

ISIR Journal of Arts, Humanities and Social Sciences (ISIRJAHSS)
ISSN: 3048-7463 (Online)
Frequency: Bimonthly
Published By ISIR Publisher
Journal Homepage Link- https://isirpublisher.com/index.php/isirjahss

Maintenance Culture and Quality Service Delivery of Small and Micro Scale Enterprises in Amassoma, Bayelsa State.

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Article History

Received: 28/07/2026
Accepted: 25/08/2026
Published: 05/09/2026

Vol – 3 Issue – 5

PP: -01-09

Abstract

This study examined the relationship between maintenance culture and quality service delivery among small and micro-scale enterprises in Amassoma, Bayelsa State. The study adopted a cross-sectional survey design. The population comprised registered small and micro-scale enterprises operating in Amassoma, Bayelsa State, from which a sample of 165 respondents was purposively selected. Data were collected using a structured questionnaire. The instrument was subjected to face and content validity through expert review, while its internal consistency was assessed using Cronbach's Alpha, with a coefficient of 0.70 or above considered acceptable. Data were analysed using the Pearson Product Moment Correlation Coefficient with the aid of the Statistical Package for the Social Sciences. The findings revealed that maintenance culture has a strong, positive and statistically significant relationship with the dimensions of quality service delivery, namely reliability, responsiveness and customer satisfaction. The study therefore concludes that effective maintenance culture is significantly associated with improved quality service delivery among small and micro-scale enterprises in Amassoma, Bayelsa State. Based on the findings, the study recommends that owners and managers of small and micro-scale enterprises should institutionalise regular maintenance schedules for equipment, facilities and other operational assets. In addition, employees should be adequately trained to identify early signs of equipment or system deterioration, enabling potential failures to be detected and addressed before they disrupt service operations and compromise service quality.

Keywords: *Maintenance Culture, Quality Service Delivery, Reliability, Responsiveness, Customer Satisfaction*

1. Introduction

The contemporary business milieu has triggered renewed systems and approaches due to its dynamic, complex, uncertain, unpredictable and multi-faceted environment (Isaiah & Akpolo, 2026). Despite far-reaching opportunities in the environment, businesses also combat threats through internally fortified operational mechanisms. Businesses whether small or large must be critical about exceeding the desires of their customers through quality service delivery and value creation (Babakus & Mangold, 1992). In competitive and resource-constrained environments, the quality of service delivery has become a critical determinant of organisational success, particularly for small and micro-scale enterprises (SMEs). The degree to which an organization's services meet or beyond the expectations of its customers is known as quality service delivery, and it is a crucial factor in customer loyalty, retention, and business viability.

In service-oriented businesses, quality is commonly evaluated using dimensions such as reliability, responsiveness, and customer satisfaction, which capture the consistency, promptness, and overall effectiveness of service provision (Adebayo & Oladipo, 2008). Reliability is widely regarded as one of the most important indicators of service quality, as it reflects the ability of a business to deliver services accurately and consistently as promised (Khan et al, 2018). Responsiveness, on the other hand, emphasizes the willingness and readiness of a firm to provide prompt assistance and address customer needs efficiently. Customer satisfaction represents the overall evaluation of the service experience and is determined by the extent to which perceived

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performance aligns with or exceeds customer expectations (Ladhari, 2009). Together, these dimensions provide a comprehensive framework for assessing service delivery outcomes, especially in small-scale business settings where customer perceptions directly influence survival and growth.

Despite the importance of quality service delivery, many SMEs face challenges in achieving consistent reliability, responsiveness, and customer satisfaction. These challenges are often linked to operational inefficiencies, poor infrastructure, and weak management practices. One critical but underexplored factor influencing service quality is maintenance culture (Ibrahim & Musa, 2023). Maintenance culture is defined as the shared values, attitudes, and practices that guide how organizations manage, preserve, and utilize their physical assets and operational systems (Adetunji, 2017). It extends beyond technical maintenance activities to include proactive behaviours such as regular monitoring, timely repairs, and preventive care of equipment and facilities.

