

Review

Key Success Factors of TQM and the Sustainable Development Goals: A Review Focused on Human Resources Management Practices

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Abstract: The successful implementation of Total Quality Management (TQM) is based on several key success factors (KSFs), among which human resource management (HRM) practices occupy a strategic and decisive position. Indeed, HR practices directly influence the ability of organizations to establish a quality culture, to mobilize employees around common goals, and to integrate sustainability values into their internal processes. In a context where organizations are increasingly called upon to integrate sustainable practices, this literature review explores the intersection between key success factors of TQM, Human Resources Management, and sustainability. The aim is to analyze how human resource management practices can foster a culture of quality while supporting the Sustainable Development Goals (SDGs). Through the review of a wide selection of academic studies, the article identifies the most influential HR levers that contribute to sustainable performance in a TQM framework. This review highlights the importance of an integrated approach to quality and sustainability, highlighting the strategic role of human resources in responsible organizational transformation.

Keywords: Total Quality Management; Sustainable Development Goals; Key Success Factors; Human Resources Management; Sustainability.

1. Introduction

Lean Manufacturing brings together a set of tools applicable to production systems, ranging from simple complements to real pillars of the system. Among these tools is Total Quality Management, which can also be integrated in constructive interaction with other approaches (Kaur et al., 2019). The implementation of the TQM strategy is not limited to the company's internal boundaries; it also requires the engagement of suppliers and customers in a continuous feedback process. This openness promotes the dissemination of TQM principles throughout the value chain, thus strengthening the overall efficiency of the production system (Jun et al., 2006). According to Yan et al. (2019), TQM has established itself as a global quality improvement strategy for organizations, aimed at strengthening their performance in terms of quality and development. It is based on a systematic approach to planning, understanding, and organizing each task, adapted to everyone at each stage. Its philosophy favors defect prevention rather than detection.

Key Success Factors play a decisive role in TQM's effectiveness. They are essential levers to ensure its successful implementation and improve organizational performance. The quality of human resources is widely recognized as a fundamental Key Success Factor, as product quality depends on the skills applied in production processes (Jun et al., 2006). Many companies consider human resource management

practices to be their most valuable asset, but few are realizing their full potential. Strategic human resources management helps strengthen commitment, training, and a culture of continuous improvement, which are essential to the success of TQM and, more broadly, to organizational sustainability.

Sustainability is essential to an organization's performance. It provides strategies for continued growth while preserving economic, social, and environmental resources for current and future generations (Khoja et al., 2017). It is defined as the maintenance of well-being over an extended period (Kuhlman and Farrington, 2010) and is considered a key factor in the growth and development of firms (Bateh et al., 2013).

At this moment, synchronizing Total Quality Management with the Sustainable Development Goals has become crucial. Global challenges such as climate change, resource scarcity, and social inequality are forcing organizations to rethink their operational and strategic models. TQM, with its focus on continuous improvement, stakeholder involvement, and defect prevention, offers a practical framework for embedding sustainability principles into daily business operations. Aligning TQM with the SDGs enables firms to move beyond compliance and adopt an initiative-taking approach to sustainable value creation. The practical ramifications of this integration include improved resource efficiency, enhanced employee engagement, greater transparency in decision-making, and strengthened corporate reputation. Moreover, it supports the development of resilient and adaptable management systems capable of simultaneously delivering quality, innovation, and sustainability outcomes.

Despite the growing research on TQM, Human Resources Management, and sustainability, previous studies have not fully explored the direct link between Human Resources Management-driven TQM practices and the achievement of the Sustainable Development Goals. Moreover, existing studies are often limited by their geographical scope or focus on a restricted set of industries, leaving a significant research gap. This study aims to address this gap by systematically examining how Human Resources-related Key Success Factors contribute to the attainment of SDGs, providing a comprehensive understanding that integrates quality management and sustainability objectives.

This article presents a literature review exploring how Key Success Factors in human resources management contribute to achieving the Sustainable Development Goals.

2. Research questions

In light of the increasing interest in the relationships between TQM, Human Resource Management, and sustainability, this study adopts an analytical literature review approach centered on HRM-related key success factors. Rather than assuming a predefined gap, the study seeks to provide a structured and integrative perspective on how these factors are addressed in the literature and how they relate to the achievement of Sustainable Development Goals. By mapping HRM practices within TQM frameworks against sustainability outcomes, this research aims to clarify both their contribution and the mechanisms through which they influence organizational performance. This approach also helps identify the most relevant HRM practices in

supporting sustainability within TQM systems. Accordingly, the study is guided by the following research questions:

RQ1: *What are the key HRM practices within Total Quality Management identified in the literature?*

RQ2: *Which Sustainable Development Goals are specifically supported by each HRM practice within TQM identified in the literature?*

RQ3: *To what extent do HRM practices within TQM contribute to the achievement of Sustainable Development Goals?*

3. Methodology

This research adopts a qualitative approach structured in two complementary stages (**Figure 1**).

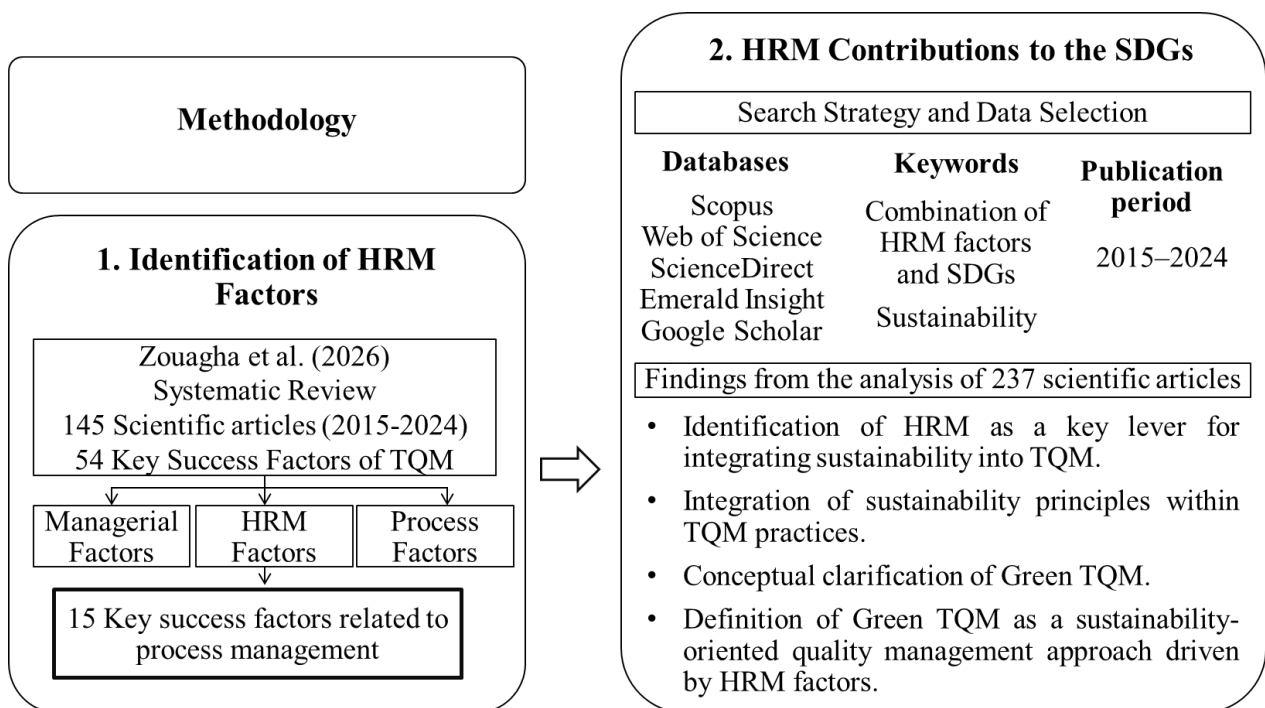


Figure 1. Methodology.

In the first stage, the Key success factors of Total Quality Management related to Human Resource Management were identified based on the study by Zouagha et al., (2026), which provides a systematic review of 145 scientific articles published between 2015 and 2024 and identifies 54 TQM factors classified into three categories: Key success factors related to managerial management, Key success factors related to process management, Key success factors related to human resources management.

Within the scope of this research, only the factors belonging to the HRM category were retained, namely, fifteen factors, which constitute the basis of the analysis.

In the second stage, a systematic literature review was conducted to examine whether and how these factors contribute to the achievement of the Sustainable Development Goals. The literature search was conducted using Scopus, Web of Science, ScienceDirect, Emerald Insight, and Google Scholar databases, employing combinations of keywords such as: “Human Resource Management,” “HRM,”

“Sustainable Development Goals,” “SDGs,” and “sustainability,” combined with terms specific to each identified factor. More precisely, the search strategy consisted of examining, for each HRM-related critical success factor, its contribution to each SDG by systematically combining the keywords associated with the factor under study with those related to each Sustainable Development Goal.

The selection of articles was limited to scientific publications published in peer-reviewed journals from 2015 to 2024. This period is justified by the adoption of the Sustainable Development Goals by the United Nations in 2015.

Explicit inclusion and exclusion criteria were defined to ensure the rigor and relevance of the analyzed corpus. Included studies comprised scientific articles addressing Human Resource Management practices in relation to sustainability issues or the Sustainable Development Goals and examining their organizational impacts. Both empirical and conceptual studies published in peer-reviewed journals were retained. In contrast, non-academic articles, publications not specifically concerned with HRM, and studies that did not explicitly address sustainability or the SDGs were excluded.

The selection process followed a structured, multi-stage approach, including identifying articles in selected databases, removing duplicates, an initial screening based on titles and abstracts, and a full-text review to verify compliance with the predefined criteria.

The selected articles were then subjected to an in-depth thematic analysis. This involved examining, for each HRM-related critical success factor, the mechanisms through which it contributes to the different SDGs, by identifying associated practices, organizational outcomes, and the sustainability dimensions involved (social, environmental, and economic). This analysis was conducted systematically and comparably, cross-referencing findings across studies to identify recurring patterns and underlying relationships.

This methodological approach highlights the leading role of HRM as a key lever for integrating sustainability principles into TQM. It also contributes to a progressive clarification of the concept of Green TQM, defining it as a quality management approach that explicitly incorporates sustainability objectives through Human Resource Management practices.

