



Leadership, Strategic Quality Management, and SMEs Sustainability: The Mediating effect of Employee Empowerment and Engagement

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Abstract

Small and Medium-Sized Enterprises (SMEs) are key drivers of economic growth, employment, and innovation globally. However, their sustainability is increasingly challenged by resource limitations, heightened competition, and rapidly evolving market dynamics. To remain competitive and achieve long-term sustainability, SMEs must adopt effective leadership and strategic quality management (SQM) practices that enhance organizational performance and adaptability. Despite the proven importance of leadership and SQM in improving operational efficiency and customer satisfaction, their impact on SMEs' sustainability often remains limited due to a lack of employee empowerment and engagement. This disconnect highlights a critical research gap in understanding how employee empowerment and engagement mediate the relationship between leadership, SQM, and SMEs' sustainability. Leadership plays a pivotal role in driving strategic initiatives and fostering a culture of continuous improvement. Explanatory research design is employed to understand the causal relationships between variables and how one variable influences. The explanatory approach is ideal for this study as it allows for the assessment of the direction and strength of relationships between leadership, SQM, and SME sustainability. In this study, a purposive sampling technique was appropriate because the researchers targeted specific SMEs whose leadership and SQM practices are aligned with the study's objectives. A sample size of 335 is appropriate for this study, as it strikes a balance between providing sufficient statistical power and being feasible in terms of data collection. The choice of this sample size ensures that the data are robust enough to perform advanced statistical analysis, such as structural equation modeling (SEM), which is suitable for testing complex causal relationships. A sample size of 335 also allows for meaningful subgroup analysis, enabling comparisons between different industries, company sizes, and geographical locations. The findings of the study reveal that effective leadership positively influences the sustainability of small and medium enterprises (SMEs). Strategic quality management positively influences the sustainability of small and medium enterprises. Leadership has a profound impact on employee empowerment and engagement. Strategic Quality Management (SQM) plays a critical role in shaping employee empowerment and engagement. Employee empowerment and engagement are key mediators in the relationship between leadership and the sustainability of small and medium enterprises (SMEs). Employee empowerment and engagement play crucial roles in mediating the relationship between strategic quality management (SQM) and the sustainability of small and medium enterprises (SMEs). This study enriches the theoretical understanding of SQM by positioning it as a key enabler of employee empowerment. SMEs should prioritize embedding SQM practices in their operations to enhance employee empowerment and engagement. SMEs should invest in developing transformational leadership skills at all organizational levels. Leaders who demonstrate high levels of transformational leadership (e.g., providing inspiration, motivation, and individualized attention) empower employees and foster engagement.

Keywords: Empowerment, Engagement, Leadership, Mediating effect, Quality Management, Sustainability.

1. Introduction

1.1. Background of the Study

Leadership and strategic quality management (SQM) are pivotal components in achieving organizational sustainability, especially for small and medium-sized enterprises (SMEs). SMEs play a crucial role in the global economy, contributing significantly to employment and economic growth (OECD, 2021). However, their sustainability is often challenged by limited resources, increased market competition, and the need for consistent

quality in products and services (Antony et al., 2018). Effective leadership and the implementation of SQM practices are essential to address these challenges and foster long-term success. Leadership provides the vision and direction necessary for the adoption and integration of SQM practices, ensuring that quality initiatives align with organizational goals. Transformational leaders, in particular, have been shown to positively influence quality management outcomes by inspiring employees and fostering innovation (Bass & Riggio, 2006). Strategic quality management, which integrates quality principles into an organization's strategic planning and operational processes, enhances efficiency, customer satisfaction, and competitive advantage (Demirbag et al., 2016). However, achieving these benefits requires the active involvement of employees, making their empowerment and engagement critical. Employee empowerment and engagement are recognized as significant factors in achieving organizational sustainability through SQM. Empowered employees are more likely to take ownership of their tasks, make proactive decisions, and contribute to process improvements (Conger & Kanungo, 1988). Engagement, on the other hand, fosters a sense of commitment and motivation, which is essential for achieving high performance and alignment with organizational objectives (Schaufeli, 2013). SMEs that prioritize these elements create a culture of collaboration and continuous improvement, which is vital for adapting to dynamic market conditions.

In the context of SMEs, the integration of leadership, SQM, and employee empowerment can lead to sustainable practices that balance economic, social, and environmental goals. Research highlights that SMEs with engaged and empowered employees are more resilient to external shocks and better positioned to innovate and sustain growth (Fatoki, 2018). Despite this, many SMEs face challenges in embedding these practices due to resource constraints and limited awareness of their strategic importance. This study aims to examine the interconnected roles of leadership, strategic quality management, and employee empowerment in enhancing SME sustainability. By exploring these relationships, the research will provide valuable insights into how SMEs can effectively leverage leadership and SQM practices to build resilient and sustainable organizations.