The connection between maintenance culture and service delivery is seen to be practical and strategic. Service quality depends significantly on the condition and functionality of operational resources (Adebayo & Oladipo, 2008). For instance, the reliability of service delivery is largely influenced by the performance and availability of equipment and facilities. When assets are well maintained, businesses can consistently deliver services without interruption, thereby enhancing reliability. Similarly, responsiveness is improved when systems function efficiently, allowing businesses to respond quickly to customer requests without delays caused by breakdowns or inefficiencies. Ultimately, customer satisfaction is shaped by the overall service experience, which is directly affected by how well an organization maintains its operational environment.

Maintenance culture can be examined through three key dimensions such as; preventive maintenance, renovation and repairs, and continuous check and supervision (Adeyemi & Osunsanmi, 2020). Preventive maintenance involves planned and routine activities designed to prevent equipment failure before it occurs. This proactive approach helps reduce downtime, enhance operational efficiency, and ensure consistent service delivery by minimizing unexpected disruptions, preventive maintenance may contribute significantly to service reliability and customer confidence.

Renovation and repairs represent the corrective aspect of maintenance culture. Repairs focus on fixing faults and restoring equipment or facilities to functional condition, while renovation involves upgrading or improving assets to enhance their performance and appearance. These activities are essential for maintaining service continuity and improving the service environment. Prompt repairs ensure that service interruptions are minimized, thereby supporting responsiveness, while well-maintained facilities enhance customer perceptions and contribute to overall satisfaction.

Continuous check and supervision constitute the third dimension of maintenance culture. This involves regular monitoring, inspection, and evaluation of equipment and operational processes to ensure they are functioning effectively. It also includes managerial oversight to ensure adherence to maintenance standards. Continuous supervision enables early detection of potential problems, allowing for timely intervention and preventing minor issues from escalating into major disruptions (Adeyemi & Osunsanmi, 2020). This proactive monitoring enhances both reliability and responsiveness, ultimately improving customer satisfaction.

In Amassoma, Bayelsa State, SMEs play a crucial role in driving local economic activities, providing essential goods and services to the community. These enterprises operate in sectors such as retail, hospitality, transportation, laundry, food, saloon/hair dressing and small-scale productions. However, many SMEs in this area face significant challenges, including limited financial resources, inadequate infrastructure, and lack of technical expertise. These challenges often result in weak maintenance practices, which negatively impact service delivery. For example, poorly maintained equipment can lead to frequent breakdowns, reducing service reliability, while delays in repairs can affect responsiveness. Additionally, poorly maintained service environments may diminish customer satisfaction and overall business performance. Although the literature on service quality has extensively examined dimensions such as reliability, responsiveness, and customer satisfaction, most studies have focused on large organizations or urban-based enterprises. Similarly, existing research on maintenance has largely concentrated on technical and engineering aspects, often neglecting the behavioral and cultural dimensions of maintenance practices. As a result, limited attention has been given to maintenance culture as a multidimensional construct encompassing preventive maintenance, renovation and repairs, and continuous check and supervision.

Furthermore, there is a noticeable lack of empirical studies that explore the relationship between maintenance culture and specific measures of service quality are; reliability, responsiveness, and customer satisfaction within SMEs in localized settings such as Amassoma in Bayelsa State. Most existing studies do not adequately capture how maintenance practices influence day-to-day service delivery outcomes in small and micro enterprises operating under resource constraints. It is important to note that prior research often treats maintenance as a reactive function rather than a strategic organisational behaviour that can enhance service quality and competitive advantage. The cultural aspects of maintenance such as proactive attitudes toward asset care, commitment to routine monitoring, and responsiveness to maintenance needs remain underexplored. This gap limits the understanding of how SMEs may leverage maintenance culture to improve service delivery outcomes. In view of these gaps, this study investigates the relationship between maintenance culture and quality service delivery of Small and Micro-Scale Enterprises in Amassoma, Bayelsa State.

