



A HOLISTIC FRAMEWORK FOR 5S SUSTAINABILITY IN JAFFNA URBAN COUNCIL: ECONOMIC, ECOLOGICAL AND SOCIAL DIMENSIONS

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ABSTRACT

This study explores the long-term sustainability of the 5S methodology in the Jaffna Urban Council, focusing on how it can evolve from a short-term initiative into a permanent organizational practice. The purpose of the study is to identify the economic, structural, social, cultural and ecological determinants that influence 5S continuity in the public sector. Guided by an interpretivist, qualitative design, the study collected primary data through 58 semi-structured key informant interviews with top managers, co-workers and public beneficiaries selected through purposive sampling. The findings reveal five interconnected themes. First, sustaining 5S is viewed as essential to protect financial investments and ensure efficient public service delivery. Second, the lack of structural mechanisms such as formal duty integration and continuous audits weakens accountability. Third, negative staff attitudes, limited knowledge and inadequate training hinder long-term adoption. Fourth, both staff and the public emphasize the importance of shared ownership, internal awareness and citizen participation. Fifth, sustainability requires integrating environmentally responsible practices and aligning 5S with external governance demands. The study recommends establishing formal accountability systems, continuous capacity building and participatory engagement with communities. The study's originality lies in offering a holistic, triple-bottom-line-aligned framework that reconceptualizes 5S as a comprehensive governance strategy, providing a novel body of knowledge for enhancing resilience and service quality in public-sector institutions.

Keywords: *5S sustainability, Ecological perspective, Economic perspective, Holistic framework, Public sector, Social perspective*

1. INTRODUCTION

5S framework is a structured method for workplace organization that originated in Japan and has gained global recognition for its impact on efficiency and quality enhancement. In organizations such as public sector entities, the sustainability of the 5S framework plays a key role in ensuring continued improvements in operations (Piercy & Rich, 2015). The 5S



framework, which stands for five Japanese words Seiri (Sort), Seiton (Set in order), Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain) provides a foundational strategy for systematic workplace management (Ito, 2019). This study focuses on the Jaffna Urban Council in Sri Lanka, a public sector organization that has implemented the 5S framework.

The research aims to identify the key determinants of 5S sustainability within the Council, addressing the broader implications of these factors from economic, social, and ecological perspectives (Purvis, Mao, & Robinson, 2019). Despite the recognized benefits of 5S in the private sector, its adoption and sustainability in public sector organizations have been understudied. The Jaffna Urban Council, like other government institutions in Sri Lanka, faces challenges in maintaining effective 5S practices due to political, economic, and social constraints. For the Council, implementing and sustaining 5S is not merely a matter of improving workplace efficiency but also of navigating broader systemic issues such as budget limitations, varying levels of employee engagement, and stakeholder participation. Understanding these dynamics is critical to ensuring the long-term sustainability of 5S and its associated benefits, which extend beyond internal organizational performance to include public service delivery and community engagement (Ishijima, Nishikido, Teshima, Nishikawa, & Gawad, 2019).

The research problem addressed in this study is rooted in the lack of qualitative exploration on the factors influencing 5S sustainability within public sector organizations. While prior studies have focused primarily on quantitative assessments of 5S implementation, there is a noticeable gap in the literature concerning the subjective experiences and perceptions of stakeholders involved in 5S practices, especially in the context of public sector institutions (Fernandes, Godina, & Matias, 2019). In Sri Lanka, research on 5S sustainability has been limited to certain sectors and geographical regions, leaving a gap in understanding how public sector entities like the Jaffna Urban Council can effectively sustain 5S initiatives amidst the unique socio-political and economic conditions prevalent in the Northern Province. This study addresses the gap in research by incorporating qualitative research strategies through the use of in-depth interviews with relevant stakeholders of the Jaffna Urban Council services to examine the determinants of 5S sustainability practices in public organizations, and hence broadening the application of 5S beyond the traditional manufacturing and privatization perspectives. Without expanding on the issue of globalization.