1.2. Problem Statement

Small and Medium-Sized Enterprises (SMEs) are key drivers of economic growth, employment, and innovation globally. However, their sustainability is increasingly challenged by resource limitations, heightened competition, and rapidly evolving market dynamics (OECD, 2021). To remain competitive and achieve long-term sustainability, SMEs must adopt effective leadership and strategic quality management (SQM) practices that enhance organizational performance and adaptability. Despite the proven importance of leadership and SQM in improving operational efficiency and customer satisfaction, their impact on SMEs' sustainability often remains limited due to a lack of employee empowerment and engagement (Demirbag et al., 2016). This disconnect highlights a critical research gap in understanding how employee empowerment and engagement mediate the relationship between leadership, SQM, and SMEs' sustainability. Leadership plays a pivotal role in driving strategic initiatives and fostering a culture of continuous improvement. Transformational leadership, in particular, is known to inspire employees and align organizational objectives with sustainable practices (Bass & Riggio, 2006). Similarly, SQM integrates quality principles into organizational strategies, promoting efficiency and enhancing competitive advantage. However, the success of these practices largely depends on the extent to which employees are empowered to make decisions and engage actively in achieving quality and sustainability goals (Antony et al., 2018). Empowered employees exhibit higher levels of autonomy and innovation, while engaged employees are more committed and motivated to contribute to organizational objectives (Conger & Kanungo, 1988; Schaufeli, 2013). Despite these advantages, many SMEs face challenges in embedding empowerment and engagement within their leadership and SQM frameworks. Research indicates that SMEs often lack formal structures and processes to foster employee involvement, leading to suboptimal outcomes in quality management and sustainability efforts (Fatoki, 2018). Furthermore, existing studies on SMEs' sustainability often focus on leadership or SQM in isolation, neglecting the mediating role of employee-related factors. This limitation hinders a comprehensive understanding of the mechanisms through which leadership and SQM influence sustainability outcomes. Addressing this gap, this study aims to investigate the mediating effect of employee empowerment and engagement on the relationship between leadership, SQM, and SMEs' sustainability. By exploring these dynamics, the research seeks to provide actionable insights into how SMEs can leverage leadership and SQM practices to empower and engage their workforce, ultimately enhancing their sustainability and resilience in an increasingly competitive environment.

2. Literature Review

2.1. Leadership

Leadership is a critical determinant of organizational success, particularly in small and medium-sized enterprises (SMEs), where it shapes the vision, strategy, and culture needed for sustainability. Effective leadership provides direction, inspires innovation, and drives strategic initiatives that align organizational goals with market demands (Bass & Riggio, 2006). Transformational leaders, for instance, play a crucial role in motivating employees, fostering collaboration, and building a shared commitment to achieving excellence. These leaders emphasize clear communication, adaptability, and employee development, which are essential for navigating the challenges SMEs face, such as resource constraints and competitive pressures (Yukl, 2012). However, many SMEs struggle to cultivate leadership practices that balance operational efficiency with long-term sustainability goals. A significant leadership challenge is ensuring active employee participation in decision-making processes, which is vital for continuous improvement and innovation. Therefore, fostering leadership styles that prioritize inclusiveness, flexibility, and empowerment is essential for SMEs aiming to thrive in an increasingly dynamic and competitive environment.

2.2. Strategic Quality Management

Strategic Quality Management (SQM) is a holistic approach that integrates quality principles into an organization's strategic and operational activities to enhance performance and sustainability. It emphasizes customer satisfaction, process optimization, and continuous improvement as key drivers of organizational success

(Demirbag et al., 2016). For SMEs, adopting SQM practices can lead to improved efficiency, reduced operational costs, and enhanced competitive advantage. By aligning quality objectives with broader organizational goals, SQM enables SMEs to deliver consistent value to stakeholders and build long-term resilience (Antony et al., 2018). Despite its benefits, the implementation of SQM in SMEs often faces challenges, including limited resources, inadequate training, and resistance to change. Moreover, many SMEs lack the structural frameworks required for integrating quality management into their strategic planning. Addressing these challenges requires a focus on employee engagement, as well as leadership that supports a culture of continuous learning and quality-driven innovation.

2.3. SMEs Sustainability

The sustainability of SMEs has become a critical focus in the global economy, as these enterprises contribute significantly to employment, innovation, and regional development. Sustainability in SMEs involves balancing economic performance with social and environmental responsibilities to achieve long-term resilience (OECD, 2021). Key factors influencing SME sustainability include leadership, strategic quality management, and employee engagement, as these elements drive adaptability and innovation in response to market demands (Fatoki, 2018). However, achieving sustainability is a complex challenge for SMEs due to limited financial resources, inadequate access to technology, and evolving customer expectations. SMEs often require targeted strategies that integrate sustainable practices into their operations while fostering a culture of collaboration and empowerment. Addressing these challenges necessitates a proactive approach to leadership, quality management, and workforce development to create a sustainable and competitive organization.

2.4. Employee Empowerment and Engagement

Employee empowerment and engagement are integral to the success and sustainability of SMEs. Empowerment involves providing employees with the authority, resources, and autonomy to make decisions and contribute to organizational goals, fostering a sense of ownership and responsibility (Conger & Kanungo, 1988). Engagement, on the other hand, refers to the emotional commitment and motivation employees exhibit toward their work and the organization's objectives (Schaufeli, 2013). For SMEs, empowering and engaging employees is crucial for driving innovation, enhancing productivity, and achieving strategic goals. Empowered employees are more likely to take initiative and implement improvements, while engaged employees demonstrate higher levels of commitment and performance. Despite these benefits, many SMEs face challenges in creating environments that support empowerment and engagement due to a lack of structured processes and leadership support. Addressing these gaps requires leadership styles that promote inclusiveness, trust, and open communication, as well as training programs that build employees' skills and confidence.

2.5. Theory Underpinning

The theoretical foundation for understanding the interplay between leadership, strategic quality management (SQM), SMEs sustainability, and the mediating role of employee empowerment and engagement can be grounded in Transformational Leadership, and Social Exchange Theory (SET). These theories collectively explain how leadership and quality practices influence sustainability outcomes and how employee empowerment and engagement act as mechanisms to enhance these effects.

2.5.1. Transformational Leadership Theory

Transformational Leadership Theory emphasizes the ability of leaders to inspire, motivate, and align their workforce with organizational goals through vision, charisma, and individualized consideration (Bass & Riggio, 2006). Transformational leaders create a culture of trust and innovation, fostering employee empowerment and engagement, which are critical for organizational sustainability. In the context of SMEs, where resources are often constrained, transformational leadership is crucial in fostering employee buy-in for strategic quality management practices that support long-term sustainability. Leaders' ability to empower and engage employees enhances creativity and problem-solving capabilities, enabling SMEs to adapt to market changes effectively (Yukl, 2012).