Research Questions: The following research questions are raised to guide this study;

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1. What is the relationship between maintenance culture and reliability of SMEs in Amassoma, Bayelsa State?
2. What is the relationship between maintenance culture and responsiveness of SMEs in Amassoma, Bayelsa State?
3. What is the relationship between maintenance culture and customer satisfaction of SMEs in Amassoma, Bayelsa State?

Research Hypotheses: The following Null Hypotheses were formulated:

1. There is no relationship between maintenance culture and reliability of SMEs in Amassoma, Bayelsa State.
2. There is no relationship between maintenance culture and responsiveness of SMEs in Amassoma, Bayelsa State.
3. There is no relationship between maintenance culture and customer satisfaction of SMEs in Amassoma, Bayelsa State?

2. Literature Revie

2.1 Conceptual Review

2.1.1Maintenance Culture

Maintenance culture is the collective values, attitudes, practices, and systems within an organisation that support the proper care, preservation, and efficient utilisation of equipment, facilities, and other organisational resources (Adeyemi & Osunsanmi, 2020). It encompasses the organisational mindset toward maintenance, the policies and procedures that guide maintenance activities, and the behaviours of employees in sustaining operational assets. Essentially, maintenance culture reflects the degree to which maintenance is integrated into the core operational strategy rather than being treated as an afterthought or a purely reactive measure. A strong maintenance culture is characterised by proactive, systematic, and continuous efforts to prevent equipment failure, prolong asset life, and enhance operational efficiency. Such a culture involves routine inspections, preventive servicing, timely repairs, and the adoption of advanced maintenance practices, including predictive maintenance using technology and data-driven monitoring systems (Ahuja & Khamba, 2008).

Organizations with strong maintenance culture also prioritise staff training, ensure adherence to maintenance protocols, and maintain accurate records of maintenance activities. Conversely, a weak maintenance culture is typically reactive, where equipment or facilities are only addressed after breakdowns occur (Adewale & Ogunleye, 2018). This neglect can result in frequent interruptions to operations, higher repair costs, reduced productivity, and compromised service delivery. In Small and Micro-Scale Enterprises (SMEs), where financial and technical resources are often limited, weak maintenance culture can be particularly detrimental, leading to rapid deterioration of critical assets and negative impacts on business continuity and competitiveness. Maintenance culture is both a technical and behavioural construct. Technically, it includes the systematic processes and infrastructure that support asset upkeep, such as maintenance schedules, repair protocols, and inventory of spare parts (Adetunji, 2017). Behaviourally, it reflects the attitudes, commitment, and discipline of both management and employees toward sustaining organisational resources. Organisations that cultivate a strong maintenance culture tend to develop a shared understanding among employees about the importance of maintenance, creating a sense of ownership and accountability for preserving operational assets (Eze & Okoro, 2022).

Furthermore, maintenance culture extends beyond physical assets to include intangible resources such as software systems, customer service tools, and organisational knowledge. For example, in service-oriented SMEs, maintaining information systems or customer databases is as critical as ensuring machinery is functional, since operational efficiency and quality service delivery depend on both tangible and intangible resources (Adetunji, 2017). Adopting a robust maintenance culture has several strategic benefits. First, it reduces the likelihood of operational disruptions, ensuring continuity of service and customer satisfaction. Second, it minimizes long-term costs associated with emergency repairs, asset replacement, and operational downtime. Third, it fosters a safer work environment, as well-maintained equipment reduces the risk of accidents or injuries. Finally, a strong maintenance culture supports sustainable growth by preserving organisational resources, enabling SMEs to maximize the lifespan and utility of their limited assets. Maintenance culture is a multidimensional concept that integrates technical systems, behavioural norms, and organisational values to ensure the efficient preservation and use of resources. In the context of SMEs, cultivating a strong maintenance culture is critical for operational sustainability, cost efficiency, and the delivery of consistent, high-quality services to customers (Adetunji, 2017; Adeyemi & Osunsanmi, 2020).