The research looks into the outcome of the various determinants of 5S practice sustainability in the public sector of Sri Lanka with special reference being the Jaffna Urban Council by focusing on three main goals of these objectives: economic, ecological, and social perspective. Tapping on a theoretical gap whereby, this study contributes to the broader picture by exploring employee attitudes, leadership support and stakeholder involvement, all of which are important but have been ignored in quantitative studies of lean practices and 5S approaches. Additionally, the study highlights the need for further theoretical development to capture external benefits of 5S, particularly in public sector settings where external stakeholders play a critical role in sustaining organizational practices (Klein, Vieira, Feltrin, Pissutti, & Ercolani, 2022).

From a practical standpoint, this study focuses on the performance gap in the application of 5S within public sector organizations. Previous studies have shown that while



5S implementation can lead to immediate improvements in workplace organization and efficiency, sustaining these practices over time is challenging, especially in the public sector where resources, leadership, and employee commitment may vary significantly (Klein et al., 2022). For the Jaffna Urban Council, these challenges are compounded by broader socio-political and economic factors, including changes in government funding, political instability, and varying levels of public support. The research aims to provide actionable insights that can help public sector organizations like the Jaffna Urban Council develop more robust strategies for sustaining 5S practices in the long term.

The objectives of this research are not only to identify the factors influencing 5S sustainability but also to propose strategic recommendations for enhancing these factors within public sector organizations. For example, the study suggests that improving leadership initiatives, developing comprehensive training programs, and establishing systematic audit mechanisms are critical to overcoming the barriers to 5S sustainability. Moreover, the study underscores the importance of adopting a holistic approach that integrates economic, ecological, and social dimensions of sustainability, thereby ensuring that 5S practices are not only maintained but also evolve to meet the changing needs of the organization and its stakeholders.

The findings of this research have implications for policy-makers, administrators, and practitioners seeking to implement and sustain lean management practices in the public sector. In conclusion, this research aims to fill the existing gap in the literature by providing a qualitative exploration of the determinants of 5S sustainability within the Jaffna Urban Council. By focusing on the economic, ecological, and social factors that influence 5S sustainability, the study offers a comprehensive analysis of how these factors interact to shape the long-term viability of 5S practices in the public sector. The findings of this research will contribute to the broader discourse on lean management in public sector organizations, highlighting the unique challenges and opportunities associated with sustaining 5S in a complex socio-political and economic environment. Through its emphasis on stakeholder perspectives, the study provides a nuanced understanding of 5S sustainability, paving the way for future research to build on these insights and explore the applicability of 5S in other public sector contexts within Sri Lanka and beyond.

2. LITERATURE REVIEW

This section presents a comprehensive review of existing literature on the sustainability aspects of the 5S methodology, focusing on its economic, ecological, and social dimensions. The review also covers prior research on the implementation of 5S in the public sector. The 5S system, initially designed as part of the lean manufacturing process, aims to enhance workplace organization and efficiency, making it a key component in achieving sustainability (Gupta & Chandna, 2020).

2.1.5S and Its Importance

The 5S methodology, developed in Japan, is widely acknowledged for its role in promoting organizational efficiency through systematic workplace organization. It is structured around five core principles: Sort, Set in Order, Shine, Standardize, and Sustain, which together



foster a culture of continuous improvement (Kobayashi, Fisher, & Gapp, 2008). Previous researchers argue that 5S contributes to strategic priorities such as productivity, quality, cost-effectiveness, safety, and employee morale. Moreover, 5S serves as the foundation for broader lean management practices, now adapted to diverse settings, including environmental management (Gapp, Fisher, & Kobayashi, 2008; Randhawa & Ahuja, 2017). Consequently, 5S has evolved from a housekeeping tool to a strategic framework that addresses organizational goals, such as waste reduction and sustainable development. Scholars highlight 5S as a versatile tool within lean management, providing stability and supporting continuous improvement. It contributes to a positive working environment by facilitating the management of hazardous waste and promoting safety, thereby advancing environmental sustainability (Chandrayan, Solanki, & Sharma, 2019). The practice of 5S instils a sense of responsibility among employees, encouraging them to collaboratively address organizational challenges and enhancing teamwork. Moreover, the integration of 5S into broader operational processes helps reduce waste, minimize downtime, and optimize resource utilization, making it an invaluable asset for sustainable organizational development (Setiawan et al., 2021).

