للتدريب والإنتاج. وعلى الرغم من نجاح المركز في مجاله، إلا أن رفع مستوى الأداء لا يزال يمثل أولوية قصوى للإدارة العليا. لذلك، تُقيم هذه الدراسة الفجوة بين الواقع التشغيلي الحالي للمركز ومتطلبات المواصفة القياسية الدولية

ISO 17025:2017 ومن خلال تطبيق المنهج الوصفي التحليلي وتحليل نقاط القوة والضعف والفرص والتهديدات (SWOT) يحدد البحث الفجوات التشغيلية الحرجة. تكشف النتائج أنه في حين يمتلك المركز نقاط قوة مهمة، مثل الاستقلال المالي والكوادر ذات الخبرة، فإنه يواجه فجوة حادة تبلغ في أنظمة إدارة الجودة الرسمية بالإضافة إلى ضعف هيكلية كبير. وتخلص الدراسة إلى أن إعادة هيكلة هويات المعامل، وتأسيس عمليات جودة موثقة، وتوفير تدريب موجه حول مواصفة ISO من شأنه أن يؤسس قاعدة صلبة للتحسين المستمر والاعتماد الرسمي.

الكلمات المفتاحية: الاداء، إدارة الجودة، تحليل، تحليل الفجوة SWOT.

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1. Introduction

Increasing performance is a key strategic approach for the top management of any organization. This study addresses the use of quality management systems to improve organizational productivity, optimize the use of resources, and satisfy customers. The Libyan Higher Technical Center for Training and Production (TPC) is a scientific research and mechanical industrial center operating under the umbrella of the Libyan Scientific and Research Board. It provides services to the educational and industrial sectors in Libya, including engineering consultancy, mechanical engineering testing, and materials science experiments. Additionally, TPC is producing spare parts for various Libyan industrial sectors and conducts special technical training courses. Presently, for an organization with dual mandate of education and production, quality management ceases to be a mere avenue for certification; it becomes a fundamental survival strategy required to fulfill its statutory objectives.

2. The study Statement and Research Objectives

Why is the Libyan Higher Technical Center for Training and Production not performing well?

Recently, TPC has facing several technical and operational issues that have led to low performance.

Therefore, this study aims to investigate the relationship between quality management frameworks and organizational performance by establishing this link through a gap and SWOT analysis, the research seeks to help TPC achieve its goals, maximize its performance, and move toward formal accreditation.

3. Literature Review

A quality management system (QMS) is a set of policies, processes, and procedures required for planning and delivering products or services in the core business area of any organization. To lead and operate an organization successfully, it is necessary to direct and control it in a systematic and transparent manner. Success can result from implementing and maintaining a management system designed

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to continually improve performance while addressing the needs of all interested parties (Abo Alrub, 2020).

Recent empirical studies have demonstrated the positive impact of QMS on organizational performance across various sectors. For example, a study by Megersa (2022) on the National Cement Share Company found that total quality management (TQM) practices—such as top management commitment, strategic planning, information sharing, employee empowerment, and customer orientation—have a positive and statistically significant effect on organizational performance. Similarly, Muasher and Haiete (2002), as cited by Shammot (2011), investigated the engineering sector in Jordan and found a meaningful relationship between TQM elements, human resources characteristics, and organizational performance.

In the context of educational and research organizations, Spichak et al. (2021) painted that it is stipulation of integrated risk and quality management due to increased competition and globalization. They identified SWOT analysis as an effective method to measure the strengths, weaknesses, opportunities, and threats of educational organizations, allowing management to develop strategies that minimize risks and improve quality.

Furthermore, previous research specific to the Libyan Higher Technical Center for Training and Production by Alsaed and Benjaber (2025) measured the availability of TQM requirements among 80 employees. the study found that while there is a strong, support from top management to implement quality management, the center suffers from significant weaknesses. These include weak employee participation, poor communication between departments, a weak document cycle, an inactive quality office, and a lack of a clear mechanism for continuous improvement and employee motivation.