2.5.2. Social Exchange Theory (SET)

Social Exchange Theory provides a framework for understanding how the relationship between organizations and employees impacts performance. According to SET, employees respond to organizational practices, such as empowerment and engagement initiatives, with reciprocal behaviors like increased effort, loyalty, and commitment (Blau, 1964). When leaders implement strategic quality management practices that prioritize employee development and participation, employees feel valued and are more likely to invest their efforts in achieving organizational goals. This reciprocal exchange strengthens the link between leadership, SQM, and sustainability, particularly in SMEs, where employee commitment often compensates for limited resources (Cropanzano & Mitchell, 2005). The intersection of these theories explains the mediating role of employee empowerment and engagement in the relationship between leadership, SQM, and SMEs sustainability. Transformational Leadership Theory highlights the leader's role in fostering empowerment and engagement, and SET emphasizes the reciprocal nature of these dynamics. Together, these theories suggest that leadership and SQM practices that empower and engage employees enhance organizational adaptability, innovation, and resilience, thereby promoting sustainability in SMEs.

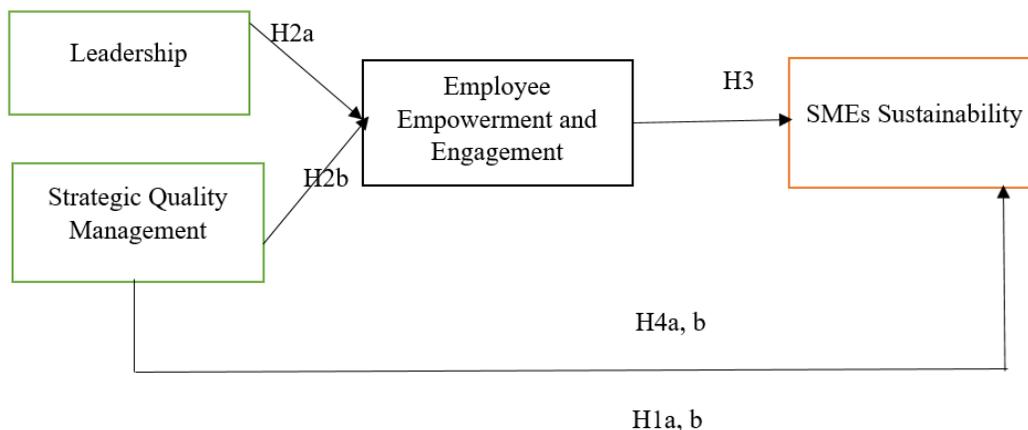


Figure 1: Conceptual Framework.

2.6. Relationship Between Leadership and Strategic Quality Management on SMEs Sustainability

Leadership and strategic quality management (SQM) play interconnected and pivotal roles in achieving sustainability within small and medium-sized enterprises (SMEs). Leadership serves as the driving force for defining the vision, values, and culture of an organization, while SQM provides a structured framework for integrating quality principles into strategic operations. Together, they form a synergy that enhances SMEs’ adaptability, resilience, and competitive advantage. Effective leadership is essential for fostering the adoption of SQM practices, particularly in SMEs, where limited resources and external pressures often challenge operational efficiency (Yukl, 2012). Leaders act as change agents by setting strategic priorities and promoting a culture of continuous improvement. Transformational leadership, in particular, is closely associated with SQM success, as it emphasizes inspiring employees, encouraging innovation, and aligning organizational goals with sustainable practices (Bass & Riggio, 2006). Leaders who actively champion quality initiatives and provide clear direction enable SMEs to overcome resource constraints and implement sustainable strategies.

Strategic quality management complements leadership by establishing systematic approaches to improve processes, enhance customer satisfaction, and ensure long-term operational sustainability (Demirbag et al., 2016). For SMEs, SQM practices such as performance monitoring, stakeholder engagement, and continuous improvement align with sustainability goals by reducing waste, improving efficiency, and creating value for stakeholders. Leadership is critical in embedding these quality practices into the organization’s culture, ensuring employee buy-in, and driving accountability at all levels. The interplay between leadership and SQM significantly impacts SMEs’ ability to achieve sustainability. Leaders who prioritize quality as a strategic objective enable SMEs to adapt to evolving market demands, regulatory requirements, and stakeholder expectations. This alignment strengthens organizational resilience, facilitates innovation, and promotes environmentally and socially responsible practices, which are key dimensions of sustainability (Antony et al., 2018). Moreover, leadership that emphasizes employee empowerment and engagement further enhances the effectiveness of SQM initiatives in promoting sustainability. Engaged and empowered employees are more likely to support quality improvement efforts and actively contribute to achieving organizational goals. Therefore, the alignment of leadership and SQM practices is a critical determinant of SMEs’ sustainability in today’s competitive and dynamic business environment. This study proposes that:

H_{1a} positive relationship exists between Leadership and SMEs Sustainability

H_{1b} positive relationship exists between Strategic Quality Management on SMEs Sustainability