2.1.2 Quality Service Delivery

Quality service delivery is defined as the ability of an organization to consistently provide services that meet or exceed customer expectations (Parasuraman, et al., 1988). It may be a critical factor in achieving customer satisfaction, fostering loyalty, and enhancing overall organisational performance. In the context of Small and Micro-Scale Enterprises (SMEs), quality service delivery is particularly important, as customer perceptions of service reliability and efficiency may directly influence business sustainability, repeat patronage, and reputation within the community. Quality service delivery is multi-dimensional, encompassing both tangible and intangible aspects of service. It involves not only the end product or service provided but also the processes, responsiveness, and interactions that customers experience throughout the service delivery process (Babakus & Mangold, 1992; Parasuraman, et al., 1988).

The ability to deliver high-quality service consistently requires that organisations maintain operational efficiency, allocate resources effectively, and ensure that staff adhere to

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service standards. Several measures are commonly used to assess quality service delivery:

1. Reliability: Reliability refers to the consistency and dependability of services provided by an organisation. A reliable service ensures that customers receive what they were promised, on time, and without errors. For SMEs, reliability is essential because even minor service failures can result in loss of customer trust and potential revenue. Reliable service delivery demonstrates professionalism, builds confidence in the organisation, and contributes to customer loyalty.
2. Responsiveness: Responsiveness measures how quickly and efficiently an organisation responds to customer requests, inquiries, or complaints. Prompt attention to customer needs reflects the organisation's commitment to service excellence (Ibrahim & Musa, 2023). In SMEs, where personal interaction with customers is frequent, responsiveness may significantly influence customer satisfaction. Fast, courteous, and effective responses strengthen relationships and enhance the perceived quality of service.
3. Customer Satisfaction: Customer satisfaction represents the overall evaluation of the service experience in relation to customer expectations. It reflects how well the organisation meets the needs, preferences, and expectations of its clients (Cronin & Taylor, 1992). High-quality service delivery may positively relate with customer satisfaction by ensuring that products and services are accessible, functional, and meet expected standards. Satisfied customers are more likely to become repeat clients, provide positive referrals, and contribute to business growth. While reliability, responsiveness, and customer satisfaction are central, other dimensions such as assurance (confidence inspired by the service provider), empathy (attention to individual customer needs), and tangibles (physical facilities, equipment, and appearance of staff) also play a critical role in assessing service quality.

Collectively, these elements determine the overall customer experience and the perceived value of the service provided. Quality service delivery in SMEs is closely linked to organisational processes and resource management (Grönroos, 1984). Effective maintenance culture, operational efficiency, trained personnel, and proper management systems are all critical enablers of quality service. For instance, delays in service due to equipment breakdown, inadequate tools, or unmonitored operational procedures may negatively impact on reliability and responsiveness, thereby reducing customer satisfaction. Quality service delivery is a multidimensional construct that encompasses reliability, responsiveness, customer satisfaction, and other related factors (Ighomereho, et al., 2022). For SMEs, maintaining high standards of service delivery is essential not only for operational success but also for building a competitive advantage in local and regional markets. Organisations that consistently provide high-quality services are more likely to retain customers, foster loyalty, and achieve sustainable growth.

2.2 Theoretical Framework

This study is anchored on the following theories:

2.2.1 Total Quality Management (TQM) Theory Total Quality Management (TQM) focuses on continuous improvement in organisational processes to enhance customer satisfaction. It emphasises quality in all aspects of operations, including maintenance practices. The theory is strongly associated with W. Edwards Deming, who advocated for process improvement and systematic problem-solving. Maintenance culture aligns with TQM principles by ensuring that operational systems and equipment are reliable and efficient, thereby supporting quality service delivery.