Recently, more studies confirm that the value of QM systemes in manufacturing and general higher education, there is limited research applying strategic evaluation tools like SWOT to bridge the gap between current operational realities and the strict requirements of international standards (such as ISO 17025:2017) in scientific research centers with dual mandates in developing countries. This

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study fills that gap by analyzing the specific operational and quality management gaps at TPC to formulate a strategic roadmap for improvement.

SWOT Analysis Technique

SWOT is a strategic planning tool used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project, business venture, or any other situation requiring a decision (Remang, 2008). Historically, SWOT analysis was used early in the last century, particularly by American companies, to investigate why they were unsuccessful in achieving their objectives.

SWOT framework is an acronym for Strengths, Weaknesses, Opportunities, and Threats (Kumar, 2017). The framework consists of four elements:

- **Strengths:** Is an internal factor that can any organization used to gain strategic advantages over its competitors.
- **Weaknesses:** Is an internal factor that create strategic disadvantages and prevent an organization from achieving its objectives.
- **Opportunities:** Is an external condition in the environment that enable an organization to consolidate and improve its position.
- **Threats:** Is an external condition in the environment that create risks.

Using the SWOT framework helps an organization achieving its objectives, gain stability, and increasing its productivity and performance, leading to the creation of new organizational strategies.

Finally, SWOT is an important method for any organization targeting to move forward and achieve its goals. By helping to create a continuous cycle of decision-making, implementation, and evaluation, SWOT allows an organization to be more productive and reallocate its resources in a strategic manner (Gurel, 2017).

4. Methodology

The aim of this research is to study the effect of quality management tools on organizational performance using the Libyan Higher

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Technical Center for Training and Production (TPC) as a case study. To answer the research questions and meet the objectives of the study, this research adopted a descriptive-analytical methodology using gap analysis and the SWOT technique.

Data Collection

The study relied entirely on qualitative data collection methods to gain an in-depth understanding of the center's internal and external environment. The qualitative data was gathered from two main sources:

1. A qualitative review of documentation and reports provided by both the Quality and Planning departments.
2. In-depth qualitative interviews conducted with the managers of the Research and Laboratory departments.

Data Analysis

To connect the collected qualitative data to the final results, the study used thematic analysis. The interview responses and the official reports were carefully reviewed and categorized into four strategic themes based on the SWOT framework.

The center's current situation was pointed as internal Strengths and Weaknesses, and external as Opportunities and Threats. By extracting these recurring themes directly from the qualitative sources, the study systematically formulated the final SWOT matrix presented in the findings.

5. Discussion and Findings

Alsaed et al. (2025) previously addressed the requirements for implementing Total Quality Management (TQM) at the center. In their study, these requirements were identified, and their availability at the center was measured. The research provided recommendations to help develop and improve the center's work by adopting these necessary requirements. Furthermore, Alsaed et al. (2025) said that the center top management shows a positive willing and provides needed support for in order to implement TQM. Consequently, and applying these findings to the center to contribute to its continuous improvement and development plans. Recently, the top management has been actively working to implement quality management systems to enhance research

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outputs and overall organizational performance. Therefore, the current study aims to help the center identify and assess its current situation, evaluate risks, and recognize emerging opportunities. The target is that to capitalize positive outcomes, minimize negative consequences.

Clearly, much arguments were revealed by analyzing the current situation of the center using SWOT tools as shown below:

Strengths

1. Respectable location and a large workspace.
2. Financial independence, supported by the government
3. The center is equipped with up-to-date machinery and devices.
4. Strong cooperation with academic institutions and other centers under the Libyan Scientific and Research Board.
5. A highly experienced workforce.
6. A stable work and research environment.