4. Total quality management

Total Quality Management has been widely recognized as a key driver of organizational performance in both public and private sectors. Its philosophy emphasizes prevention rather than defect detection, promoting continuous improvement and initiative-taking quality management (Yan et al., 2019). In today’s highly competitive environment, product quality and customer satisfaction have become essential for organizational survival and long-term success (Anil & Satish, 2019). Consequently, TQM has gained increasing attention as a strategic approach that is able to provide a sustainable competitive advantage when effectively implemented (Antunes et al., 2017). Organizations adopting TQM report numerous benefits, including enhanced product quality, increased customer satisfaction, cost reduction, as well as improved financial performance and innovation (Zehir et al., 2012).

The success of TQM implementation is intricately linked to the identification and management of key Success Factors. These factors encompass key organizational, managerial, and human elements that must be effectively aligned to ensure the desired outcomes. In this regard, Zouagha et al. (2026), through a comprehensive review of 145 empirical studies, identified 54 KSFs influencing TQM implementation, highlighting both the complexity of the approach and the importance of prioritizing these determinants for achieving sustainable results.

5. Human resource management

Human resource management is a key strategic lever for improving organizational performance (Yeng et al., 2018). In particular, it structures and supports organizational processes to ensure consistency and efficiency (Sila, 2018; Ooi, 2015). Within the context of Total Quality Management, the relationship between HRM and performance becomes especially salient. Specifically, Key Success Factors related to human resource management, such as training and skills development, employee involvement, motivation, satisfaction, and teamwork, contribute to improving organizational effectiveness (Verma et al., 2021; Ajmal et al., 2016).

The employee lifecycle starts with recruitment and selection. It continues with fair and competitive compensation (Usrof & Elmorsey, 2016). Training and skills development support the achievement of organizational objectives in a sustainable way (Yangailo et al., 2023; Ali & Johl, 2022). Employee participation in decision-making improves collaboration, supports innovation, and strengthens empowerment. It also reinforces team spirit. These practices contribute to continuous improvement and better performance (Kumar & Shanmuganathan, 2019; Saffar & Obeidat, 2020; Hwang et al., 2020).

In the Total Quality Management literature, several authors have examined Key Success Factors related to human resource management. However, most studies have addressed these factors separately, focusing on specific aspects such as training, employee involvement, or motivation (**Table 1**). In contrast, a recent study by Zouagha et al. (2026) provides a more comprehensive perspective by analyzing all Key Success Factors related to human resource management within a single framework. The authors identified 15 Key Success Factors, offering a structured and integrated view of the human dimensions that support effective Total Quality Management implementation. These factors are presented in **Table 1**.

Table 1. Human Resource Management–Related Key Success Factors in Total Quality Management.

Human resources management
A. Utirov (2025); S. Channuwong et al., (2025); M. V. Moraga et al., (2025); A. M. Abozraiq et al., (2025); K. Ali and A. Waheed (2025); K. B. Yaakub (2025); A.M. Lucas (2024); G. Kondev et al., (2024); S. Xanthopoulou et al., (2024); E. Audrey and T.F. Sutrisno (2024); A. M. Alkelani and A.M. Atallah (2024); C. M. Sanama and J.A. Manigo (2024); T. N. Wiyatno et al., (2024); L. R. Cabotaje and J. B. Tan (2024); A.A. Ahinful et al., (2024); A. B. Aichouni et al., (2024); I. Mehmood et al., (2024); N.H. Irannejad et al., (2024); T. Varunkumar et al., (2024); Y.F.M. Issa (2024); J.K. Chen (2024); A. Nazarian et al., (2023); D. M. Akanmu et al., (2023); K.Ali and S.K. Johl (2022); O. Ahmad et al., (2022); S. Husaini (2022); W. Wall et al., (2021); B. Zhang et al., (2021); M.K. Khalil and U. Muneenam (2021); K. Ali and S.K Johl (2021); A. Zaid and M. Sleimi (2021); N. Ahmad and Z. M. Zaidi (2020); N. Bouranta (2020); R.A. Karim et al., (2020); H. Magd and H.Karyamsetty (2020); Q. A. Al-Maamari (2020); H.L. Bhaskar (2020); F. Babu and S. Thomas (2020); T. Abu Salim (2019); C. Jong et al., (2019); N. Bouranta et al., (2019); M. Shafiq et al., (2019); S. K. Yeng, et al., (2018); G. Samawi et al., (2018); K. Lamine et al., (2018); V. Singh et al., (2018); K. Kasemsap (2018); I. Sila (2018); Z.F.Ebrahimi and R.H.Rad (2017); J. Iqbal et al., (2017); D. Pattanaya et al., (2017); I. Sila and S. Walczak (2017); T. Arunachalam and Y. Palanichamy (2017); Q.A Al-Maamari and al., (2017); Z.F.Ebrahimi and R.H.Rad

(2017); G. S. Oliveira et al., (2017); M. Yusr (2017); M. Ajmal et al., (2016); R. J. Sweis et al., (2016); B. Yazdani (2016); H. J. Usrof and R. M.Elморsey (2016); M. Yusr (2016); B. Neyestani and J. Juanzon (2016); C.S. Long et al., (2015); C. Jaca and E. Psomas (2015); L. Salhieh and J. Abu-Doleh (2015); V.H. Lee et al., (2015); K. B. Ooi (2015); C. Valmohammadi and S. Roshanzamir (2015); R. Dubey and A.Gunasekaran (2015).

Recruitment and selection

M. Yaseen et al., (2018); M. Yusr (2017); C.S. Long et al., (2015); L. Salhieh and J. Abu-Doleh (2015).

Focus on compliance with administrative requirements

N. Ali et al., (2020); S. K. Yeng, et al., (2018); A. P.Anil and K. P. Satish (2016); C.S. Long et al., (2015); K. B. Ooi (2015).

Employee Training and Education

K. Ali and A. Waheed (2025); M.C. Ushie (2025); N. A. Patil (2025); T. Varunkumar et al., (2024); H. Al-Ghunaimi and R. Awashreh (2024); P. Korat et al., (2024); A.M. Lucas (2024); K. Lepistö et al., (2024); N. Capolupo et al., (2024); Y.F.M. Issa (2024); N.H. Irannejad et al., (2024); A.A. Zaid et al., (2024); M. Sahman et S. Nasrin (2024); J.K. Chen (2024); T. Yangailo et al., (2023); S. Hussain (2023); A. Wassan et al., (2022); S. Husaini (2022); A. Al-Refaie (2022); D. Boikanyo et al., (2019); D. Faeq et al., (2022); K.Ali and S.K. Johl (2022); M. Abdi and P.Singh (2022); K. Ali et al., (2022); M. Kebede Adem et al., (2021); H. Magd et al., (2021); N. Glaveli et al., (2021); S. Alshourah (2021); K. Ali and S.K Johl (2021); B.A. Puthanveetil (2021); M. Cavallone and R. Palumbo (2021); A.O. Ahmed and A.A. Idris (2021); A. Aburayya et al., (2020); H. Magd and H.Karyamsetty (2020); T. Trang and Q. Do (2020); A.M Alawag et al., (2020); T. Pham (2020); Q. A. Al-Maamari (2020); N. Bouranta (2020); I. Othman et al., (2020); G.H. Hwang et al., (2020); A.P.Anil and K.P. Satish (2019); R. Jimoh et al., (2019); R.J. Sweis et al., (2019); N. Bouranta et al., (2019); A.S. Kumar and J. Shanmuganathan (2019); S. Addis (2019); D. Jiménez (2019) ; M. Kaur et al., (2019); A.F. Lim et al., (2019); N.Bouranta et al., (2019); A. Likita et al.(2018); H. Hailu et al., (2018); K. Kasemsap (2018); K. Lamine et al., (2018); K. Lamine and L. Lakhal (2018); M. Yaseen et al., (2018)A. Iqbal and M. Asrar-ul-Haq (2018); R.A. Saleh et al., (2018); S. Sanjaya (2018); N. Androwis et al., (2018); M. Amin et al., (2017); I. Daniel and B. Prajogo (2017); H. Gupta et al., (2017); M. Yusr (2017); S. Modgil et al., (2017); B.L. Pradhan (2017); R.A. Saleh and R. Sweis (2017); K. Kanapathy et al., (2017); K. Farish et al., (2017); A. P. Anil and K. P.Satish (2017); T. Arunachalam and Y. Palanichamy (2017); Q.A Al-Maamari and al., (2017); N. Bouranta et al., (2017); A. P. Anil and K. P.Satish (2016); H. J. Usrof and R. M.Elморsey (2016); A.N. Dedy and al., (2016); B.Y. Obeidat et al., (2016); B. Neyestani and J. Juanzon (2016); R.J. Sweis et al., (2016); G. Mehralian et al., (2016); M. W. Bari (2016); S. Nallusamy (2016); A. P.Anil and K. P. Satish (2016); C. Jaca, and E. Psomas (2015); J. Nawelwa et al., (2015); A.Turkyilmaz et al., (2015); C. Jaca and E. Psomas (2015); V.H. Lee et al., (2015); Z. Chen (2015).

Employee Empowerment

N. A. Patil (2025); N. Capolupo et al., (2024); P. Korat et al., (2024); J.K. Chen (2024); D. Faeq et al., (2022); A. Wassan et al., (2022); N. S. Vihari et al., (2022); M. Kebede Adem et al., (2021); H. Magd et al., (2021); A.O. Ahmed and A.A. Idris (2021); N. Glaveli et al., (2021); G.H. Hwang et al., (2020); H. Magd and H.Karyamsetty (2020); A.P.Anil and K.P. Satish (2019); D. Boikanyo et al., (2019); R.J. Sweis and N. Alsayyed (2019); B. Obeidat et al., (2019); A.S. Kumar and J. Shanmuganathan (2019); M. Yaseen et al., (2018); S. Sanjaya (2018); A. Iqbal and M. Asrar-ul-Haq (2018); J. Rodriguez and al., (2018); D. Obeidat et al., (2018); J. Rodriguez (2018); K. Farish et al., (2017); A. P. Anil and K. P.Satish (2017); B.L. Pradhan (2017); I. Daniel and B. Prajogo (2017); V. Kumar and R. Sharma (2017); A. P. Anil and K. P.Satish (2016); H. J. Usrof and R. M.Elморsey (2016); U.D. Mahesh (2016).