2.6.1. Relationship Between Leadership and Strategic Quality Management on Employee Empowerment and Engagement

Leadership and strategic quality management (SQM) significantly influence employee empowerment and engagement by fostering an organizational culture that prioritizes employee involvement, continuous improvement, and shared accountability. Leadership provides the vision and direction, while SQM offers structured processes and practices that enable employees to actively contribute to organizational goals. Together, these elements create an environment where employees feel valued, motivated, and empowered. Transformational leadership is particularly impactful in enhancing employee empowerment and engagement. By inspiring and motivating employees, transformational leaders encourage them to take ownership of their tasks and innovate within their roles (Bass & Riggio, 2006). Leaders who demonstrate individualized consideration and provide intellectual stimulation foster a sense of autonomy and competence among employees. This empowerment drives higher levels of engagement, as employees feel more committed to their work and aligned with the organization’s mission. Strategic quality management amplifies these effects by creating systems and processes that facilitate employee participation in decision-making and problem-solving (Demirbag et al., 2016). Practices such as total quality management (TQM), continuous improvement initiatives, and customer-focused strategies rely on employee contributions to achieve success. These SQM practices empower employees by providing them with the tools, training, and authority to make decisions, thereby increasing their engagement in achieving organizational objectives. The synergy between leadership and SQM strengthens the relationship between empowerment and engagement. Leaders who actively support SQM initiatives and involve employees in quality improvement efforts foster a culture of trust, collaboration, and accountability (Antony et al., 2018). Engaged employees are more likely to demonstrate discretionary effort and support organizational goals, while empowered employees are better equipped to take initiative and adapt to changes. In SMEs, where resource constraints often challenge performance, this alignment is particularly critical to achieving sustainability and resilience. Hypothesis proposes are:

H_{2a} Leadership positively influences employee empowerment and engagement.

H_{2b} Strategic quality management positively influences employee empowerment and engagement.

2.6.2. Relationship between Employee Empowerment, Engagement, and SMEs Sustainability

Employee empowerment and engagement are critical factors that drive SMEs' sustainability by enhancing organizational adaptability, innovation, and resilience. Empowered and engaged employees actively contribute to achieving sustainability goals by demonstrating higher levels of commitment, creativity, and problem-solving capabilities. These attributes are particularly vital for SMEs, where resource limitations necessitate maximizing human capital. Employee empowerment refers to giving employees the authority, resources, and autonomy to make decisions and take ownership of their work. Empowered employees are more likely to take initiative and innovate, aligning their efforts with the organization's strategic sustainability objectives (Antony et al., 2018). For SMEs, this empowerment fosters agility in responding to market changes and addressing customer needs effectively. Empowerment also builds a sense of responsibility and accountability, which are essential for implementing sustainable practices across the organization. Employee engagement complements empowerment by driving emotional and cognitive commitment to organizational goals. Engaged employees exhibit higher motivation, dedication, and alignment with the organization's vision, leading to enhanced performance and sustainability outcomes (Salanova et al., 2010). For SMEs, employee engagement enhances collaboration and teamwork, enabling the organization to implement sustainable practices and adapt to environmental, social, and economic challenges. The relationship between empowerment, engagement, and sustainability is synergistic. Empowered employees are more likely to be engaged, as they feel valued and trusted by the organization. This engagement, in turn, motivates employees to contribute more effectively to achieving sustainability goals. Research highlights that SMEs that prioritize empowering and engaging their workforce are better positioned to achieve long-term sustainability by leveraging employee capabilities to drive innovation, reduce waste, and improve operational efficiency (Demirbag et al., 2016).

H₃: Employee empowerment and engagement positively influence SMEs sustainability.

2.6.3. Mediating Effect of Employee Empowerment and Engagement

Mediating Effect of Employee Empowerment and Engagement on the Relationship Between Leadership, Strategic Quality Management, and SME Sustainability

The relationship between leadership, strategic quality management (SQM), and SME sustainability is significantly influenced by the mediating roles of employee empowerment and engagement. Effective leadership and well-implemented SQM practices create an enabling environment where employees feel valued, empowered, and motivated, thereby amplifying their contributions to sustainability outcomes. Leadership provides the vision, direction, and culture that promote sustainability goals. Transformational leadership, in particular, inspires employees and fosters an environment of trust, collaboration, and shared purpose (Bass & Riggio, 2006). Strategic quality management, on the other hand, establishes structured processes and practices that integrate sustainability principles into daily operations, ensuring continuous improvement and stakeholder satisfaction (Demirbag et al., 2016). However, the success of leadership and SQM in driving sustainability largely depends on the extent to which employees are empowered and engaged. Employee empowerment plays a pivotal role by enabling employees to make decisions, take initiative, and innovate within their roles. Leaders who empower employees by delegating authority and promoting autonomy foster a sense of ownership and accountability, which are critical for implementing sustainable practices (Antony et al., 2018). Similarly, SQM practices that involve employees in quality improvement initiatives enhance their capabilities and commitment to achieving organizational goals. Employee engagement complements empowerment by driving employees' emotional and cognitive alignment with the organization's mission and values. Engaged employees are more motivated to support leadership and SQM efforts aimed at sustainability. They exhibit greater resilience, adaptability, and teamwork, which are essential for SMEs to thrive in dynamic and competitive environments (Salanova et al., 2010). The mediating roles of empowerment and engagement create a feedback loop where employees not only support but also enhance leadership and SQM initiatives, resulting in greater sustainability outcomes for SMEs. Empowered and engaged employees are more likely to innovate, improve processes, and embrace sustainable practices, ensuring the long-term success of the organization (Antony et al., 2018). This study proposes that:

H_{4a}: employee empowerment and engagement jointly mediate the relationship between leadership and SME sustainability.

H_{4b}: employee empowerment and engagement jointly mediate the relationship between strategic quality management, and SME sustainability.