2.2.Implementation of 5S in the Public Sector

A past study conducted in the five government hospitals in Sri Lanka on factors affecting 5S sustainability provides a useful comparison for this research. The findings from the study help contextualize the research, highlighting region-specific factors and shared challenges in sustaining 5S practices across public institutions in Sri Lanka (Kanamori, Shibanuma, & Jimba, 2016). The application of 5S in the public sector presents unique challenges and advantages compared to its use in private enterprises. Lean philosophy in public services primarily targets waste reduction and cost efficiency, with an emphasis on improving service quality rather than profit margins (Strassburguer, de Lima Nunes, Peixoto Possebon, Antunes Jr (Junico Antunes), & Nodari, 2024). For public institutions, 5S and other lean tools can significantly enhance operational transparency, service quality, and citizen satisfaction (Di Pietro, Mugion, & Renzi, 2013).

Within the public sector, maintaining a clean and organized workspace is not solely about internal efficiency but also about establishing a standard of excellence and professionalism that influences public perceptions. The effectiveness of 5S in the public sector is demonstrated by studies such as (Di Pietro et al., 2013), which found that Kaizen events can reduce service inefficiencies and enhance citizen satisfaction. This underscores the importance of involving citizens in the lean transformation process, as they are the primary beneficiaries of public services. Tools like customer feedback systems are instrumental in identifying service strengths and weaknesses, making them essential for successful 5S implementation (Gupta & Jain, 2015). Addressing the concerns and expectations of “forced customers,” as citizens are often referred to in public administration, helps create a service environment that is both efficient and responsive to community needs.

2.3.5S Sustainability in the Public Sector - Urban Councils in Sri Lanka

The role of the public sector, particularly local authorities such as urban councils, is crucial for delivering a range of community services, including infrastructure management,



public safety, and environmental conservation (Central Bank of Sri Lanka (CBSL), 2020). Urban councils in regions such as Point Pedro, Valvettithurai, and Chavakachcheri in Jaffna are responsible for managing roads, sewage systems, public parks, and other local amenities. Effective implementation of 5S practices in these councils can streamline operations, minimize waste, and ensure efficient service delivery. By adopting 5S, these councils can set a standard of good governance and resource management, serving as a model for other local authorities across the country. The adoption of 5S in Sri Lankan public institutions is part of a broader strategy aimed at promoting efficiency and transparency in local governance. According to the Sri Lankan Department of Census and Statistics, the public sector includes all government-controlled enterprises and public services, excluding private entities (Central Bank of Sri Lanka, 2021). Given the range of services provided by local authorities, the potential impact of 5S on public sector efficiency is considerable. For instance, effective resource management and elimination of unnecessary processes can lead to cost savings that can be redirected to community development initiatives.

2.4. Economic, Ecological and Social Dimensions of 5S Sustainability

The sustainability of 5S practices in public sector organizations can be assessed using the Triple Bottom Line (TBL) framework, which comprises economic, ecological, and social dimensions. The economic dimension focuses on achieving cost efficiencies and ensuring the long-term sustainability of public services. Although public sector organizations do not aim for profit, they must still manage resources effectively to maximize public value. Proper 5S implementation can lead to significant cost savings by eliminating unnecessary expenditures and optimizing resource use. Ecologically, the 5S methodology supports environmental sustainability through waste reduction and efficient resource utilization (Souza & Alves, 2018). The “Sort” principle, for instance, helps eliminate items that may otherwise cause environmental harm, while “Shine” ensures that the workspace is maintained in an environmentally friendly manner. Socially, 5S fosters a culture of respect, teamwork, and safety, enhancing the well-being of employees and the broader community (McNamara, 2014). For example, urban councils in Sri Lanka implement 5S not only to improve internal processes but also to ensure that public spaces are well-maintained and safe for community use.