Employee involvement, participation, and engagement

N. A. Patil (2025); F. I. Shaikh et al., (2025); M.C. Ushie (2025); S. Y.Ahmad and S. A. Aivas (2025); A.M. Lucas (2024); H. A. Pacut (2024); N. Capolupo et al., (2024); M. Sahman et S. Nasrin (2024); H. Al-Ghunaimi and R. Awashreh (2024); S. Alsaqer et al., (2024); A. N. Wassan and M. A. Kalwar (2024); G. Megersa and A. Chalchisa (2024); Y.F.M. Issa (2024); A.A. Zaid et al., (2024); J.K. Chen (2024); W. R. Al Alyani and C. K. Lee (2024); M. Sahman et S. Nasrin (2024); T. Yangailo et al., (2023); S. Hussain (2023); A. Wassan et al., (2022); M. Abdi and P.Singh (2022); A. Al-Refaie (2022); D. Faeq et al., (2022); N. S. Vihari et al., (2022); H. Yas et al., (2021); S.I. Kalogiannidis (2021); A.O. Ahmed and A.A. Idris (2021); J. A. Anyadighibe et al., (2021); M. Cavallone and R. Palumbo (2021); B.A. Puthanveetil (2021); M. Kebede Adem et al., (2021); N. Saffar and A. Obeidat (2020); P.S. Rao et al., (2020) A.M Alawag et al., (2020); N. Bouranta (2020); H. Magd and H.Karyamsetty (2020); H. Alzoubi and G. Ahmed (2019); M. Kaur et al., (2019) ; S. Addis (2019); R.J. Sweis and N. Alsayyed (2019); S. Addis (2019); R. Jimoh et al., (2019); S. Sader and al., (2019); E. Kigozi and J.K. Yuen On (2019); A. Likita et al.(2018); K. Kasemsap (2018); H. Hailu et al., (2018); N. Androwis et al., (2018); Z.F.Ebrahimi and R.H.Rad (2017); A. Mannai et al., (2017); I. Daniel and B. Prajogo (2017); T. Arunachalam and Y. Palanichamy (2017); K. Kanapathy et al., (2017); V. Kumar and R. Sharma (2017); S. Modgil et al., (2017); B.L. Pradhan (2017); A. P. Anil and K. P.Satish (2016); U.Haroon and M.N. Shariff (2016); B. Neyestani and J. Juanzon (2016); G. Mehralian et al., (2016); N. Sukdeo (2016); A.Turkyilmaz et al., (2015).

Employee Quality Management

S. Al-Qayoudhi et al., (2024); K.Ali and S.K. Johl (2022); N. Bouranta et al., (2017); C. Jaca, and E. Psomas (2015).

Employee performance

A. Aburayya et al., (2020); A.S. Kumar and J. Shanmuganathan (2019); A.N. Dedy and al., (2016); R.J. Sweis et al., (2016).

Teamwork

A.M. Alawag et al., (2025); Y. F. Assagaf et al., (2025); E.P. Okonkwo et al., (2025); M. Sahman et S. Nasrin (2024); H. Al-Ghunaimi and R. Awashreh (2024); A.A. Zaid et al., (2024); N. Capolupo et al., (2024); N. S. Vihari et al., (2022); D. Faeq et al., (2022); B.A. Puthanveetil (2021); P. Verma et al., (2021); A.O. Ahmed and A.A. Idris (2021); N. Glaveli et al., (2021); K. Ali and S.K Johl (2021); A. Aburayya et al.,

(2020); N. Bouranta (2020); I. Othman et al., (2020); G.H. Hwang et al., (2020); A.S. Kumar and J. Shanmuganathan (2019); S. Addis (2019); R. Jimoh et al., (2019); D. Boikanyo et al., (2019); R.J. Sweis et al., (2019); A. Likita et al.(2018); K. Lamine and L. Lakhel (2018); B. Qasrawiet al., (2017); H. Gupta et al., (2017); I. Daniel and B. Prajogo (2017); T. Arunachalam and Y. Palanichamy (2017); B.Y. Obeidat et al., (2016); A.N. Dedy and al., (2016); R.J. Sweis et al., (2016); B. Neyestani and J. Juanzon (2016); H. J. Usrof and R. M.Elmorsey (2016); M. W. Bari (2016); J. Nawelwa et al., (2015); Z. Chen (2015).

Employee encouragement and motivation

M.C. Ushie (2025); N.H. Irannejad et al., (2024); B.A. Puthanveettil (2021); M. Cavallone and R. Palumbo (2021); A.S. Kumar and J. Shanmuganathan (2019).

Reward and recognition

M. Owusu-Kyei et al., (2025); J.K. Chen (2024); N. Glaveli et al., (2021); K. Ali and S.K Johl (2021); A. Aburayya et al., (2020); R. Jimoh et al., (2019); M. W. Bari (2016); B. Neyestani and J. Juanzon (2016)

Employee satisfaction

M. Owusu-Kyei et al., (2025); M. Sahman et S. Nasrin (2024); A.A. Zaid et al., (2024); A. Mannai et al., (2017); L. Sallieh and J. Abu-Doleh (2015)

Organizational Trust and Work Environment

S. Husaini (2022); T. Arunachalam and Y. Palanichamy (2017)

Culture change

H. Al-Ghunaimi and R. Awashreh (2024); N. Capolupo et al., (2024); V. Kumar and R. Sharma (2017)

Workforce Focus

M. Tasleem et al., (2019); C. Jaca, and E. Psomas (2015).

6. The sustainable development goals

The Millennium Development Goals, which preceded the Sustainable Development Goals, were characterized by their precision and measurability, criteria that made them particularly attractive to decision-makers (Easterly 2015). With only eight clearly defined MDGs, data collection and analysis were straightforward, limiting the demand for detailed information. However, despite this apparent simplicity, the lack of reliable data has made some important aspects of development invisible, making it difficult to make evidence-based policies (United Nations 2014).

In comparison, the 17 SDGs (**Figure 2**), along with 169 sub-goals, represent a much more complex challenge to overcome. The management and implementation of these goals requires a much more rigorous approach and a greater capacity to address a multitude of indicators. In March 2016, the United Nations Statistical Commission approved a list of 230 indicators proposed by the Inter-Agency and Expert Group on SDG Indicators. This approach is in stark contrast to the MDG system, which consists of sixty globally harmonized indicators. The implementation of the SDGs involves not only the adoption of effective monitoring mechanisms but also the collection and analysis of a wide range of indicators, each of which is essential for measuring progress towards overall sustainable development.

The SDGs are organized around three main components: social, economic and environmental. The social component focuses on improving human well-being, with a focus on education (SDG 4) to ensure access to quality education, gender equality (SDG 5) to empower women and girls, and reducing inequalities (SDG 10) to ensure equal opportunities for all. It also includes health promotion (SDG 3), aimed at ensuring universal health coverage and reducing inequalities in care. The economic component focuses on inclusive and sustainable growth, promoting decent work,

innovation, and productivity (SDG 8), while strengthening infrastructure and industrialization in an environmentally sound manner. These three dimensions aim to create balanced and equitable development through concrete and integrated initiatives.



Figure 2. The Sustainable Development Goals (United Nations, 2015).

7. Contribution of human resource management key success factors to the achievement of the sustainable development goals

After identifying the fifteen factors specific to human resource management, the second step aims to analyze their contribution to the achievement of the SDGs. These goals constitute an international framework designed to promote balanced economic, social, and environmental development.

A review of 237 scientific articles shows that strategic human resource management is no longer limited to administrative functions but now plays an active role in integrating sustainability principles within organizations. By aligning HR practices with social responsibility and sustainable performance objectives, companies are enhancing their positive contributions to several Sustainable Development Goals.

The findings indicate that each of the identified factors extends beyond improving organizational performance to serve as a strategic lever for sustainability. The interaction between key success factors and the SDGs highlights the potential of human resource management to transform Total Quality Management into a genuine driver of sustainable development, reflecting the integrated and multidimensional nature of sustainable HRM.

7.1. Human resources management

Sustainable human resource management contributes to the fight against poverty by providing quality jobs and promoting social inclusion, and by increasing the purchasing power of employees from disadvantaged backgrounds. It also plays a key role in implementing inclusion strategies, facilitating access to jobs for marginalized groups, and ensuring working conditions that promote breaking out of the cycle of poverty (Campos-García et al., 2023). In the field of health, human resource management reduces occupational health risks through health indicators, practices to improve mental well-being, and sustainable practices that minimize negative health effects, thereby promoting decent working conditions and the prevention of work-

related diseases (Mariappanadar, 2024). The quality of education is based on the quality and motivation of teachers, who must be recruited according to strict criteria of competence and specialization, with the involvement of managers. Moreover, achieving the educational goals of the SDGs requires adequate motivation from the leaders of the process (Uche et al., 2023). The Banker & Banker (2017) study shows that men dominate positions of leadership and power in universities. To address this, HRM must intervene by eliminating injustices towards women, such as an unfavourable culture, lack of training programs, inequitable promotion policies, and unfair performance management systems (Agrawal and Bansal, 2022; Wesarat and Mathew, 2017). Liakhovych et al. (2021) highlighted the importance of innovative human capital management in energy companies, including the development of employees' digital skills. This is crucial for the implementation of smart grids, which play a key role in promoting green energy and changing consumers' environmental behaviors. Sustainable human management practices encourage inclusive economic growth by incentivizing environmentally friendly behaviors and sustainable resource management, which improves job satisfaction and the social image of the organization (Tortia et al., 2022; Hronov á et al., 2021). According to Zeb-Obipi (2023), a skilled and engaged workforce leads to increased productivity, thereby contributing to sustainable economic growth. In addition, employees with strong ecological values, such as altruism and empathy, are more inclined to develop green skills, promoting green behaviors that support the achievement of SDG 8 (Chams and Garc á-Bland ón, 2019). Through strategic human management practices, educational institutions in China are developing advanced technology projects in collaboration with industry, stimulating innovation and the creation of sustainable infrastructure, such as green concrete. HRM also plays a role in promoting collaboration between innovators and industry professionals to solve environmental and resource management challenges in the construction sector (Qin et al., 2023). Continuous training and environmental workshops increase employee awareness and develop the green skills needed to achieve sustainable production/consumption (Chams and Garc á-Bland ón, 2019). Green human resource management practices, such as recruitment, training, performance management, and green incentives, support the adoption of sustainable behaviors. Employees with an ecological attitude and green skills play a key role in implementing the company's environmental policies and promoting sustainable consumption and production behaviors (Liu et al., 2022).