3. Methodology

Explanatory research design is employed to understand the causal relationships between variables and how one variable influences another (Creswell, 2014). In the context of the study "Leadership, Strategic Quality Management, and SMEs Sustainability: The Mediating Effect of Employee Empowerment and Engagement," explanatory design helps identify how leadership and strategic quality management (SQM) impact SME sustainability, with employee empowerment and engagement serving as mediators. The explanatory approach is ideal for this study as it allows for the assessment of the direction and strength of relationships between leadership, SQM, and SME sustainability. Longitudinal data refers to data collected over an extended period, allowing for the analysis of trends and changes over time (Heckman et al., 1999). This type of data is crucial for examining the dynamics of leadership, strategic quality management, employee empowerment, engagement, and SME sustainability, as it provides a deeper understanding of how these factors evolve and interact over time. Purposive sampling, also known as judgmental sampling, is a non-probability sampling technique in which participants are selected based on specific characteristics that align with the research objectives (Etikan et al., 2016). In this study, the purposive sampling technique is appropriate because the researcher needs to target specific SMEs whose leadership and SQM practices are aligned with the study's objectives. This method ensures that the sample consists of individuals with relevant knowledge and experience in leadership, SQM, employee empowerment, engagement, and sustainability within SMEs. A sample size of 335 is appropriate for this study, as it strikes a balance between providing sufficient statistical power and being feasible in terms of data collection. Sample size determination is critical in ensuring the results are both reliable and generalizable to the broader SME population. According to

Cohen (1992), a sample size of 335 is typically adequate for achieving a high degree of statistical power, ensuring that the relationships between leadership, SQM, employee empowerment, engagement, and SME sustainability can be detected with confidence. The choice of this sample size ensures that the data are robust enough to perform advanced statistical analysis, such as structural equation modeling (SEM), which is suitable for testing complex causal relationships. A sample size of 335 also allows for meaningful subgroup analysis, enabling comparisons between different industries, company sizes, and geographical locations.

4. Data Analysis and Results

4.1. Reliability and Validity

Reliability and validity are foundational concepts in academic research that ensure the quality and trustworthiness of data collection instruments and research outcomes. Reliability refers to the consistency or repeatability of measurements; a reliable instrument yields the same results under consistent conditions. For instance, a survey that produces similar responses when administered multiple times under the same circumstances is considered reliable (Creswell & Creswell, 2018). There are several types of reliability, including test-retest, inter-rater, and internal consistency, each assessing consistency from different angles. Validity, on the other hand, concerns the accuracy or truthfulness of a measurement. It evaluates whether the instrument actually measures what it purports to measure. Validity is typically categorized into content validity, construct validity, and criterion-related validity (Saunders et al., 2019). For example, a test designed to measure mathematical aptitude must genuinely assess mathematical skills rather than reading ability. High validity implies that the findings are both accurate and generalizable to broader contexts. Together, reliability and validity provide the backbone for credible research. A study lacking reliability or validity may yield findings that are misleading or irrelevant, undermining the research’s contribution to knowledge and practice.

Table 1. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.959
Bartlett's Test of Sphericity	Approx. Chi-Square	3791.494
	df	210
	Sig.	0.000

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett’s Test of Sphericity are essential statistical tools used to assess the appropriateness of data for factor analysis. As shown in Table 1, the KMO value is 0.959, which is considered “marvelous” according to Kaiser (1974), indicating that the sample is highly adequate for factor analysis. Values closer to 1.0 suggest that patterns of correlations are relatively compact and therefore factor analysis should yield distinct and reliable factors. In addition, Bartlett’s Test of Sphericity yielded a Chi-Square value of 3791.494 with 210 degrees of freedom, and a significance level (Sig.) of 0.000. This result is statistically significant ($p < 0.05$), meaning the null hypothesis—that the correlation matrix is an identity matrix—can be rejected. This implies that there are significant correlations among the variables, justifying the use of factor analysis. Together, these results provide strong empirical support for the suitability of the dataset for exploratory factor analysis. The high KMO value and significant Bartlett’s test confirm that the data has sufficient intercorrelations to identify underlying constructs or latent variables.

Table 2: Reliability and Validity Results.

Constructs	Cronbach's Alpha	Composite Reliability	Convergent Validity	Divergent Validity
Leadership	.921	0.897	0.635	0.797
Strategic Quality Management	.896	0.893	0.625	0.791
Sustainability	.926	0.911	0.672	0.820
Employee Empowerment and Engagement	.910	0.893	0.626	0.791

Table 2 presents the reliability and validity statistics for four key constructs: Leadership, Strategic Quality Management, Sustainability, and Employee Empowerment and Engagement. The reliability of the constructs was evaluated using Cronbach’s Alpha and Composite Reliability (CR). All Cronbach’s Alpha values exceed the recommended threshold of 0.70, ranging from 0.896 to 0.926, indicating high internal consistency (Hair et al., 2019). Similarly, the Composite Reliability values for all constructs are above 0.89, surpassing the minimum acceptable level of 0.70, further confirming the constructs' reliability and the consistency of the measurement items (Fornell & Larcker, 1981).

Convergent validity was assessed through the Average Variance Extracted (AVE), with all constructs demonstrating AVE values above 0.60. This indicates that a substantial proportion of the variance in the observed variables is captured by their respective constructs, satisfying the criterion for convergent validity (Hair et al., 2019). Moreover, discriminant validity, as measured by the square root of AVE (presented in the last column), shows that all values are greater than the AVEs and are expected to exceed correlations with other constructs, suggesting that each construct is distinct and conceptually unique (Fornell & Larcker, 1981). The results support the reliability, convergent validity, and discriminant validity of the measurement model, thus confirming that the constructs used in the study are both statistically sound and theoretically robust. These findings enhance the credibility of further structural analysis involving these constructs.

Table 3: Items Factor Loadings.

Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
LDS1	0.838	SQM1	0.792	SBT1	0.853	EEE1	0.799
LDS2	0.785	SQM2	0.838	SBT2	0.791	EEE2	0.821
LDS3	0.775	SQM3	0.777	SBT3	0.834	EEE3	0.781
LDS4	0.784	SQM4	0.785	SBT4	0.800	EEE4	0.788
LDS5	0.801	SQM5	0.760	SBT5	0.817	EEE5	0.765

Table 3 presents the standardized factor loadings for the measurement items corresponding to four constructs: Leadership (LDS), Strategic Quality Management (SQM), Sustainability (SBT), and Employee Empowerment and Engagement (EEE). Factor loadings reflect the degree to which each observed variable correlates with its underlying latent construct. As a general rule, loadings above 0.70 are considered acceptable, suggesting that the items are good indicators of the latent variables (Hair et al., 2019). All item loadings in the table exceed the minimum threshold of 0.75, with values ranging from 0.760 to 0.853. This consistency indicates that the selected items are strongly representative of their respective constructs and that the measurement model exhibits good convergent validity. For instance, SBT1 (.853), EEE2 (.821), and LDS1 (.838) demonstrate particularly strong associations with their constructs, suggesting that these items capture the core essence of Sustainability, Employee Empowerment and Engagement, and Leadership, respectively.