2.2.2 Resource-Based View (RBV) The Resource-Based View, developed by Jay Barney, posits that organisations achieve competitive advantage through effective utilization of valuable, rare, and inimitable resources. Physical assets such as machinery, tools, and infrastructure are critical resources in SMEs. A strong maintenance culture ensures that these resources are preserved and utilised efficiently, thereby enhancing service quality and organisational performance.

2.2.3 Systems Theory Systems theory views organisations as a collection of interrelated components that work together to achieve common objectives. Maintenance is an essential subsystem that supports the functioning of all other units. Failure in maintenance activities may disrupt the entire system, leading to inefficiencies and poor service delivery. Therefore, a well-developed maintenance culture may ensure smooth coordination and improved performance across the organisation.

2.3 Empirical Review

This section reviews empirical studies that have examined the relationship between maintenance culture and quality service delivery, with particular attention to Small and Micro-Scale Enterprises (SMEs). The review highlights findings from both international and Nigerian studies, identifying trends, challenges, and outcomes relevant to the context of Amassoma in Bayelsa State.

Empirical research globally has established that effective maintenance practices contribute positively to operational efficiency and service quality. For instance, Mubarak and Chinyio (2019) found that firms that institutionalise preventive maintenance experienced significantly reduced equipment downtime, which in turn improved productivity and service reliability. Preventive maintenance was shown to minimise unexpected breakdowns, thus enabling timely service delivery (Mubarak & Chinyio, 2019). In a related study (Adeyemi & Osunsanmi, 2020) reported that organisations with proactive maintenance systems demonstrated higher levels of operational performance and fewer service interruptions. Their results highlighted that maintenance culture is a critical determinant of reliability in

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service provision, particularly where service delivery depends on asset functionality (Adeyemi & Osunsanmi, 2020).

Several studies indicate that strong maintenance policies directly affect customer perceptions of quality service delivery. Khan, et al., (2018) found that firms with structured maintenance frameworks were better positioned to deliver consistent, timely services, leading to improved customer satisfaction. The authors concluded that maintenance planning enhances service reliability and responsiveness. Nasir and Ali (2021) demonstrated that in service-oriented firms, effective maintenance planning increased service consistency and reduced customer complaints. Their research suggested that maintenance culture fosters an environment in which service failures due to equipment malfunction are significantly minimised (Nasir & Ali, 2021).

Empirical evidence also underscores the role of employee engagement in maintenance activities. Ugochukwu and Onwe (2021) noted that employees involved in routine maintenance activities contributed to early detection of faults, leading to fewer service disruptions and enhanced operational flow. When employees assume responsibility for maintenance, asset issues are identified and addressed more quickly, improving overall service performance. Furthermore, Oladele and Bello (2019) observed that SMEs with active employee participation in maintenance reported fewer breakdowns and lower maintenance costs. They argued that internal involvement reinforces positive maintenance behaviours and strengthens organisational commitment to service quality (Oladele & Bello, 2019).

Research has also documented the negative effects of poor maintenance culture. Adewale and Ogunleye (2018) found that weak maintenance practices resulted in frequent breakdowns, higher operational costs, and reduced service efficiency. Their study indicated that organizations without systematic maintenance plans were reactive rather than proactive, leading to inefficiencies that affected customer satisfaction. Ojo and Adeniyi (2020) reported that inadequate maintenance culture undermined the quality of service delivery among small businesses, particularly where equipment and facilities were critical to operations. Their findings suggested that poor maintenance contributes to service delays, inconsistent outputs, and customer dissatisfaction (Ojo & Adeniyi, 2020). Studies focusing specifically on SMEs consistently reveal maintenance-related challenges.

Ogbonna and Ukpere (2021) highlighted that small enterprises often face constraints such as limited financial resources, lack of technical expertise, and insufficient planning for maintenance. These challenges often translate into frequent equipment failures and unreliable service delivery. Eze and Okoro (2022) noted that SMEs without formal maintenance policies struggled to manage equipment risk, which negatively affected service reliability. Their study emphasised that maintenance culture in SMEs tends to be less structured, which in turn hampers service quality and operational continuity. In the Nigeria, several studies have underlined the importance of maintenance culture for service delivery outcomes.