7.2. Recruitment and selection

Recruitment and selection are essential to the sustainability of the agricultural sector. Attracting a diverse student population to agricultural colleges is key to meeting the needs of the sector and encouraging the participation of underrepresented groups. At the same time, effective student retention programs help ensure their academic success and ensure the entry of skilled workers into the sector. These efforts also foster strengthened relationships between universities and local communities, with positive economic effects, contributing to a sustainable future for agriculture (Alston et al., 2019). In the health sector, Williams (2024) argued that inclusive recruitment and selection practices help diversify the workforce, which improves the

quality of care and health outcomes. He points out that employee retention is also crucial, and that work conditions that promote autonomy and belonging are key to retaining staff and improving job satisfaction. For its part, Sartika et al. (2022) emphasized the importance of these processes in ensuring a skilled workforce, noting that effective recruitment and selection lead to improved quality of health workers' work, resulting in better health services and positive patient outcomes. Gunjal and Purohit (2023) emphasized that recruitment and selection processes are essential in vocational education. They emphasize the alignment of candidates' skills with industry needs and the importance of practical skills and experience. They recommend competency frameworks and technological tools, such as online platforms, to improve the effectiveness of assessment and ensure the quality of vocational education. Lee et al. (2022) pointed out that in SMEs, recruitment processes can be influenced by gender roles, especially in sectors such as transport, where physical tasks often favor men. They recommend inclusive strategies to ensure gender equality in the workplace. In a similar context, Koivunen et al. (2015) argued that although recruiters comply with equality legislation, they often act to avoid litigation rather than to promote substantive equality. They point out that gender stereotypes influence recruitment decisions and argue for gender equality to be pursued as an objective, and not for legal or business reasons. Saddam and Mansor (2015) emphasized that effective recruitment and selection practices are crucial to improving the performance of oil and gas companies. They explain that the low growth and high rate of bankruptcies are linked to inadequate management of human resources. Improving these practices, including recruiting a skilled workforce, is essential for the competitiveness of the sector. Economic growth, according to Bonfiglioli and Gancia (2021), depends on recruitment and selection processes, as these practices help place talented managers in key positions to drive investment and innovation over the long term. The article presents a model where, in the initial stages of economic development, long-term contracts encourage investment, but as the economy progresses and talent becomes more visible, more flexible contracts focused on manager selection become essential to maximizing economic growth. In the field of sustainable industries, the article by Shahrulnizam et al. (2024) highlighted the role of green recruitment and selection in integrating environmental sustainability into human resource management practices. By hiring environmentally conscious candidates, companies can promote a culture of responsibility and innovation, which improves their environmental performance and long-term sustainability.

In the SME sector of the creative industries, Ejibe et al. (2024) highlighted that effective recruitment and selection processes are crucial to attract people aligned with the organisation's sustainability values. This approach contributes to a culture of environmental responsibility and fosters an environment conducive to innovation, enabling SMEs to meet the expectations of environmentally conscious consumers and investors, thereby strengthening their sustainable future. In the IT sector, Das and Dash (2023) demonstrated that green recruitment and selection practices have a direct impact on the sustainability of companies. Their study shows that these practices, by integrating environmental sustainability into recruitment processes, help companies develop an environmentally friendly culture, which improves organizational results and supports the Sustainable Development Goals. Nasr (2023) examined how

integrating green recruitment into green HR management helps companies align their workforces with their environmental sustainability goals. By hiring environmentally conscious individuals, these practices support the development of a sustainable competitive advantage, which is essential for the long-term success of companies in this sector. Kim and Son (2023) explained that blind recruitment and AI can reduce inequalities by focusing on skills and not personal characteristics. However, they point out that AI can introduce biases and recommend legislative reviews and external audits to ensure fairness. Lee et al. (2022) emphasized the importance of the perception of fairness in SMEs, including distributive, procedural, and interactive fairness. They show that fair recruitment practices improve cooperation and reduce.

7.3. Focus on compliance with administrative requirements

Shein (2007) showed that administrative decentralization has enabled local governments to better manage food security. By transferring decisions to local authorities, the city has set up more effective food distribution programs, involving the community and improving services. This model could be adapted to other emerging democracies to fight hunger. In the healthcare sector, Thakur (2024) focused on administrative requirements to improve the efficiency of healthcare organizations by optimizing resource management, quality of care, and performance. Planning, organizing, staffing, directing, and controlling are essential to meeting the needs of patients. The integration of technologies such as information systems and electronic medical records increases efficiency and patient engagement. In the education sector, Fatimah et al. (2025) explored the role of education administration in improving the quality of teaching, with a focus on curriculum planning, resource management, and evaluation of the educational process. It highlights the importance of collaboration among stakeholders to support this and improve the quality of education.

7.4. Employee Training and Education

Education is a powerful catalyst for social, economic, and environmental progress. It is a tool for poverty reduction. It quantifies income distribution and accelerates economic development, making it an effective strategy for poverty alleviation (Patrinos and Psacharopoulos, 2004). People with quality education acquire essential knowledge and skills that increase their chances of getting a job, improve their productivity, and increase their incomes (Paraschiv, 2017). Thus, education plays a crucial role in breaking the cycle of poverty and social marginalization, contributing to improving the quality of life and social well-being (Ustama, 2009). Education improves food security by reducing poverty at the household level (Andrianarison, 2022). Higher educational capital improves returns on investments in health, and vice versa (Todaro and Smith, 2015). Vogl's (2012) study showed that child health improves educational outcomes, while education contributes to improved adult health. Education is key to promoting gender equality and women's empowerment (Dhiman, 2023). It equips individuals with the knowledge and skills to challenge societal norms and claim their rights. It also promotes the active participation of women in the economic, social, and political spheres. In addition, it helps to break the intergenerational cycle of gender inequality by enabling girls and

women to make informed decisions (IMF, 2013). In the field of energy, education contributes significantly to the energy transition by raising awareness, training, and preparing industry players to adopt and promote renewable energy (Meir et al., 2022). An et al. (2023) stated that teachers and trainers are the main actors responsible for imparting renewable energy knowledge and skills to students and learners. According to the study by Leal Filho et al. (2020), about 75% of young people who have attained tertiary education in low-income countries are in non-vulnerable jobs, highlighting that higher education promotes access to stable and decent jobs. Research by Mankiw et al. (1992) and Barro (1991) has shown a substantial link between school enrolment and economic growth, proving that increasing school enrolment rates has a positive impact on real GDP growth. Education stimulates industrialization, innovation, and the development of modern infrastructure, which are essential for sustainable growth (UNIDO, 2013). According to Katia and David (2015), a low level of skills limits productivity and slows down technological and organizational innovations. Delors et al. (1996) consider that education as a “common good” and a collective effort, promotes access to stable employment, improves income and productivity, thus reducing poverty and economic exclusion. Quality education also contributes to reducing inequalities between social groups (Karikova et al., 2018). Education contributes to the development of sustainable cities and communities by providing technological solutions, innovative management approaches, and better urban planning (Allam, 2017). It also helps reduce rural-urban migration by promoting sustainable agricultural practices and efficient management of natural resources, thereby strengthening the resilience of local communities (Olawale, 2018). In addition, disaster preparedness requires long-term educational investments to better anticipate and manage crises (UNDP, 2010). Education builds awareness and a sense of responsibility, thus promoting responsible consumption and efficient management of resources to preserve the needs of future generations (Abera, 2023; Zitouni et al., 2023). Integrating education for sustainable development into school curricula prepares young people to address global challenges and adopt more sustainable behaviours, both in their daily lives and in their professional careers (Figueroa-García et al., 2024). Several UN agencies, including UNICEF, focus on education as part of disaster response and repair, using education as a tool to reduce disaster risks and build resilience to climate change (Vaughtner, 2016; Striessnig et al., 2013).

Marine education, by improving ocean culture, raises public awareness of marine issues and promotes scientific research and the development of innovative technologies for the protection of the oceans. A better understanding of the interactions between the oceans and human activities makes it possible to develop sustainable solutions to preserve marine ecosystems (Fauville et al., 2019a). A higher level of education promotes greater concern for the environment (Allam, 2017). By raising awareness and stimulating innovation and research, education contributes to the sustainable management of terrestrial ecosystems. It builds local capacity for the responsible use of natural resources and prepares future generations to meet environmental challenges. These actions support the protection, restoration and sustainable use of ecosystems, sustainable forest management, combating desertification, reversing land degradation, and preserving biodiversity (Chang and Lien, 2020). The integration of values such as peace, non-violence, tolerance, and

respect for human rights into educational programmes makes education an essential lever for building peaceful and just societies. In this context, UNESCO, through the Associated Schools Project (ASP) program, provides educational materials that raise students' awareness of global issues such as human rights, democracy, and international conflicts, thus contributing to the promotion of peace education (Kowkas et al., 2024). The Global Partnership for Education is an example of how collaboration among diverse actors optimizes resources, avoids duplication, and respects local specificities. Countries investing in education build resilience to crises, demonstrating the importance of partnerships in implementing development goals. These strategic alliances enable education to maximize its impact by effectively contributing to the achievement of sustainable development (Menashy and Zakharia, 2023).

7.5. Employee involvement, participation, and engagement

Tortorella et al. (2021) highlighted that employee engagement plays a key mediating role between the adoption of Industry 4.0 technologies and the improvement of operational performance. Engaged employees identify and resolve issues more effectively, driving continuous improvement. This involvement reinforces a sustainable organizational culture by reducing inefficiencies, minimizing waste, and improving the quality of products and services.

7.6. Workforce focus

The agricultural sector can be enhanced by focusing on soft skills such as communication, teamwork, and problem-solving, as highlighted by McDonald et al. (2024). These authors point out a gap between the importance of these skills and their integration into training, calling for this gap to be bridged to develop a skilled and adaptable workforce. Vilpan et al. (2023) suggested that the same sector could benefit from policy measures like the extension of social guarantees, the introduction of digitalization, and specialized training. They also recommend financial incentives and the creation of a staff pool to maintain a skilled and stable workforce.

In the health sector, Van de Pas et al. (2023) emphasized the need for health workforce development to ensure good health outcomes, especially in the face of a projected shortage of eighteen million health workers by 2030. Investment in the health workforce and the implementation of multilateral initiatives to support health system reforms and governance are crucial. An effective health workforce management policy, including training, recruitment, and retention, is also essential to meet the growing demand for services in low- and middle-income countries. Continuing professional development and retention strategies will help maintain a skilled workforce, thereby improving the quality of care.