The literature review highlights the multifaceted nature of 5S and its relevance to the public sector. 5S is not merely a tool for workplace organization; it is a strategic approach that significantly enhances the sustainability of public sector operations. By incorporating the economic, ecological, and social dimensions of 5S, public institutions, particularly urban councils in Sri Lanka, can improve service delivery and promote sustainable community development (Souza & Alves, 2018). This review lays the foundation for exploring the practical implementation of 5S in public sector organizations in subsequent sections of this research study.

3. METHODOLOGY

This study used a qualitative research design based on an interpretivist philosophy to understand how stakeholders perceive and experience 5S sustainability in the Jaffna Urban Council. This approach helped explore deeper attitudes and lived experiences rather than

numerical data (Kanamori et al., 2015). An inductive approach allowed themes to naturally emerge from participants' insights. The study involved both internal and external stakeholders connected to the 5S programme. Purposive sampling was used to select 58 individuals with relevant knowledge and experience, ensuring rich and meaningful data. The sample included top managers such as Secretaries, Chairmen, Commissioners, Administrative and Planning Officers; co-workers such as Financial Assistants, Chief Management Officers, Internal Auditors, and Revenue Heads; and public beneficiaries including taxpayers, business applicants, and suppliers (Suhardi, Anisa, & Laksono, 2019). This diverse representation helped develop a holistic understanding of the sustainability challenges.

Data were collected in February 2025 through 58 one-on-one Key Informant Interviews (KIIs). Interviews were conducted in Tamil and later translated into English. Each lasted 25 to 30 minutes. Semi-structured interview guides ensured consistency while allowing flexibility to explore emerging issues. Top managers were asked about the purpose, challenges, and impacts of 5S. Co-workers discussed operational failures, red-tag issues, and suggestions for improvement. Public beneficiaries shared experiences with service delivery, observed changes, and concerns about the future. This flexible approach supported a comprehensive view across economic, social, and environmental dimensions (Creswell & Poth, 2024).



Figure 1: The first author conducted semi-structured interviews, while the second author, with permission from all participants, took photographs.

Source: Authors' in-depth information-gathering.

Thematic analysis was used to examine the interview data, involving the identification and grouping of recurring ideas into themes. A merging technique was applied to avoid repetition and reduce overrepresentation of any single viewpoint (Kanamori et al., 2015). Although interpretivism carries a risk of researcher bias, efforts were made to remain objective throughout the analysis by separating personal feelings from interpretation (Ryan, 2018). These methods ensured a balanced understanding of the key factors influencing 5S sustainability in the Jaffna Urban Council.

Table 1: Thematic Analysis of the 5S Sustainability Framework

Main themes	Subthemes	Initial findings
Economic Aligning 5S with Core Public Service Mandates	Imperative: Value Protection & ROI	“We spent big money... this money has to [be] valuable [in] following years” (Top Manager) “If this system continues, we can increase our productivities” (Top Manager)