Moreover, the relatively narrow range of factor loadings within each construct highlights the internal consistency of the measurement scales. This enhances the validity of the constructs, providing confidence in their use for further structural equation modeling. The strong loadings also suggest that the instrument used for data collection is well-designed and appropriate for capturing the latent dimensions under investigation. Overall, the item loadings in Table 3 confirm the robustness of the measurement model and provide empirical support for the theoretical structure of the constructs being studied.

Table 4: Hypothesis Testing and Findings.

Hypothesis	Relationship	Beta value	T value	P value	Remarks
H1a	LDS -->SBT	0.556	10.219	0.000	Supported
H1b	SQM --> SBT	0.349	6.408	0.000	Supported
H2a	LDS -->EEE	0.453	6.514	0.000	Supported
H2b	SQM -->EEE	0.347	4.989	0.000	Supported
H3	EEE-->SBT	0.709	13.935	0.000	Supported
H4a	EEE --> LDS -->SBT	0.0678	10.7185	0.000	Supported
H4b	EEE --> SQM --> SBT	0.067	8.233	0.000	Supported

4.2. Discussion of Results

A growing body of literature supports the assertion that effective leadership positively influences the sustainability of Small and Medium Enterprises (SMEs). Leadership plays a pivotal role in shaping organizational vision, fostering innovation, and guiding sustainable practices. According to Dey and Teeroovengadam (2020), leaders who are committed to sustainability are more likely to embed environmental and social responsibility into the core strategies of SMEs, thereby enhancing their long-term viability. Such leaders influence employee behavior, instill a culture of accountability, and allocate resources towards sustainable initiatives, which collectively contribute to business resilience and environmental stewardship. Moreover, transformational leadership—characterized by vision, inspiration, and motivation—has been found to correlate positively with sustainability outcomes in SMEs. Leaders who exhibit transformational behaviors encourage stakeholder engagement and long-term thinking, which are essential for achieving sustainability goals (Mutonyi et al., 2021). In resource-constrained SME environments, strong leadership ensures strategic alignment and adaptive capabilities, enabling the firm to respond proactively to sustainability-related challenges and opportunities (Afsar et al., 2018). Thus, the presence of effective leadership not only fosters operational and strategic alignment with sustainable development but also enhances the firm’s capacity to innovate and remain competitive in an increasingly sustainability-conscious marketplace.

Strategic Quality Management (SQM) has been widely recognized as a key driver of sustainability in Small and Medium Enterprises (SMEs). SQM encompasses the integration of quality principles into the strategic planning and operational processes of an organization to enhance performance, customer satisfaction, and long-term value creation. Empirical evidence suggests that SMEs that adopt strategic quality practices—such as continuous improvement, customer-focused processes, and quality leadership—are better positioned to achieve environmental, social, and economic sustainability outcomes (Calvo-Mora et al., 2018). Through SQM, SMEs can enhance resource efficiency, reduce waste, and improve stakeholder engagement, which are essential components of sustainable development. Furthermore, quality-driven SMEs tend to adopt proactive approaches in aligning their operations with global sustainability standards and customer expectations (Psomas & Antony, 2015). This alignment not only strengthens their market competitiveness but also ensures regulatory compliance and social responsibility. In resource-limited environments, strategic quality management enables SMEs to systematically manage risks, innovate processes, and create a culture of excellence that supports long-term sustainability. As Tăchiciu et al. (2019) argue, embedding quality into strategy allows SMEs to transform sustainability challenges into opportunities for differentiation and growth. Therefore, the positive relationship between SQM and SMEs’ sustainability is both theoretically and empirically justified.

Leadership has a profound impact on employee empowerment and engagement, particularly through behaviors that promote trust, autonomy, and motivation. Effective leaders foster an environment where employees feel valued, capable, and motivated to contribute meaningfully to organizational goals. According to Breevaart et al. (2014), transformational leadership—characterized by inspiration, intellectual stimulation, and individualized consideration—significantly enhances employees’ sense of empowerment by encouraging independent decision-making and ownership of tasks. Empowered employees are more likely to feel psychologically safe, take initiative,

and exhibit higher levels of engagement. Additionally, leaders who communicate a clear vision and recognize individual contributions create a positive work climate that promotes emotional commitment and active participation (Lee et al., 2020). This sense of inclusion and purpose fuels engagement, which in turn leads to improved job performance and organizational loyalty. Moreover, participative leadership styles, which involve employees in decision-making processes, have been shown to strengthen empowerment and foster deeper engagement (Cheong et al., 2016). In sum, leadership is not only central to directing organizational strategy but also instrumental in nurturing empowered, committed, and engaged employees who drive sustained organizational performance.