The education sector, including early childhood education and care (ECEC), plays a key role in the development of children and societies. Özdoğru's (2022) article highlighted that the quality of the professional workforce in this field is essential to ensure high-quality ECEC programs. It underscores the importance of initial teacher training and in-service training to ensure quality education, emphasizing the need for comprehensive policies and support to foster the professional development of educators. Similarly, Wolfenden et al. (2018) focused on the education sector

workforce in general, noting that strengthening this workforce is fundamental to improving educational outcomes. They propose strategies to enhance teacher recruitment, preparation, and retention, as well as in-service training to address current educational challenges.

Focusing on the workforce contributes to gender equality by promoting inclusive policies and fair hiring practices. In the ranger sector, equal opportunities for women in hiring, pay, and promotion help reduce the gender imbalance, as highlighted by Seager et al. (2021). A diverse, gender-balanced workforce can also enhance conservation efforts by bringing in new skills, such as community diplomacy. Moreover, women's empowerment and promotion within organizations, as mentioned by Taneja et al. (2012), enhances organizational competitiveness and success. By setting specific and measurable gender equality goals, companies can improve the retention of female talent, which contributes to sustainable economic growth and organizational transformation.

Hubbard et al. (2014) discussed the focus on the workforce in the water and sanitation sector, stressing the importance of training technicians in rural areas. This initiative helps improve water supply and sanitation conditions, thereby strengthening the country's capacity to provide safe drinking water and sanitation facilities. Hanna et al. (2023) highlighted the crucial role of the workforce in the clean energy transition, focusing on the education and skills development needed to meet the demands of a sustainable energy system. They emphasize the need for a diverse and inclusive workforce to facilitate this transition. The University of Tennessee at Chattanooga initiative exemplifies a training program for the energy sector, involving high school students and existing professionals through training and seminars. Lessons learned underscore the importance of engaging retirees in the sector to strengthen the links between industry and academia.

Zlatanović and Jovanović (2023) analyzed the key role of the workforce in achieving decent work, highlighting the need for quality education, creative and social skills, as well as policy interventions to promote decent working conditions. It examines the informalization of work in India and its impact on the casualization of workers, emphasizing increased vulnerability and the need to introduce labor standards for decent work (Srivastava, 2012). Workforce development is also crucial for economic growth, especially in small towns and rural areas, by meeting the needs of employers and boosting productivity (George, 2022). Improved workforce health directly influences economic growth, with a positive impact of increased life expectancy and a negative effect of premature mortality on production (Gamze, 2022). Finally, Misra (2016) highlighted the importance of an integrated approach to workforce development, focusing on continuing education and public-private partnerships to align skills with market needs.

The workforce in sustainability and innovation, according to Sabila et al. (2024), is important, where employee engagement is crucial to improve retention and organizational performance. Ahuchogu et al. (2024) highlighted workforce development in the transport sector, emphasizing the importance of innovative practices and skills to reduce environmental impacts. Sarkar and Biswas (2023) emphasized the importance of employees' environmental attitudes, showing that their environmentally friendly behavior contributes to the sustainability of companies.

Lerale et al. (2024) described employee engagement in local sustainability initiatives, including in a global technology company, as an important driver for strengthening the social impact of projects.

In the construction sector, Karakhan et al. (2023) highlighted that strategies such as fulfillment, diversity, and inclusivity are crucial for workforce sustainability. Tărăban et al. (2023) showed that workforce diversity improves innovation by bringing new perspectives and strengthening problem-solving. Al-Saleem and Aldakheel (2024) demonstrate that the healthcare workforce overcomes barriers to innovation through effective engagement and an enabling environment. Bello-Pintado and Bianchi (2021) reveal that educational diversity in companies, especially in research and development (R&D), stimulates innovation. Mohamad (2023) explores how workforce agility, characterized by proactivity, flexibility, and resilience, is key to driving innovation in the manufacturing sector. Owusu-Ansah et al. (2023) highlighted the importance of an inclusive and equitable work environment in emergency medical services (EMS) to reduce inequalities, ensuring equal opportunities for all employees, regardless of their background. They emphasize the role of a diverse workforce in addressing systemic inequities. Ayele and Tensay (2021), on the other hand, demonstrate that diversity in terms of gender, age, and education in Ethio Telecom promotes organizational innovation, recommending training to maximize employees' creative potential.

Clarke and Sahin-Dikmen (2023) explored the role of trade unions in climate transition policy, with a focus on the “just transition,” which integrates environmental sustainability, decent work, and the trade union voice. Although global unions are the main actors in this transition, the article criticizes their top-down approach, highlighting the need to include informal workers and local communities for a truly just transition. Montt et al. (2018) complemented this vision by showing that the energy transition, with the shift to renewable energies, is expected to create more jobs than it destroys, particularly in the construction and renewable energy sectors. Finally, Breen (2015) highlighted the importance of aligning workforce development with climate policies to minimize workplace disruption and ensure a just and consistent transition by integrating workforce planning into green policies. Thus, the workforce plays a key role in the success of climate action, requiring both an economic transition and inclusive skills management.

Kohut et al. (2018) addressed the role of the workforce in the blue economy, proposing a program. This program trains students to analyze data from ocean observing systems, with a focus on applying technologies to optimize food, water, and energy forecasts. Graduates are prepared to transform imperfect data into useful information, thereby contributing to research and societal applications related to marine resources.

7.7. Employee quality management

The study highlights that employee engagement in healthcare facilities is crucial for improving the quality of care. A work environment focused on satisfaction and engagement promotes more efficient processes, leading to better care delivery and enhanced patient satisfaction (Vrtodušić et al., 2020). Cahyati et al. (2024) emphasized

that the management of educational staff, including continuous training and performance evaluation, is essential to ensure quality education. They also stress the importance of cooperation and active participation of stakeholders to achieve educational goals. Effective human resource management contributes to a competitive and high-quality learning environment. Einarsdóttir (2018) pointed out that employee quality management is based on gender equality, aiming to eliminate discrimination and promote inclusive policies. It involves practices such as anti-harassment policies and equal opportunities for recruitment and professional development. Initiatives like flexible hours and parental leave are also essential to support gender equality, especially for women with family responsibilities. This helps create a more equitable working environment and promotes equal career paths for all. Ciurlau (2011) emphasized that the quality of employment, particularly through education and vocational training, is essential for economic growth. Education improves employees' skills and motivation, thereby increasing productivity and economic efficiency. Skilled employees, capable of adapting to technological advances, optimize resource utilization and contribute to growth in the added information economy. Fang and Li (2024) indicate that managing the quality of employees, especially those with higher education, improves corporate transparency regarding environmental sustainability. A skilled workforce enables more rigorous and reliable reporting, promoting more standardized and initiative-taking sustainability practices. Investing in employee training enhances companies' environmental practices. Lebedeva and Klekovkin (2022) add that employees' personal qualities are essential for innovation. Creating an enabling environment and harnessing employees' personal skills is crucial for fostering an innovative business. FitzRoy and Nolan (2021) state that worker participation in decision-making processes improves job quality and employee well-being. This increases job satisfaction, productivity, and reduces inequality, including through a more equitable distribution of financial benefits, which benefits all employees, not just executives. Markey et al. (2016) explained that employee involvement in decision-making on reducing carbon emissions is more effective when their role is central, significantly influencing decisions. Their contribution stems from sharing specific knowledge, which is crucial for identifying opportunities to reduce emissions and implement appropriate climate strategies. Employee engagement directly supports the organization's sustainability goals.

7.8. Employee performance

The efficiency of human capital is essential to improve the performance of employees in agricultural enterprises, which indirectly contributes to the achievement of Zero Hunger. By optimizing indicators such as productivity and profits per employee, agricultural enterprises increase their efficiency and production, thus promoting better food security (Ognjanović et al., 2023). In addition, operator performance in modern agricultural machinery systems is crucial for economic efficiency. Technological advances require high skills to manage sophisticated equipment, which improves the overall performance of farming systems and, consequently, their profitability (Dumitru, 2009). Employee performance in the healthcare sector is critical to achieving organizational goals and improving the quality

of services. By strengthening employee skills and motivation, organizations can improve patient care and operational outcomes (Damayanti et al., 2023). Stress at work, which has a negative impact on performance, can be alleviated by employee motivation and emotional stability, improving the quality of care. Health authorities should therefore focus on stress reduction and motivation building to ensure high-quality health services (Chaudhry et al., 2016). Performance in the education sector is crucial, as it directly impacts the quality and efficiency of educational institutions. This performance is measured by employees' ability to manage emergencies, solve creative problems, and adapt to uncertain work situations. Organizational commitment and job satisfaction play a key role, because when employees are satisfied and engaged, their performance improves, thus strengthening the overall performance of the facility, especially in times of crisis, such as the COVID-19 pandemic (Yasmin et al., 2023). In addition, an effective performance appraisal system supports the professional development of faculty members, thereby contributing to the overall success of the institution, attracting, and retaining students while consolidating the institution's competitive advantage (Siddiqi et al., 2024). In the energy sector, employee performance is critical to organizational productivity. Effective performance evaluation plays a crucial role in improving productivity, boosting employee interest and performance. Feedback, a key component of evaluation, allows employees to better understand expectations and improve their service delivery. Adequate feedback strengthens accountability, motivation and supports skills development, thus contributing positively to the overall performance of the sector. The study recommends optimizing performance management practices to align individual goals with those of the company, thus promoting better contribution from each employee (Mose, 2023).