Weaknesses

1. Weaknesses in the center structure.
2. Human resources challenges and problems.
3. Limitation of technological changes.
4. Poor internal communication.
5. Lack of engagement with external organizations and centers operating in the same specialized field.
6. Absence of formal quality systems.
7. Lack of maintenance system implementation.
8. A shortage of training programs.

Opportunities

1. New investments in the industrial and manufacturing fields.
2. The ability to attract new researchers.
3. Potential to increase the center's operational capacity.
4. The integration of new technologies.
5. Support from the Libyan government.
6. The application of Artificial Intelligence (AI).

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Threats

1. Migration of skilled workers.
2. Financial resource limitations.
3. Shortages of raw materials.
4. Frequent changes in laws and regulations.

6. Recommendations

To address these findings, action plans must be put forward considering the following strategic principles:

- The center's strengths must be leveraged.
- The center's weaknesses must be eliminated.
- The center's opportunities must be capitalized.
- The center's threats must be neutralized.

Moreover, top management should consider the following key factors to achieve these positive outcomes:

1. Top management commitment to provide full support to all laboratories by establishing clear, announced policies and strategic plans.
2. Provide full support and the required resources to the Quality Office and support the office with accredited training courses in the field of quality management.
3. Developing a specific training program to train laboratory technicians on understanding and applying the requirements of the ISO 17025:2017 standard. Furthermore, technicians must be formally qualified on the machinery, covering everything from basic operation to maintenance and calibration.
4. Assess the center laboratory current situation in terms of both human resources and facilities and point out factors which lead to be developed.
5. The center top management must restructure internal and external communication channels in order to ensure whole arrangement between the center divisions and departments.
6. establish a continuous performance monitoring plan to evaluate the actual time and objectives that impact of quality involvement on organizational performance.
7. Developing both short-term and long-term plans strategies which is identified in the SWOT analysis. given the priority to

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developing formalized preventive maintenance protocols and structuring human resource training programs based on the Saraph (1989) TQM critical factors.

7. Conclusion

It is not possible for an organization to improve its performance and achieve its goals without analyzing its business environment. Thus, this study used gap evaluation and the SWOT analysis tool to scan the center's business environment to formulate an effective business plan. Applying these quality management aspects and techniques will lead the center to improve its work environment, which is characterized by accelerated changes, operational stability, and the quality of business services. Finally, operating such an organization in a successful manner results from implementing and maintaining quality management systems, using the environmental scanning results as a foundation to improve overall performance and prepare for international accreditation.

References

- Abo Alrub. (2020). Quality Management systems (ISO9001:2015). Gavid eBooks. USA.
- Alsaed, T, et al. (2025). The availability of requirement for implementing total quality management in research centers (the Libyan Higher Technical Center for Training and Production as model). Libyan Academic Journal.
- Dhafer, N. et al. (2015). The impact of Total Quality Management on organizational performance. European Journal of Business and Management, 7(36).
- Gurel, E. (2017). SWOT Analysis: A Theoretical Review. The Journal of International Social Research, 10(51).
- Ifran, M. et al. (2025). Impact of total quality management practices on organizational sustainability through organizational commitment and democratic leadership. Discover sustainability.
- Jegandi, K. et al. (2015). SWOT analysis and its Outcomes for the organization Performance. Integrated Journal of Engineering Research and Technical.

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- Kumar, R. (2017). Swot Analysis – A technique of Strategic Management. IJCRT, 5(3).
- Laura, C.et al. (2020). The impact of total quality management on organization performance in SMEs. International Management Conference.
- Morrison (2008).www.rapidbi.com/SWOTanalysis.html
(Accessed 04/11/2010).
- Remang, H. (2008).Integral risk management. Erasmus Symposium.
- Shamnot, M (2011). Quality Management Practices and Their Impact on Organizational Performance, and Customer Behavior. European Journal of Economics, Finance and Administrative Sciences, Issue 34.
- Saraph, al. (1989). An instrument for measuring the critical factors of quality management. Decision Sciences, 20(4), 810-829.