Adetunji (2017) examined maintenance practices among micro and small enterprises and found that most lacked organized maintenance systems, which contributed to frequent breakdowns and intermittent service delivery. The study highlighted that reactive maintenance was prevalent due to budget constraints and limited technical support, negatively affecting service performance (Adetunji, 2017).

More recent research (Ibrahim & Musa, 2023) documented that Nigerian SMEs, particularly in-service sectors, experienced inconsistent service delivery primarily because of poor maintenance practices. Their findings suggested that inadequate planning, lack of supervision, and organisational neglect of maintenance activities were key barriers to consistent service quality (Ibrahim & Musa, 2023).

Although specific studies focusing exclusively on maintenance culture and quality service delivery of SMEs in Amassoma, Bayelsa State are limited, existing regional research provides important insights relevant to the study area. For example, Okon and Eni (2021) conducted a survey of SMEs in the Niger Delta region, including parts of Bayelsa State, and found that service delivery was frequently disrupted due to poor maintenance of tools and facilities. Their findings highlighted that SMEs with structured maintenance mechanisms performed better in terms of timeliness, reliability, and customer satisfaction. Obot and Nwachukwu (2022) explored operational challenges of SMEs in Bayelsa State and identified that inadequate maintenance culture especially the lack of preventive maintenance policies and supervision was significantly associated with reduced service quality and customer dissatisfaction.

3. Methodology

The study adopted a cross-sectional survey design. This design was selected because it allows the collection of data from respondents at a single point in time. The population of the study consists of all registered Small and Micro-Scale Enterprises operating in Amassoma, Bayelsa State. The study used a combination of purposive and simple random sampling techniques and a sample size of 165 respondents was selected for the study. Purposive sampling is used to identify enterprises with observable maintenance practices, while simple random sampling is applied to select respondents within the identified businesses to reduce bias. The study utilizes primary data collection method using a structured questionnaire designed by the researcher with a five-point Likert scale. To ensure content and face validity, the instrument was reviewed by experts in management and research methodology. The reliability of the instrument was tested using the Cronbach Alpha coefficient. A pilot study was conducted with a small group of respondents outside the main sample. A reliability coefficient of 0.70 or above was considered acceptable, indicating internal consistency of the measurement items. The researcher adopted a direct administration method, distributing questionnaire to participants within their business premises. This approach

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ensures a higher response rate and allows clarification of any ambiguities in the questionnaire. Data collected was analyzed using both descriptive and inferential statistical techniques. The Pearson Product Moment Correlation was employed to analyse the data with the aid of SPSS software.

4. Results and Discussion

4.1 Results/Test of Hypotheses

Hypothesis One

There is no relationship between maintenance culture and reliability of SMEs in Amassoma, Bayelsa State.

Table 1: Correlational Result of the Relationship Between maintenance culture and reliability of SMEs in Amassoma

		Maintenance culture	Reliability
Maintenance culture	Correlation Coefficient	1.000	.713**
	Sig. (2-tailed)	.	< .001
	N	163	163
Reliability	Correlation Coefficient	.713**	1.000
	Sig. (2-tailed)	< .001	.
	N	163	163

**correlation significant at 0.05

Decision: The result presented in Table 1 indicates a strong positive relationship between maintenance culture and reliability among small and micro-scale enterprises in Amassoma, Bayelsa State (r = .713, p < .001, N = 163). Since the probability value is less than the 0.05 significance level, the null hypothesis is rejected. Therefore, there is a statistically significant positive relationship between maintenance culture and reliability among small and micro-scale enterprises in Amassoma, Bayelsa State.

Hypothesis Two

There is no relationship between maintenance culture and responsiveness of SMEs in Amassoma, Bayelsa State.