Structural Foundation: Institutionalizing Accountability through Systems	Catalyst: Human & Cultural Barriers through Development	Service Quality	Efficiency &	“Deliver services as quickly as possible without delay” (Top Manager) “Now all works are systemized... within few minutes my requests are fulfilled” (Public)
		Public Savings	Time & Cost	“Before implement 5s... I have spent more time and lost many works” (Public) “Time wastage, stress, and waiting, if 5S demolishes” (Public)
		Formal Duties	Integration into	“Not include in duty list” (Co-worker) “Include 5S sustainability in list of duty” (Co-worker)
		Audit & Monitoring Mechanisms		“Audit is big part... then only this system will continue long run” (Co-worker) “Include 5s Sustainable into audit programme, give audit training” (Co-worker)
		Systematic Procedures	Oversight &	“No mechanism to find out to 5S sustainability” (Top Manager) “Appoint 5S sustainable team” (Co-worker)
		Staff Resistance	Mindset &	“Negative mind set of staff,” “not interest,” “no mentality to sustain” (Co-workers/Top Managers) “Employees were highly reluctant to change and afraid of self-accountability” (Top Manager)
		Training & Knowledge Gaps		“Lack of training for employees” (Co-worker) “Not enough knowledge about 5S” (Co-worker) “Give 5s Sustainable training” (Co-worker)
		Motivation & Leadership		“Employees should be motivated and trained” (Co-worker) “Lack of leadership” (Co-worker) “Create good mentality... get Frequent advice from resource person” (Co-worker)
		Internal Rituals	Awareness &	“Arranged staff meeting, Scheduled 5S committee” (Top Manager) “Designate one day 5S day” (Top Manager)
		Public Service Design	Transparency &	“By officer’s name bord, branch name bord, Office layout, and citizen chart” (Public) “Online payment, reduce paper works, SMS service” (Public)
Cultural Fostering Ownership & Partnership	Engagement: Internal & External	Community Co-creation	Feedback &	“Coordinate to office, by know about procedure and follow” (Public) “By suggested problems... by complain” (Public)
		Environmental Responsibility		“Use pollution material which add to environment” (Co-worker) “Use environment friendly materials” (Co-worker)
		External Factors	Governance	“Government rules and regulation,” “political changes,” “economic crises” (Co-worker) “Red tags... government rules and regulation, delay in work side” (Co-worker)
		Expanded Purpose	Strategic	“I don’t think that there are any environmental or social benefits associated with 5S” (Top Manager) “Publics were included 5S their life, livelihood and economy of region developed” (Top Manager)

4. FINDINGS AND DISCUSSION

The thematic analysis conducted after the in-depth interviews with 58 key participants, has yielded significant insights into the dimensions of 5S sustainability at the Jaffna Urban

Council. Findings indicate that the Council continues to face significant challenges in transitioning from a short-term initiative to a sustainable, ingrained organizational culture. Stakeholders across all levels express concerns about the erosion of service quality, the loss of initial investment, and a failure to secure benefits for future generations. These apprehensions are compounded by critical gaps in structural accountability, deep-seated human resource deficiencies, and a fundamental misalignment with broader ecological and social governance imperatives. This study explores the perspectives of top managers, co-workers, and the public to construct a holistic framework for 5S sustainability. To that end, five primary themes (see Table 1) emerged from the data, reflecting the complex interplay of economic, ecological, and social factors.

4.1. Institutionalizing 5S for Economic and Service Efficiency

Stakeholders consistently link the sustained practice of 5S directly to the core economic and operational mandate of the council: delivering efficient, quality public service. The fear of regression to a pre-5S state characterized by public inconvenience, operational waste and financial loss creates a powerful economic imperative for its continuity. Managers and administrators view 5S sustainability as a mechanism to safeguard a significant financial and operational investment. They argue that the initial capital and effort must yield long-term value to justify the expenditure and secure benefits for future operations.

"We spent big money for 5S implement but this money has to [be] valuable [in] following years. Now all files have levelled and arranged proper way, if this system should continue long period, then only 5S have value." – (Administrative Officer; Top Manager)

"My department spent big money and times this value should be maintained for future users. Therefore, 5s maintain continually." – (Top Manager)

The public's experience provides the most compelling economic rationale for sustainability. Citizens report a dramatic transformation from a state of time-wasting inefficiency to one of quick, reliable service, directly linking 5S to personal productivity and satisfaction.