Strategic Quality Management (SQM) plays a critical role in shaping employee empowerment and engagement by creating an organizational culture focused on continuous improvement, accountability, and shared goals. SQM practices, such as total quality management (TQM), process optimization, and quality leadership, align organizational objectives with employee involvement, providing a platform for empowerment. When employees are actively engaged in the quality management process, such as participating in decision-making, problem-solving, and innovation, their sense of ownership and self-efficacy increases (Sousa & Voss, 2008). This empowerment fosters higher levels of job satisfaction and intrinsic motivation, which are key drivers of employee engagement. Research by Chien and Chen (2014) supports the idea that SQM not only enhances product and service quality but also positively impacts employee attitudes and behaviors. By integrating employees into quality improvement initiatives and recognizing their contributions, organizations create an environment where employees feel valued and motivated to perform at their best. Furthermore, strategic quality initiatives help employees see the direct link between their efforts and organizational success, reinforcing their commitment to the organization and enhancing their engagement levels (Ahire & Dreyfus, 2000). Thus, SQM practices that emphasize collaboration, quality focus, and employee recognition significantly contribute to both empowerment and engagement, leading to improved organizational performance and sustainability.

Employee empowerment and engagement are critical factors in driving the sustainability of Small and Medium Enterprises (SMEs). Empowerment, which refers to giving employees the autonomy, resources, and authority to make decisions, enhances their motivation and commitment to the organization's long-term goals. When employees are empowered, they take ownership of their roles, leading to increased innovation, efficiency, and problem-solving capabilities, all of which contribute to the sustainability of SMEs (Macey & Schneider, 2008). Engaged employees, on the other hand, demonstrate higher levels of emotional commitment and discretionary effort towards organizational objectives (Harter et al., 2002). This engagement is crucial for SMEs that often operate with limited resources and require a committed workforce to overcome competitive and operational challenges. When employees are engaged, they are more likely to invest in sustainable practices, align with the organization's values, and contribute to its strategic objectives, such as resource efficiency and customer satisfaction (Zeng et al., 2015). Research by Saks (2006) indicates that the combination of empowerment and engagement results in increased job satisfaction, lower turnover rates, and higher productivity, all of which are essential for the long-term viability of SMEs. Therefore, fostering an environment where employees feel both empowered and engaged can significantly enhance an SME's ability to innovate, adapt to changing market conditions, and sustain its operations over time.

Employee empowerment and engagement are key mediators in the relationship between leadership and the sustainability of Small and Medium Enterprises (SMEs). Leadership, especially transformational leadership, plays a significant role in influencing employee behaviors by fostering a supportive and motivating work environment. Leaders who promote trust, autonomy, and involvement encourage employees to take ownership of their roles, thereby enhancing their empowerment (Avolio & Bass, 2004). This empowerment, in turn, allows employees to contribute to the organization's long-term sustainability by making decisions that align with sustainable practices, improving operational efficiency, and driving innovation (Liden et al., 2000). Employee engagement further amplifies this effect. Engaged employees exhibit higher levels of commitment and motivation, which are crucial for SMEs to navigate challenges and ensure long-term viability. Research by Saks (2006) highlights that employee engagement leads to increased job satisfaction, which positively impacts organizational performance and sustainability. The combined influence of empowerment and engagement ensures that employees are not only capable of executing sustainable practices but are also emotionally invested in the company's goals and values. Thus, the interaction between leadership, employee empowerment, and engagement creates a powerful dynamic that drives SME sustainability. By promoting a culture of empowerment and engagement, leaders foster a workforce that is committed to achieving the organization's sustainability objectives, resulting in a more resilient and competitive SME (Macey & Schneider, 2008).

Employee empowerment and engagement play crucial roles in mediating the relationship between Strategic Quality Management (SQM) and the sustainability of Small and Medium Enterprises (SMEs). SQM involves the integration of quality principles into strategic planning, emphasizing continuous improvement, customer focus, and organizational excellence (Calvo-Mora et al., 2018). When SQM is effectively implemented, it creates an environment where employees are encouraged to contribute to quality improvement processes, which leads to increased empowerment. Empowered employees, in turn, are more likely to take initiative, make decisions that improve quality, and align their efforts with organizational goals (Liden et al., 2000). Furthermore, employee engagement, which reflects an employee's emotional commitment to their organization, is strengthened through SQM practices. Engaged employees exhibit higher levels of job satisfaction, motivation, and discretionary effort (Harter et al., 2002). Research by Zeng et al. (2015) suggests that when employees are both empowered and engaged, they are more likely to contribute to sustainable practices, such as reducing waste, improving efficiency, and enhancing customer satisfaction, which are vital for the long-term success of SMEs. Together, employee empowerment and engagement act as mediators that transform the influence of SQM on sustainability outcomes. The empowered and engaged workforce is more committed to continuous improvement and long-term strategic goals, directly contributing to SME sustainability. As such, SQM practices that foster empowerment and engagement help SMEs achieve superior performance, innovation, and resilience, ultimately enhancing their sustainability (Ahire & Dreyfus, 2000).

5. Conclusions and Practical Implications

This study demonstrates that employee empowerment and engagement play a crucial mediating role in the relationship between Strategic Quality Management (SQM) and the sustainability of Small and Medium Enterprises (SMEs). The findings suggest that when SQM principles—such as continuous improvement, quality leadership, and customer focus—are integrated into organizational strategies, they create an environment where employees are encouraged to participate actively in decision-making and problem-solving. This active involvement leads to increased empowerment and engagement, which, in turn, fosters sustainable business practices. Empowered employees, motivated by a sense of ownership and responsibility, are more likely to contribute to sustainable practices that improve efficiency, reduce waste, and enhance customer satisfaction, all of which are critical for the long-term success of SMEs. The study confirms that leadership plays a significant role in influencing employee empowerment and engagement, which are crucial mediators in the relationship between leadership and SME sustainability. Leaders who foster trust, autonomy, and involvement promote a supportive and motivating work environment that encourages employees to take ownership of their roles. This, in turn, enhances their empowerment and leads to higher levels of engagement. Engaged employees exhibit greater commitment to the organization's goals, particularly in the context of sustainability. As SMEs often operate in resource-constrained environments, empowered and engaged employees become key drivers of sustainable practices, innovation, and long-term success.