Table 2: Correlational Result of the Relationship Between maintenance culture and responsiveness

		maintenance culture	Responsiveness
maintenance culture	Correlation Coefficient	1.000	.811**
	Sig. (2-tailed)	.	< .001
	N	163	163
Responsiveness	Correlation Coefficient	.811**	1.000
	Sig. (2-tailed)	< .001	.
	N	163	163

**correlation significant at 0.05

Decision: The result in Table 2 shows a very strong positive relationship between maintenance culture and responsiveness among small and micro-scale enterprises in Amassoma, Bayelsa State (r = .811, p < .001, N = 163). Since the probability value is less than the 0.05 significance level, the null hypothesis is rejected. Therefore, there is a statistically significant positive relationship between maintenance culture and responsiveness among small and micro-scale enterprises in Amassoma, Bayelsa State.

Hypothesis Three

There is no relationship between maintenance culture and customer satisfaction of SMEs in Amassoma, Bayelsa State

Table 3: Correlational Result of the Relationship maintenance culture and customer satisfaction

		maintenance culture	customer satisfaction
maintenance culture	Correlation Coefficient	1.000	.813**
	Sig. (2-tailed)	.	< .001
	N	163	163
customer satisfaction	Correlation Coefficient	.813**	1.000
	Sig. (2-tailed)	< .001	.
	N	163	163

**correlation significant at 0.05

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Decision: The result presented in Table 3 reveals a very strong positive relationship between maintenance culture and customer satisfaction among small and micro-scale enterprises in Amassoma, Bayelsa State (r = .813, p < .001, N = 163). Since the probability value is less than the 0.05 significance level, the null hypothesis is rejected. Therefore, there is a statistically significant positive relationship between maintenance culture and customer satisfaction among small and micro-scale enterprises in Amassoma, Bayelsa State.

4.2 Discussion of Findings

The findings of this study provide empirical evidence that maintenance culture is significantly associated with quality service delivery among small and micro-scale enterprises in Amassoma, Bayelsa State. The correlation analysis revealed strong to very strong positive relationships between maintenance culture and the three service delivery outcomes examined: reliability, responsiveness and customer satisfaction. These findings are consistent with theoretical perspectives and previous empirical studies that recognise maintenance practices as an important contributor to operational efficiency and service quality.

The first hypothesis examined the relationship between maintenance culture and reliability. The finding revealed a strong positive and statistically significant relationship between the two variables (r = .713, p < .001). This result suggests that enterprises that give greater attention to preventive maintenance, timely repairs and continuous checks are more likely to provide dependable and consistent services. Reliability involves an organisation's ability to provide promised services accurately and consistently. Where equipment, facilities and operational systems are properly maintained, the likelihood of unexpected breakdowns and service interruptions may be reduced. This finding is consistent with Ahuja and Khamba (2008), who emphasised the contribution of maintenance practices to equipment availability and operational performance. It also supports the argument that systematic maintenance can improve process stability and reduce disruptions to service delivery.

The second hypothesis examined the relationship between maintenance culture and responsiveness. The finding revealed a very strong positive and statistically significant relationship (r = .811, p < .001). This indicates that enterprises with stronger maintenance practices tend to demonstrate greater responsiveness to customer needs. Responsiveness concerns the willingness and ability of service providers to attend to customer requests, enquiries and complaints promptly. When equipment and facilities remain functional, employees are less likely to experience delays arising from breakdowns and operational failures. Consequently, services can be delivered more promptly. This finding is consistent with the SERVQUAL perspective of Parasuraman et al. (1988), which identifies responsiveness as a fundamental dimension of service quality. It also supports Swanson (2001), who linked appropriate maintenance strategies with improved organisational performance.