7.9. Teamwork

Yang et al., (2022) showed that team-based learning improves collaboration, learning attitude, and understanding of community needs among nursing students, thereby enhancing healthcare efficiency. Volkov and Volkov (2015) emphasize that teamwork fosters collaboration among students, deepening their learning and developing essential skills such as communication, conflict resolution, and critical thinking. Teamwork promotes gender diversity by creating a psychologically safe environment, reducing conflicts, and allowing each member to express themselves freely. In addition, gender-diverse teams are more likely to benefit from better collaboration due to the diversity of skills and perspectives brought by each gender (Hauff, 2023). Adong (2021) explained that teamwork facilitates the effective implementation of water and sanitation projects, helping to avoid delays, budget overruns, and quality issues. According to Hong et al. (2019) and Guo et al. (2021), teamwork promotes the sharing of energy resources and collaboration between companies and organizations to develop more sustainable and efficient energy technologies. Collaborative resource management and greening of products and processes improve access to sustainable energy while promoting a decent work environment and economic growth (Chauhan et al., 2022). Collaborative innovation aims to use the exclusive capabilities of companies and the supply chain to jointly

solve ecological management problems (Li et al., 2020). Moreo et al. (2023) showed that, in healthcare, teamwork reduces racial disparities and improves equity of care by tailoring practices to patients' specific needs. Collaborative forecasting and inventory management, as well as greening processes and products, strengthen responsibility for consumption and production (Chauhan et al., 2022). Teamwork raises students' awareness of climate issues, strengthens their ability to collaborate to propose solutions, and develops emotional skills such as empathy to encourage actions in favor of the environment (Triviño Arango, 2023). Karanja et al. (2018) demonstrated that teamwork improves collaboration, clarity of objectives and adaptability in the management of water services. Inter-organizational cooperation is fundamental to building collective action networks that can effectively respond to sustainability challenges, while strengthening efforts towards SDG 17 in terms of partnerships and collaboration (Van Hille et al., 2020).

7.10. Employee encouragement and motivation

The motivation of poor household members to participate in economic development is a key factor in poverty reduction. Applying motivation theory, the study shows that satisfying basic needs, such as existence, kinship and growth, can encourage individuals to engage economically. Community participation and associations strengthen these dynamics, providing better economic opportunities and support systems to reduce poverty. By understanding these motivations, policymakers can develop poverty reduction strategies that address basic needs, thereby promoting economic engagement (Mai et al., 2023). Pogrebtsova et al. (2022) highlighted the importance of employee motivation in the agricultural sector to improve productivity and ensure the smooth functioning of agricultural enterprises. They stress the need for a motivation mechanism adapted to the specificities of agriculture, as traditional approaches do not always give the expected results. The goal is to foster the personal and professional growth of workers, which leads to better productivity and job satisfaction. In the health sector, Rodríguez et al. (2023) highlighted that staff motivation is essential to improve the quality of care and the efficiency of services, which contributes to better patient satisfaction. The study highlights the importance of interpersonal relationships and a positive work environment, which are key motivators, in addition to compensation and job characteristics. Moreover, Sharma et al. (2023) added that non-financial motivators, such as appreciation, training, and teamwork, are also crucial for maintaining an engaged and productive health workforce. Both studies show that motivation plays a fundamental role in improving performance and satisfaction within healthcare facilities. Motivating teachers and students is key to improving the performance and quality of education. According to Abdulsalam and Mawoli (2012), teacher motivation improves their professional performance, while Espinosa et al. (2024) emphasized that student motivation promotes their active participation and success. Professional development and recognition strategies for teachers, as well as engaging environments for students, are crucial to achieving these goals. Kwashie's (2010) study shows that the motivation of Water and Sanitation Committee members is changing from a motivation based on duty to one focused on personal satisfaction and rewards. This is essential for the sustainability of water

supply and sanitation programmes. Khalid et al. (2011) revealed that motivation positively influences job satisfaction in the water sector, thereby improving employee performance and engagement, with higher levels of motivation in public than private organizations. The study by Bondarenko and Przhedetskaya (2024) highlighted that employee motivation, as a key asset, must be personalized to improve engagement and productivity. This includes tangible incentives (education, leisure) and intangible incentives (recognition of status). The use of AI makes it possible to further personalize motivation strategies, responding to the challenges of the energy sector by promoting innovation and continuous improvement among employees. Studies by Ulianchenko et al. (2019) and Husarov et al. (2019) highlighted that tailored motivation strategies are crucial to boost productivity and economic growth, particularly in the agri-food sector. Motivation should combine internal and external factors to encourage employees to align their interests with those of the company, thus ensuring its competitiveness and economic performance. Flexible motivation management, able to adjust to economic changes, is essential for sustainable results. Dietrich (2020) highlighted the role of motivation in urban sustainability, encouraging responsible behaviours, such as sorting waste and using public spaces in a sustainable way. Individuals are motivated by the desire to avoid negative consequences and meet social expectations. By activating positive emotions and involving citizens in decision-making processes, community and policy initiatives can strengthen engagement, facilitating the adoption of sustainable practices in urban areas. Lema-Blanco (2023) pointed out that the motivation to adopt sustainable consumption is influenced by individual factors, such as the search for healthy diets and the defense of environmental values, as well as by collective motivations, such as access to affordable organic products and support for rural communities. For their part, Sandberg and Sjöström (2021) identified two types of motivations in sustainable investments: financial motivation, focused on long-term returns, and moral motivation, which prioritizes the ethical and sustainable impact of investments. Both perspectives show the importance of understanding the motivations for encouraging sustainable practices, both in terms of consumption and investment. Parker (2013) pointed out that although many people are aware of the dangers of climate change, moral motivation is essential to overcome “shock-induced paralysis” and spur action. By fostering a sense of responsibility and urgency, the author calls for concrete actions to encourage sustainable practices. Shalev (2015) addresses the psychological barriers that hinder the adoption of sustainable behaviors, distinguishing between automatic, unconscious motivation and voluntary, conscious motivation. It offers strategies such as positive messages and incentives to build motivation and facilitate behavioral change in the face of climate challenges.

7.11. Reward and recognition

Schweiger (2020) argued that recognition theory, which is based on love, rights, and social esteem, is essential for individuals’ personal autonomy and participation in society. Poverty is partly maintained by power imbalances in recognition, and by remedying this, a more just world could be created. In addition, Schweiger (2015) suggests that the fight against poverty involves

societal changes to ensure social inclusion and equal opportunities, while criticizing neoliberal capitalism that distorts these forms of recognition. In the field of health, Weziak-Bialowolska and Bialowolski (2021) showed that recognition at work improves satisfaction, reduces health risks, and prolongs employees' presence in the labor market, thus benefiting individuals and companies. Agarwal et al. (2023) reported that the recognition of village health teams increases their motivation, improving health services and contributing to better health outcomes for the community. As well as in the field of education, Chen et al. (2018) showed that reward systems motivate teachers and students to improve curricula and the quality of teaching, while supporting the professional development of educators. Arora (2022) pointed out that recognition increases teacher motivation, which can improve pedagogical practices and student outcomes, although the effects are not always significant. Holmes et al. (2020) show that the recognition of women and underrepresented groups increases their visibility, creating role models for younger generations. This encourages more women to pursue careers and actively participate in their fields, seeking recognition for their contributions. Bharti et al. (2018) described a rewards program that incentivizes customers to save energy based on their ability to keep their consumption within a defined range. The system analyzes energy consumption data to determine customer eligibility for rewards, promoting long-term sustainable energy savings rather than short-term discounts. Tirta and Enrika (2020) explained that recognition and rewards are key to motivating employees and fostering a positive work environment. They can be in the form of salaries, incentives, or appreciation. A fair valuation is important because it improves satisfaction, productivity, and increases retention rates. Fair reward systems ensure adequate remuneration, thereby contributing to job stability and professional development opportunities, within the framework of decent work principles. Phillips et al. (2017) added that recognition strengthens employee engagement, which promotes employee loyalty and organizational stability. Rewards, whether financial (such as bonuses) or non-financial (such as extra vacation), play a key role in promoting collaboration, motivation, and innovation within teams. They build pride, recognition, self-confidence, and job satisfaction, contributing to a positive work environment. A well-structured rewards system, which supports the company's goals, is essential for nurturing a culture of innovation. Without such a system, it can be difficult to foster innovation and maintain an effective team mindset (Kuczmarski & Kuczmarski, 2019). Incentive prizes are key to driving the technological innovation needed for climate action. By rewarding advances in specific areas of technology, these awards encourage the development of climate-friendly technologies (Adler, 2011).

7.12. Employee satisfaction

Jankelová et al. (2020) highlighted that employee satisfaction plays a key role in the agricultural sector by acting as a mediator between motivation and company performance. Although the direct relationship between motivation and performance is weak, job satisfaction strengthens this connection, improving the results of agricultural businesses in Slovakia. Amridha et al. (2019) added that in a private agricultural enterprise, gardeners' satisfaction is influenced by supervision, opportunities for progression, and working conditions. These factors are essential for improving employee motivation and performance, leading to better profitability and stronger interpersonal relationships. Studies on employee satisfaction in the healthcare sector highlight its direct impact on productivity and quality of services. Kurrey et al. (2024) identified several variables influencing satisfaction, such as staff communication and coordination, and showed that management has a positive effect on user satisfaction and employee productivity. Mustamu (2024) highlighted the importance of compensation for employee satisfaction, which indirectly affects patient satisfaction. Finally, Alsalamah (2023) showed that TQM practices in Saudi healthcare facilities improve employee satisfaction, thereby increasing employee engagement, resulting in better quality of care. Employee satisfaction in the education sector depends on factors such as relationships with colleagues, supervision, compensation, and promotion opportunities, as highlighted by Medina Nilasari et al. (2024). Efimova and Latyshev (2023) added that satisfaction with career advancement and social capital promotes staff retention and improves performance. A positive work environment and fair promotion policies are crucial to maintaining a motivated and productive workforce. Mazıcı and Göğeli (2017) highlighted the impact of gender equality on job satisfaction and company reputation. They show that positive perceptions of gender equality lead to better employee satisfaction, which in turn strengthens the company's reputation. By analyzing the perceptions of academics at Erciyes University, the study sheds light on the differences in the impact of gender equality on job satisfaction by gender, supporting the idea that promoting equality in the workplace is key to creating an inclusive culture and improving employee satisfaction. Job satisfaction has a direct impact on employee performance, especially in the water sector, where it impacts the quality of services. Rewards, whether intrinsic (such as recognition and achievement) or extrinsic (such as salary and promotion), play a central role in improving this satisfaction. Hygiene factors can reduce dissatisfaction, but it is the motivating factors that drive engagement and performance. By focusing on these rewards, it is possible to foster a productive and sustainable work environment, which is essential to ensure dependable and quality services (Oravee et al., 2018). In the energy sector, Xiao et al. (2024) emphasized that organizational commitment and confidence in one's abilities allow employees to translate their satisfaction into better performance. Youcef (2023) highlights that satisfaction, particularly about leadership and job stability, contributes to reducing workplace accidents, thus increasing productivity and ensuring safety, which are crucial for the sustainable development of the sector. The study by Antoncic and Antoncic (2011) highlighted that employee satisfaction influences the sustainable development of companies and economies, and societies. Satisfied employees help improve the internal quality of organizations, thus promoting growth and performance.