"Before implement 5s system in urban council I had suffered to fill my needs, I have spent more time and lost many works that time. Now all works are systemized by 5S system, so within few minutes my requests are fulfilled, and I realized happy feeling within office." – (Public)

"Last year no indicator about now we can identify, now immediate service, time saved, satisfaction." – (Public)

The potential collapse of 5S is not perceived merely as a procedural failure but as a direct economic and service delivery failure. For managers, sustainability is framed as a return on investment (ROI) and value protection. For the public, it is a matter of daily convenience, time savings, and trust in local government. This dual-perspective establishes that the economic sustainability of 5S is foundational; without it, the council risks negating its own improvements and reverting to a state that breeds public dissatisfaction and operational inefficiency, thereby undermining its core service mandate.

4.2. Embedding Accountability through Structural Mechanisms

A dominant finding is that 5S initiatives deteriorate due to a lack of formal, embedded institutional structures. Stakeholders identify the absence of integrated accountability, monitoring, and procedural systems as the primary reason 5S fails to evolve from a temporary



campaign into a core organizational routine. Employees at various levels note that without formal assignment and integration into job roles, participation remains voluntary, inconsistent, and perceived as “extra work.”

“Some employees do not involve 5S system because which are not in duty list. Therefore, 5s sustainability will fail in future. If 5s maintain include in duty list 5s will be maintain continually.” – (Financial Assistant, Co-worker)

“Not include list of duty” and “include 5S sustainability in list of duty” were repeatedly cited as issues and solutions. – (Co-worker)

Across all stakeholder groups, participants emphasized that a systematic audit and monitoring mechanism is non-negotiable for long-term health. Audits are viewed not as punitive, but as an essential, self-correcting feedback loop for continuous improvement.

“Audit is big part in any organization because all system should check whether any problem available in 5s sustainability, then audit can correct any error, then only this system will continue long run.” – (Internal Auditor, Co-worker)

“Appoint special subversion team to 5S sustainable, arrange 5S sustainable programme every year.” – (Management Service Officer, Co-worker)

The data reveals a critical disconnect between policy intention and institutional practice. Stakeholders perceive that the organization has “still did not find any mechanism to maintain 5S sustainability” (Top Manager). The proposed solution is unequivocally structural: to embed 5S into the organization’s formal governance through mandated duties, dedicated audit teams, and regular oversight committees. This structural transformation is necessary to shift 5S from an optional, morale-based add-on to an accountable, monitored, and systematically correctable core business process.

4.3. Developing Human Capital for Social Sustainability

The sustainability of 5S is fundamentally constrained by profound human resource challenges. Technical and procedural systems are consistently undermined by negative staff attitudes, significant knowledge gaps, and a stark lack of developmental support, highlighting that 5S is as much a social and behavioural system as a procedural one. Managers and co-workers repeatedly cite employee mentality as the single greatest barrier. Apathy, resistance to change, and a culture of avoiding accountability are identified as root causes that structural rules alone cannot overcome.

“Jaffna employees were highly reluctant to change and were afraid of taking self-accountability. Implementing a new performance system requires a lot of change in approach and culture.” – (Top Manager)

“Staff not interest, negative mind set of staff... no mentality to sustain the 5S, different mind sets.” – (Chief Management Officer, Internal Auditor - Co-workers)

To counter these challenges, stakeholders prescribe comprehensive and continuous human resource development as the antidote. Training, motivation, and leadership cultivation are seen as essential to build the necessary competence and buy-in.

“To continue 5s sustainability employees should be motivated and trained, then only 5s continue in long run.” – (Co-worker)

“Lack of training for employees by this issue employee’s 5s performance are poor level... Give 5s Sustainable training.” – (Co-worker)

“All employees should be provided with 5S training.” – (Development Officer, Co-worker)

The implementation of 5S exposed a critical capacity and engagement deficit. The framework was introduced without adequately preparing or continually developing the human capital required to sustain it. This theme underscores that a sustainable 5S model must prioritize the social dimension of change management. Investing in personnel development proactively addressing negative mindsets, building essential skills through ongoing training, and fostering supportive leadership is essential to transform staff from reluctant, passive participants into skilled, willing, and accountable custodians of the practice.