SMEs should prioritize embedding SQM practices in their operations to enhance employee empowerment and engagement. This can be achieved through initiatives such as total quality management (TQM), process optimization, and involving employees in decision-making and problem-solving. By fostering a culture of continuous improvement, SMEs can not only improve operational performance but also motivate employees to align their efforts with sustainability goals, contributing to the firm's long-term viability. Organizations should consider the impact of empowerment and engagement on employee attitudes and behaviors, and invest in leadership practices that support these dimensions. Empowered and engaged employees are likely to demonstrate higher levels of job satisfaction, commitment, and discretionary effort, driving sustainable outcomes. Leaders should adopt transformational leadership behaviors, characterized by inspiration, motivation, and individualized consideration, to empower and engage their employees. Such leadership not only enhances employee commitment but also contributes to the organization's sustainability goals. SMEs should foster an inclusive environment where employees are given autonomy and encouraged to take ownership of tasks related to sustainability. This empowerment enables employees to make decisions that align with long-term business objectives. Organizations should implement leadership development programs that emphasize empowerment, engagement, and sustainability, ensuring that leaders are equipped to drive both organizational performance and sustainability.

5.1. Managerial and Theoretical Implications

SMEs should invest in developing transformational leadership skills at all organizational levels. Leaders who demonstrate high levels of transformational leadership (e.g., providing inspiration, motivation, and individualized attention) empower employees and foster engagement. This can be achieved through targeted leadership training programs that focus on emotional intelligence, vision creation, and support for employee development. Managers should implement practices that foster employee empowerment, such as delegating decision-making authority, offering autonomy, and providing opportunities for growth and professional development. Empowered employees are more likely to take ownership of their roles and contribute positively to the sustainability efforts of the organization. Regular feedback mechanisms, transparent communication, and involvement in strategic decision-making are key methods to empower employees. Integration of SQM and Managers should align SQM practices with employee empowerment strategies to enhance overall organizational performance. This includes engaging employees in continuous improvement processes and quality initiatives, where their input is valued in shaping quality practices. By doing so, SMEs can cultivate a workforce that is not only empowered but also deeply invested in the organization's pursuit of quality and sustainability. Organizations should encourage a culture of quality, where SQM principles are deeply embedded into the day-to-day operations. Empowered and engaged employees are more likely to embrace quality standards and participate in initiatives that improve product and service quality, ultimately driving sustainability. Leaders should regularly communicate the importance of SQM in achieving sustainability and involve employees in decision-making processes related to quality improvements.

This study enriches the theoretical understanding of SQM by positioning it as a key enabler of employee empowerment. While previous research on SQM has focused primarily on its operational benefits, this study suggests that SQM practices also serve as a mechanism for empowering employees by involving them in quality decision-making and process improvement activities. This contributes to expanding the scope of SQM literature by linking it with employee engagement and empowerment theories. The findings indicate that employee engagement and empowerment mediate the relationship between SQM and sustainability outcomes. This insight connects the theoretical fields of quality management, human resource management, and sustainability, proposing that the impact of SQM on sustainability is enhanced when employees are engaged and empowered. This theoretical linkage offers a more comprehensive view of how operational practices influence long-term business outcomes. From a human capital perspective, this study demonstrates how the development of employee skills and empowerment through SQM contributes to sustainability. The research offers a theoretical perspective on how human capital can drive not only quality improvements but also broader sustainability objectives within SMEs. By focusing on the development of employees through quality initiatives, SMEs can leverage their workforce as a strategic resource for achieving sustainable growth. The study extends existing leadership theories by highlighting the role of leadership in facilitating SQM practices that empower employees. Leaders who embrace and champion SQM principles are more likely to create an environment where employees feel both engaged and empowered. This theoretical contribution underscores the importance of leadership in driving quality management practices that align with sustainable business goals.

5.2. Recommendations

SMEs should actively implement empowerment practices that encourage employees to take ownership of their roles and contribute to decision-making processes. Empowered employees are more likely to engage in continuous improvement initiatives, which are fundamental for SQM and sustainability. Managers should promote a work culture where employees feel confident in suggesting ideas and innovations for quality improvement and sustainability. Ensure that SQM principles are integrated into employee development initiatives. Providing training in quality management systems (e.g., TQM, Six Sigma) will equip employees with the necessary skills to contribute to quality improvement efforts. Empowered employees who are knowledgeable about SQM processes are better able to drive sustainability initiatives that improve efficiency, reduce waste, and enhance the organization's long-term viability. Regularly seek feedback from employees regarding SQM practices and sustainability efforts. This will not only engage employees in the process but also empower them to become active contributors to the company's quality management and sustainability strategies. Use surveys, focus groups, and performance reviews to gather valuable input from employees on how to improve SQM and align it with sustainability goals. SMEs should prioritize leadership development programs that focus on transformational leadership skills. Leaders should be trained to inspire and motivate employees by fostering trust, providing individualized attention, and encouraging professional development. A transformational leadership approach will empower employees and engage them in the company's sustainability objectives. To enhance employee engagement, SMEs should implement recognition and reward systems that acknowledge employees who demonstrate commitment to sustainability goals. Publicly recognizing employees' contributions to sustainability initiatives will not only empower them but will also foster a sense of pride and ownership in the company's long-term success. Leaders should actively celebrate achievements, whether small or large, that contribute to sustainability.

5.3. Limitations and Suggestions for Future Study

Most SME studies operate at the organizational level, ignoring multilevel dynamics (e.g., individual vs. team-level leadership influences). Other critical mediators or moderators such as organizational culture, innovation capacity, or employee commitment might have been excluded, which could influence the model. Future research could examine how empowerment and engagement interact with other organizational capabilities such as innovation, agility, or digital maturity in influencing sustainability. Combining quantitative data with qualitative insights (e.g., interviews or case studies) would offer richer contextual understanding of how leadership drives sustainability through empowerment and engagement.

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