They are more likely to engage in entrepreneurial activities, which drives innovation and business results. In addition, employee satisfaction is linked to a stable and skilled workforce, which is essential for the long-term growth of businesses and the economy. Managers are encouraged to align with the interests of employees to improve this satisfaction and ensure sustainable growth. For industry sustainability, high motivation and satisfaction promote increased performance, thus contributing to sustainability (Maria et al., 2022). Under construction, an integrated model identifies critical factors such as compensation, job security, and work-life balance to improve employee satisfaction and support the Sustainable Development Goals (Khahro et al., 2023). In companies committed to fighting pollution, employee satisfaction is linked to a better commitment to sustainable practices, reinforcing the positive environmental impact and reputation of the company (Jing et al., 2023). In the area of environmental sustainability, employee satisfaction plays a key role. Satisfied employees are more likely to actively participate in initiatives to reduce pollution and promote sustainable practices. Their commitment leads to increased innovation and greater participation in environmental programs. In addition, they often advocate for the company's responsibility for green practices, which encourages the adoption of sustainable solutions. This helps to improve the company's reputation, attract environmentally interested talent, and strengthen sustainability efforts (Jing et al., 2023).

7.13. Organizational trust and work environment

Institutional and organizational trust has a positive impact on poverty reduction. According to Tovar-Garcia (2023), institutional trust is a key factor influencing poverty at the macroeconomic level, particularly in Latin America, where high inequality and low institutional trust have delayed poverty decline. The study highlights the importance of public policies to strengthen this trust to effectively reduce poverty. On the other hand, Lavee (2023) highlighted organizational trust, especially in the public sector, where informal resources provided to poor populations build trust and integration, leading to improved long-term well-being and sustainable outcomes for low-income individuals. Regarding the importance of organizational trust in the healthcare sector, Kashefi et al. (2023) presented a model that incorporates work ethics and emphasizes that trust promotes job satisfaction, engagement, innovation, and improves productivity, which leads to better healthcare services. Another model, presented by Kashefi et al. (2024), demonstrated that cultural and ethical norms build trust, thereby positively influencing social and organizational outcomes in the health sector. Berry et al., (2021) added that the creation of trust-based partnerships between clinicians and administrators is essential for effective health care, highlighting the importance of empathetic creativity and discretionary effort. Basnight (2023) reinforced this idea by arguing that transparency in goals and strategies improves collaboration between clinicians and administrators, leading to better health outcomes. Finally, Montgomery and Lainidi (2024) addressed the issue of the well-being of healthcare workers, highlighting the need for an interdisciplinary approach to create healthy work environments and address burnout, a major challenge in the sector. In the education sector, organizational trust is essential to ensure quality education. According to Bin Abdullah (2021), trust fosters a cooperative culture and improves

communication and collaboration between teachers, staff, and leaders, which are crucial for effective pedagogy. Leaders play a key role in building this trust, and their professional development helps strengthen this dynamic. Dziminska et al. (2018) argued that trust is indispensable in higher education to create a culture of quality. It supports student and staff loyalty, enhances the institution's reputation, and promotes informed decisions. Their model highlights the importance of trust for institutional effectiveness and the continuous improvement of educational quality. Gender equality in the work environment is key to reducing inequalities. According to Basharat and Alam (2024), the design of workspaces and organizational culture directly influence women's careers, especially in Bangladesh, where the environment remains unfavorable to their professional advancement. In the health sector, Surapaneni (2024) emphasized the importance of diversity and inclusion, which improve health outcomes and reduce disparities. Adopting clear policies and training staff in diversity is essential to creating an equitable work environment. According to Erasmus et al. (2017), organizational trust is crucial for the implementation of equitable policies. A strong trust between staff and management ensures effective implementation of policies to reduce inequalities. Organizational trust is essential for the provision of safe drinking water and sanitation by facilitating collaboration between governmental and non-governmental organizations. It improves communication and cooperation, enabling effective implementation of WASH programs. In post-disaster situations, where water, sanitation, and hygiene services are vital, trust enables NGOs and LOs to work together to achieve clean water and sanitation goals (Hosseinpourtehrani et al., 2022). The work environment in the energy sector promotes clean and affordable energy by adopting green practices that improve sustainability. Environmentally friendly initiatives, resource-efficient strategies, and environmental audits are being put in place, such as in Ghana's energy organizations. These actions reduce environmental impact and promote sustainable energy practices (Kilu, 2020). The working environment plays a key role in achieving decent work by ensuring fair conditions that respect people and the environment. It supports the Sustainable Development Goals, improves the health and productivity of employees, and promotes decent jobs, especially in social and solidarity economy enterprises (Bruna et al., 2024; Poorter, 2011). Ergonomic facilities and good lighting reduce stress and increase performance (Asmui et al., 2012). Improved working conditions, such as health and safety, contribute to decent work, as observed in Bulgaria (Beleva and Tzanov, 2008). A favorable business environment stimulates economic growth (Ermolina, 2016), and organizational trust, as well as worker autonomy, supports industrial specialization and strengthens the economy (Van Hoorn, 2014). Organizational trust contributes to the sustainability of sustainable businesses and industries. Ethical leadership fosters this trust, improving collaboration, innovation, and alignment with sustainability goals (Sarmawa et al., 2020; Zmarly and Languilaire, 2013). At the same time, a healthy and fair working environment (Bruna et al., 2024), as well as a culture of innovation (Pérez-Urbe et al., 2021) are essential to support sustainability. Digitalization (Plapper, 2022) and Lean organization in some industries (such as textiles) also allow for more efficient resource management. Moreover, resilient projects require strong management involvement and a learning culture to overcome challenges (Ranasinghe et al., 2023; Pronk and Ankel, 2017). Finally, trust fosters innovation and

organizational learning, facilitating the exchange of information to improve performance (Felicjan, 2024; Bani Ahmad et al., 2024). In innovation, organizational trust plays a critical role in creating a supportive environment where employees can produce new and creative ideas. It reduces emotional tension and uncertainty, facilitating the acceptance of innovation and collaboration, while reducing defensive mechanisms that can hold back creativity (Mitcheltree, 2021). Trust, whether individual, interpersonal, or collective, encourages creativity by providing a safe space for the exchange of ideas and risk-taking (Chen et al., 2021). It also strengthens inter-organizational governance mechanisms and improves collaboration, particularly in sectors such as tourism (Nguyen et al., 2023). In addition, a positive work environment contributes to innovation by fostering interpersonal relationships and a collaborative culture that stimulates the generation of innovative ideas (Pérez-Urbe, 2021). Encouraging creativity, recognizing efforts, and organizational flexibility allow for better implementation of ideas (Issawi and Altaee, 2024; Yang and Wu, 2021). Open, interdisciplinary workspaces, such as those used in creative residencies, are also important factors in driving innovation (White-Hancock, 2023; Liu et al., 2023). In short, trust and an environment conducive to creative work are powerful catalysts for innovation, allowing organizations to develop innovative and sustainable solutions. Sustainable cities require strong organizational trust to encourage collaborative governance among stakeholders and foster shared engagement. This trust helps to overcome conflicts of interest, improve transparency, mutual understanding, and strengthen social accountability, thereby supporting the community's long-term goals. The role of local governments is crucial in overseeing these efforts and ensuring adherence to a shared vision of a sustainable, child-friendly city (Tobirin et al., 2023). At the same time, an adequate working environment, with well-trained workers and good working conditions, is essential to overcome urban environmental challenges. This stimulates business creation, generates jobs, and supports the transition to green cities, promoting training in green technologies and ensuring decent working conditions (Tobirin et al., 2023). Sustainable consumption is promoted by the work environment, which integrates ecological practices into the daily habits of employees. Companies can support this by setting up structures for employees to adopt sustainable practices, such as mobility, nutrition, and recycling. These initiatives promote the integration of sustainable practices in the workplace and the employees' personal lives, thereby strengthening sustainability strategies (Süßbauer et al., 2018). In addition, the lean production model contributes to sustainable consumption by optimizing industrial processes, reducing energy, water, and waste consumption. This is particularly relevant in the textile industry, where this model helps to decrease environmental impact, including the pollution of natural resources (Maia et al., 2013). Climate actions in the workplace influence greenhouse gas (GHG) emissions. Working from home (WFH) helps reduce these emissions by reducing travel and some work activities, although there is a slight increase in residential emissions. Specific strategies tailored to each demographic group are needed to optimize emissions reductions. Recommendations are also proposed to decarbonize home and office work patterns (Wu et al., 2024). Sustainable strategies, such as telecommuting, video conferencing, and access to natural light, help reduce the environmental impact of the workplace.

These actions also generate benefits such as cost reduction, increased productivity, and better employee retention (Stringer, 2009).

7.14. Employee empowerment

Empowering employees in a sustainable industry allows for greater ownership of production processes and green initiatives. When employees are empowered to make decisions and actively participate in the management of resources and operations, it leads to improved sustainability. In addition, empowerment fosters innovation in green practices and waste reduction, which directly contributes to the achievement of sustainability goals. It also strengthens individual and collective responsibility, thereby increasing the effectiveness of sustainable strategies in the industry (Hanaysha, 2016).