4.4.Cultivating an Engaged Organizational and Public Culture

Sustainability requires fostering a pervasive culture of ownership that extends beyond internal checklists to include the wider community. This involves deploying active internal engagement strategies and building transparent, reciprocal relationships with the public, turning stakeholders into partners. Internal initiatives like regular staff meetings, 5S committees, and symbolic events (e.g., “5S day”) are utilized to build collective identity, reinforce desired behaviours, and integrate 5S into the organizational culture.

“My department have introduced several awareness projects such as arranged staff meeting, Scheduled 5S committee... My department Designate one day 5S day, in that day all staff top level to labour wear same rest code.” – (Top Manager)

“Create 5S culture, continues maintain, continues supervision.” – (Personal Relation Officer, Co-worker)

The public highly values the transparency and efficiency brought by 5S, such as clear signage and information displays (“citizen chard”). Significantly, citizens express a clear willingness to transition from passive beneficiaries to active partners in sustainability through feedback and participation.

“Infront of office citizen chard display all details that are service fees, needed documents and service day, it helps to achieve my request.” – (Public)

“When you implement 5s sustainability we should contribute following view such as write complain, participate in 5S sustainability project, give suggestion to office.” – (Public)

A sustainable 5S culture is co-created. Internally, it requires constant communication, shared rituals, and symbolic acts to stimulate staff contribution and collective identity. Externally, it is built by leveraging operational transparency to build public trust and by creating formal, accessible channels for civic feedback and participation. This two-way engagement creates a reinforcing virtuous cycle: efficient and transparent service improves public satisfaction, which in turn increases public support and constructive scrutiny, creating positive external pressure and partnership that helps the council maintain and improve its standards.

4.5.Integrating Ecological and Holistic Governance

Stakeholders recognize that for long-term viability, 5S must evolve to explicitly align with ecological imperatives and operate consciously within a broader governance landscape. This requires mitigating environmental harm and proactively adapting to external social, political, and regulatory pressures. Participants directly connect 5S procurement and practices to environmental stewardship, criticizing the use of polluting materials and advocating for a mandatory shift to sustainable alternatives.



"We use pollution material which add to environment. Therefor red tags create from environment pollution. By use natural materials environment will not affect." – (Revenue Head, Co-worker)

"Use environment friendly materials in 5s process." – (Chief Management Officer, Co-worker)

The practice exists within a complex context of government rules, political factors, economic conditions, and social expectations. Sustainability requires proactively anticipating these external "red tags" and strategically positioning 5S as a contributor to broader social well-being and regulatory compliance.

"When 5S system carry out in long run many factors, control government rules and regulation such factors are red tag to 5S sustainability." – (Co-worker)

"5S system change worker's standard, and society feel happy to deal with organization." – (Top Manager)

Contrastingly, a limited view was noted: "I don't think that there are any environmental or social benefits associated with 5S. We are just trying to improve our internal system..." – (Secretary, Top Manager)

For 5S to be truly sustainable and resilient, its scope must expand from internal housekeeping to holistic governance. The data shows a practical awareness among many that current practices can create environmental liabilities ("red tags") and that external factors heavily influence success. Therefore, a forward-looking framework must mandate ecological responsibility as a core 5S principle. Furthermore, by consciously improving the "quality of working life" and public satisfaction, 5S builds vital social capital. This repositions it from a standalone productivity tool into an integrated strategy for organizational resilience, helping the council comply with regulations, enhance its social license to operate, and ensure its long-term relevance and effectiveness in a dynamic socio-political environment.

To conclude, one key finding is the strong need for improved service delivery, highlighting stakeholders' expectations for a 5S framework that enhances both operational efficiency and public satisfaction (Di Pietro et al., 2013). Stakeholders expressed a commitment to sustaining 5S for future generations, suggesting the need to "add value to the 5S framework," reinforcing the importance of embedding 5S into the organizational culture for long-term benefits (Setiawan et al., 2021). However, several barriers were also identified, such as inadequate personnel development and the lack of an effective audit system (Kanamori et al., 2016). These challenges, highlighted as "poor personnel development" and "absence of a proper audit system," indicate a need for enhanced employee engagement through training and motivational initiatives (Gupta & Jain, 2015).