The third hypothesis examined the relationship between maintenance culture and customer satisfaction. The result revealed a very strong positive and statistically significant relationship (r = .813, p < .001). This finding suggests that enterprises with stronger maintenance cultures are more likely to have satisfied customers. Customer satisfaction is influenced by customers' evaluations of the quality, reliability and timeliness of the services they receive. Properly maintained equipment, facilities and operational systems can contribute to a smoother service experience and reduce service interruptions. This finding is consistent with the position of Kotler and Keller (2016) that customer satisfaction is strongly associated with customers' evaluations of service performance. It also supports Tsang (2002), who identified strategic maintenance management as an important contributor to organisational performance.

The findings highlight the strategic importance of maintenance culture to small and micro-scale enterprises, particularly in developing economies such as Nigeria, where businesses may operate under infrastructural and resource constraints. The strong relationships observed across all three hypotheses indicate that maintenance should not be viewed solely as a technical activity. Rather, it represents an important managerial practice capable of supporting operational continuity and service quality.

The findings also provide contextual evidence from Amassoma, Bayelsa State, thereby contributing to the understanding of maintenance culture and service delivery among small and micro-scale enterprises in a local Nigerian setting. The findings suggest that preventive maintenance, timely renovation and repairs, and continuous checks and supervision can form an important part of the organisational practices through which enterprises maintain service reliability, responsiveness and customer satisfaction.

Nevertheless, the findings should be interpreted within the limitations of the research design. Because the study employed a cross-sectional survey design, the observed correlations should not be interpreted as definitive evidence of causation. Future research may employ longitudinal designs to establish whether improvements in maintenance culture produce corresponding changes in service delivery over time. Further studies may also examine possible moderating or mediating variables, such as enterprise size, technological capability, financial capacity and employee competence.

5. Conclusion

This study examined the relationship between maintenance culture and quality service delivery among small and micro-scale enterprises in Amassoma, Bayelsa State, with particular attention to reliability, responsiveness and customer satisfaction. The findings revealed statistically significant positive relationships between maintenance culture and each of the three service delivery measures.

The study established that maintenance culture has a strong positive relationship with reliability, indicating that enterprises that prioritise preventive maintenance, timely

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repairs and continuous monitoring are more likely to provide consistent and dependable services. The study also found a very strong positive relationship between maintenance culture and responsiveness, suggesting that well-maintained equipment, facilities and operational systems can support prompt responses to customer needs. Furthermore, the study established a very strong positive relationship between maintenance culture and customer satisfaction, indicating that effective maintenance practices can contribute to a more satisfactory service experience.

Overall, the study concludes that maintenance culture is not merely a technical function but an important managerial practice that supports quality service delivery among small and micro-scale enterprises. SMEs that adopt systematic and proactive maintenance practices are better positioned to reduce operational disruptions, improve service consistency, respond promptly to customer needs and enhance customer satisfaction. Maintenance culture should therefore be integrated into the strategic and operational management of small and micro-scale enterprises as a means of sustaining service quality and organisational competitiveness.

6. Recommendations

Based on the findings of the study, the following recommendations are made:

1. Small and micro-scale enterprises should strengthen preventive maintenance practices. Enterprise owners and managers should establish regular maintenance schedules for equipment, facilities and other operational assets. Employees should also be trained to identify early signs of equipment deterioration so that potential failures can be addressed before they disrupt service delivery. Such practices can strengthen service reliability and reduce unexpected operational interruptions.
2. Enterprises should establish prompt repair and fault-response mechanisms. Small and micro-scale enterprises should develop simple procedures for reporting, diagnosing and resolving equipment and facility faults. Where possible, they should maintain relationships with reliable technicians and service providers so that repairs can be undertaken promptly. This can reduce downtime and improve the speed with which customer requests are attended to, thereby enhancing responsiveness.
3. Maintenance activities should incorporate customer feedback and continuous supervision. Enterprise owners and managers should regularly inspect their facilities and equipment and obtain feedback from customers regarding service problems associated with operational facilities or equipment. Customer complaints and observations should be used to identify areas requiring maintenance, renovation or improvement. This approach can contribute to better service experiences and higher levels of customer satisfaction.

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