7.15. Culture change

Popescu and Safta (2022) explained that the adoption of agricultural technologies in rural communities leads to a cultural shift that impacts agricultural goals. Government policies and agricultural extension fields play a key role in this transition by helping farmers integrate these innovations. This shift from traditional to modern methods improves productivity, optimizes resource use, and promotes sustainable practices, while ensuring food security today without compromising that of future generations. Oliveira et al. (2024) showed that cultural change improves health collaboration, facilitates the adoption of new technologies, and strengthens patient-centered care. Wood (2021) highlighted that this shift is critical to integrating eHealth, reducing resistance to innovations, and optimizing digital care. Malikow (2006) highlighted the importance of cultural change in teacher education, fostering an in-depth dialogue between junior teachers, mentors, and teachers. This change makes it possible to integrate the knowledge resulting from research into the realities on the ground, guaranteeing better-informed pedagogical practices. The author also highlights the role of professional development schools in promoting effective educational collaborations. Cultural change makes it possible to deconstruct gender stereotypes and promote gender equality by changing norms and perceptions. It fosters a more inclusive and equitable society through collective efforts aimed at lasting change (Arathi, 2024). Thus, cultural change promotes sustainable water management by integrating new approaches and developing leaders who can influence the sector. The “Principles to Practice” project illustrates its impact by developing collaboration and knowledge sharing to address urban water-related challenges (White, 2007). Cultural change in rural communities, facilitated by agricultural technologies and supported by government policies, improves productivity and economic growth. The adoption of modern techniques allows for more production to be produced with fewer resources, thereby increasing incomes and promoting inclusive and sustainable economic growth (Popescu and Safta, 2022). Lee (2020) pointed out that the adoption of digital technologies requires a cultural adjustment to foster innovation and employee adaptability. Digital tools help overcome traditional barriers, facilitating communication and collaboration. Freeman Hrabowski (2013) showed how inclusive cultural change, fostering dialogue and community, has strengthened student

innovation and engagement at the University of Maryland, proving that cultural transformation is key to success and innovation in institutions. The authors emphasize that cultural change is a key element in achieving urban sustainability, facilitating the integration of environmental protection, economic development, and social equity. This process is crucial for cities to adopt sustainable and efficient practices. Cultural change fosters collaboration between diverse actors at different levels (neighbourhoods, cities, metropolitan areas), which helps to address the complex challenges of urban sustainability. An initiative-taking approach is needed, focusing on crisis prevention rather than reactive responses. This shift in mindsets and practices is at the heart of the Green Human Resource Development concept, which emphasizes social justice and equity to ensure inclusive sustainability. By cultivating a culture that values these principles, cities can create sustainable practices that benefit all members of the community, ensuring long-term sustainable development (Benton-Short and Cseh, 2015).

7.16. Green TQM

After identifying the key success factors of Total Quality Management and distinguishing those specifically related to human resource management, this research examines how these human resource management-related success factors can directly contribute to achieving the Sustainable Development Goals, according to the literature. Indeed, while numerous studies have separately explored the links between TQM and organizational performance, or between human resource management and sustainability, no previous review has established a conceptual framework integrating these three dimensions.

In this context, this work proposes the introduction of a new concept called “Green TQM.” This concept lies at the intersection of TQM, human resource management, and the Sustainable Development Goals. It aims to highlight how certain human resource practices, when aligned with the principles of Total Quality Management, can become genuine drivers of environmental, social, and economic sustainability. Green TQM is thus based on the identification and enhancement of “green” key success factors, human resource management factors that simultaneously promote organizational performance and contribute to the Sustainable Development Goals.

From a theoretical standpoint, Green TQM draws upon three foundational principles.

First, systemic integration positions TQM not merely as a set of quality tools but as a holistic system that embeds sustainability within continuous improvement processes, stakeholder involvement, and strategic planning.

Second, human-centered sustainability considers employees as central agents of sustainable transformation, where training, empowerment, and participatory decision-making function as levers to internalize environmental and social values in daily operations.

Third, triple-bottom-line alignment ensures that TQM’s traditional focus on quality and efficiency is balanced with the SDG framework, promoting economic performance alongside social equity and ecological preservation.

Green TQM diverges from existing sustainability-oriented TQM models in several significant ways. Traditional models often incorporate sustainability as an external objective or an additional dimension of performance measurement. In contrast, Green TQM internalizes sustainability within the core philosophy of quality management. It emphasizes behavioral and cultural transformation through HRM practices, making sustainability an intrinsic and measurable component of quality improvement rather than a complementary goal.

Future research should aim to empirically substantiate the Green TQM framework. This can be achieved by identifying and validating measurable “green” Key Success Factors through expert evaluation and multicriteria decision-making methods such as Fuzzy DEMATEL or AHP. Additionally, future studies could develop indicators to capture the causal relationships between human resource management driven TQM practices and SDG outcomes, as well as evaluate the Green TQM model across various sectors and cultural contexts to assess its universality and practical applicability.

The Green TQM framework provides both a theoretical foundation and a managerial roadmap for organizations seeking to align their quality management systems with sustainability imperatives. It represents a shift from a performance-centered quality approach to a sustainability-embedded quality paradigm, where excellence and responsibility coexist as complementary dimensions of long-term organizational success.

8. Discussion

The analysis of HRM-related key success factors shows that their contribution to the Sustainable Development Goals is not uniform and follows different underlying mechanisms. Each factor influences sustainability through specific organizational processes, and its impact can also be understood through the number of SDGs they are associated with (**Figure 3**).

Employee training and education appear to be one of the most influential factors, as it is associated with up to 16 SDGs in the reviewed studies. Its importance lies in its ability to shape not only employee skills but also attitudes and behaviors. Through training, organizations can integrate values such as safety, inclusion, ethics, and environmental responsibility into everyday practices. This explains its broad contribution to sustainability, as it supports learning, improves employability, and reinforces responsible organizational behavior. In this sense, training acts as a foundational mechanism that enables the effective implementation of sustainability-oriented practices.

Employee involvement also shows a strong contribution, as it is linked to around 12 SDGs. Its effect is driven by participation and engagement. When employees participate in decision-making and continuous improvement processes, they develop a stronger sense of responsibility and commitment. These dynamic supports inclusion, enhances performance, and encourages innovation. Therefore, involvement contributes to sustainability by strengthening both social cohesion and organizational effectiveness.

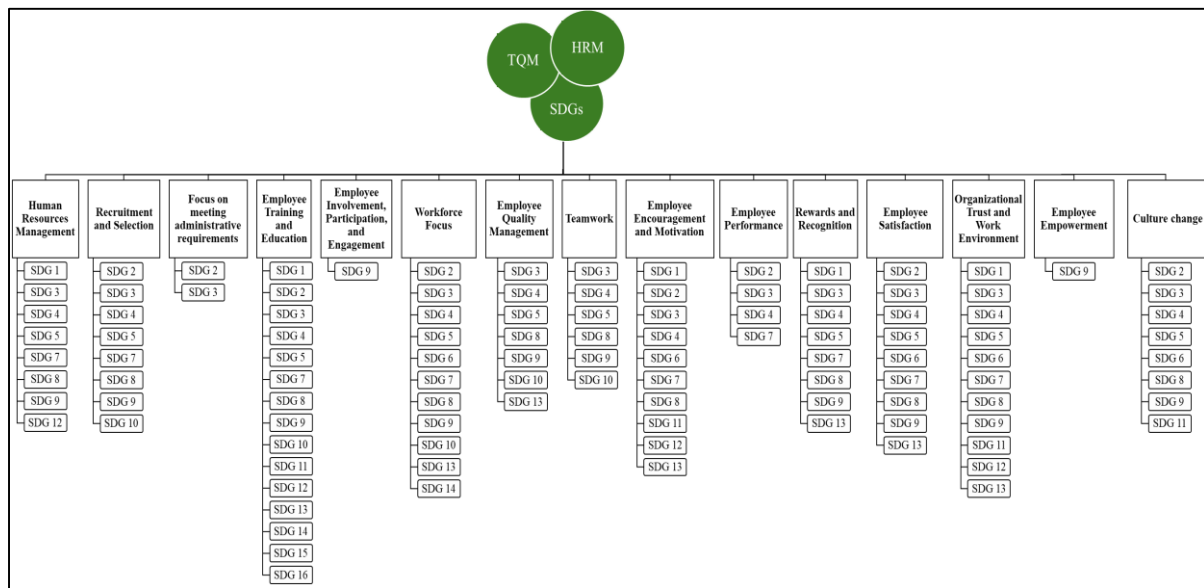


Figure 3. Illustration of the links between the key success factors of human resources management and the Sustainable Development Goals.

Leadership is another key factor with a broad impact, as it is associated with 10 to 12 SDGs. Its role is strategic. Leaders define priorities, allocate resources, and shape the organizational vision. When sustainability is integrated into leadership practices, it becomes part of the core strategy of the organization. This explains its influence on governance, innovation, and long-term orientation.

Motivation presents a more moderate contribution, as it is linked to around 8 to 10 SDGs. Its impact operates through employee behavior and well-being. Motivated employees are more productive and more engaged in organizational goals, which improves working conditions and performance. However, its contribution to sustainability remains indirect, as it depends on how motivation is aligned with sustainability objectives.

Empowerment and teamwork show a more limited but still relevant contribution, as they are associated with 6 to 8 SDGs. Their role is relational and structural. Empowerment allows employees to take initiative and participate more actively, which can support inclusion and reduce inequalities. Teamwork facilitates collaboration and knowledge sharing, which are essential for innovation. However, these factors are often discussed more conceptually, and their direct impact on sustainability outcomes is less clearly demonstrated.

Overall, the results indicate that HRM-related success factors contribute to sustainability at different levels. Factors such as training and leadership have a broad and systemic influence, as reflected in the high number of SDGs they are associated with. In contrast, other factors play a more specific or supportive role. This highlights the importance of not only identifying the links between HRM practices and SDGs but also understanding the extent and mechanisms of their contribution.

9. Conclusion

The key success factors of Total Quality Management, particularly those related to human resource management, were examined to understand their contribution to the Sustainable Development Goals through a systematic review of the literature. The findings show that these factors play an important role in supporting sustainability. However, this contribution remains uneven. Stronger links are observed with social and economic goals, while environmental and institutional dimensions are less frequently addressed and are often discussed at a conceptual level rather than supported by empirical evidence.

These results highlight the need for a more structured approach to better connect TQM, HRM, and sustainability. In this context, the proposed “Green TQM” framework brings together key HRM practices such as training, empowerment, motivation, and teamwork within a unified perspective. This approach helps to align organizational performance with sustainability objectives and provides a basis for future research to develop empirical models and indicators. It also offers practical insights for organizations seeking to strengthen their long-term resilience while integrating sustainable practices into their management systems.

10. Limitations

This study has some limitations that should be considered when interpreting the results. The analysis is based on a systematic review of the literature, which provides a structured understanding of existing research but remains dependent on the studies currently available. As research on the links between HRM practices within TQM and the Sustainable Development Goals is still developing, further empirical work could help strengthen and deepen these insights.

In addition, the study focuses specifically on HRM factors within TQM to provide a clear and coherent analysis. While this choice allows for a more in-depth exploration of this dimension, future research could broaden the perspective by considering other aspects of TQM, such as managerial and process-related factors, to offer a more comprehensive view of sustainability integration.

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