Another key finding highlights the importance of leadership and management commitment, emphasizing the need for strong leadership and clear accountability mechanisms for 5S sustainability (Randhawa & Ahuja, 2017). Additionally, open communication and information display were seen as essential for promoting awareness and fostering a culture of continuous improvement (McNamara, 2014). Overall, the findings suggest that for 5S sustainability to be achieved, a holistic approach encompassing economic, ecological, and social dimensions is necessary (Souza & Alves, 2018). By focusing on these areas, the Jaffna Urban Council can create a holistic framework that supports sustainable 5S practices, enhancing both public service delivery and community well-being.

5. CONCLUSION AND RECOMMENDATIONS



The findings of this study have significant implications for both theory and practice in the context of 5S sustainability within the public sector of the Jaffna Urban Council. The study is pioneering in identifying specific factors that influence the sustainability of 5S practices in this region, thereby contributing to the existing body of literature on organizational management and public service. Key theoretical implications include the necessity for resources, leadership, and a supportive culture. These factors must be integrated into public sector strategies to promote effective 5S implementation.

Practically, the study highlights the critical need for establishing robust audit systems as a cornerstone for 5S sustainability. Regular audits are essential to monitor compliance, rectify deviations, and provide feedback for continuous improvement. The Jaffna Urban Council should prioritize the establishment of these audit teams to enhance accountability and ensure that 5S practices are consistently upheld. Moreover, the implementation of awareness programs focused on educating employees and stakeholders about the benefits and methodologies of 5S is imperative. Such initiatives will foster a shared understanding and commitment to maintaining sustainable practices.

Furthermore, the research underscores the importance of training and development as pivotal components for improving 5S sustainability. Urban councils should invest in continuous professional development programs tailored to 5S principles to equip employees with the necessary skills and knowledge. Training initiatives can also serve to motivate staff and promote a culture of engagement and ownership over the 5S practices.

Despite the valuable insights gained, this study acknowledges several limitations. The reliance on stakeholder perceptions may introduce bias, as individual experiences and viewpoints could vary significantly. Future research should aim to include a broader range of stakeholders, potentially expanding beyond the Jaffna district to capture diverse perspectives. Additionally, exploring demographic factors such as age, gender, and personality traits may provide further insights into how these elements influence employee behaviour concerning 5S practices. Thus, maintaining the sustainability of 5S within the Jaffna Urban Council requires a multi-faceted approach that addresses systemic challenges, enhances training, and fosters leadership commitment. By adopting these recommendations and continuing to explore the dynamics of 5S sustainability, the council can create an enduring framework that not only improves public service delivery but also contributes to the overall well-being of the community it serves. Future research should build upon these findings to refine strategies that ensure the long-term success of 5S initiatives in public sector organizations.

In summary, this study successfully achieves its core objectives by identifying and analysing the key determinants of 5S sustainability in the Jaffna Urban Council through a qualitative, stakeholder-centric lens. It moves beyond a narrow operational view to establish a holistic framework grounded in the interrelated economic, ecological, and social dimensions, thereby addressing the identified research gap concerning the subjective, contextual factors in public sector lean management. The primary new insight is the critical interdependency of five thematic pillars: the need to institutionalize 5S as a driver of economic value and service efficiency; to embed it through formal structural mechanisms like audit systems and duty integration; to prioritize human capital development to overcome social and motivational barriers; to cultivate a co-created culture of engagement with both staff and the public; and to



integrate ecological responsibility and external governance into the 5S practice itself. This framework reveals that sustainability is not merely about maintaining procedures but about evolving 5S into a comprehensive governance strategy that aligns internal accountability with external social license and environmental stewardship, offering a novel model for public sector organizations navigating complex socio-political environments.

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