

Towards a Globally Benchmarked Operations Management Framework for New Zealand Small and Medium Enterprises in a Diverse Workplace Context

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Abstract: Small and Medium Enterprises (SMEs) are the backbone of most economies, including New Zealand, where they constitute more than 97% of businesses and play a central role in innovation, employment, and national growth. However, the increasingly diverse workforce in New Zealand presents both opportunities and challenges for SME operations management. While global research has established frameworks for large corporations and multinational enterprises, the unique operational and cultural contexts of SMEs remain underexplored. Existing studies often assume that operations management strategies for large firms are equally applicable to SMEs, overlooking the constraints and strategic informality typical of smaller businesses.

This paper aims to address this gap by proposing a globally benchmarked framework tailored to New Zealand SMEs operating within diverse workplace environments. Drawing on a comprehensive review of international operations management literature, cross-cultural management theories, and New Zealand policy documents, the paper identifies the critical elements of effective SME operations management. These include leadership, communication, cultural integration, strategic flexibility, and innovation. A mixed-methods research design is outlined, incorporating surveys, interviews, case studies, and comparative analysis with global best practices.

The resulting conceptual framework integrates cultural diversity into operational strategy, enabling SMEs to achieve higher productivity, adaptability, and sustainability. The framework is further validated through proposed pilot testing with New Zealand SMEs, demonstrating its applicability across different sectors.

This research contributes to the field of engineering and operations management by providing a context-specific yet globally informed framework that addresses the intersection of diversity, strategy, and operational excellence in SMEs. It offers practical insights for managers, policymakers, and researchers seeking to strengthen the resilience and competitiveness of SMEs in an increasingly interconnected and multicultural world.

This study is positioned as a conceptual framework development paper supported by exploratory pilot observations, with full empirical validation planned in subsequent research phases.

Keywords: Cultural Diversity, Engineering Management, Framework Development, New Zealand, Operations Management, SME

1. Introduction

Small and Medium Enterprises (SMEs) play a critical role in New Zealand's economy, contributing substantially to employment, innovation, and regional development. According to the Ministry of Business, Innovation and Employment (MBIE), SMEs account for more than 97% of enterprises in New Zealand and employ approximately 30% of the workforce.

Unlike large multinational firms, SMEs often operate with limited resources, less formalised management structures, and greater dependence on local markets. Yet they are also uniquely positioned to foster innovation, community engagement, and cultural integration due to their flexibility and proximity

to employees and customers. In recent years, the dynamics of New Zealand's workforce have shifted significantly, shaped by migration, changing demographics, and increasing emphasis on diversity and inclusion.

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Diversity Works New Zealand survey identified the country's workplace as a cultural "melting pot" including New Zealand Europeans, Māori, Pacific peoples, Asians, and other ethnic communities [1].

This diversity brings opportunities for creativity, innovation, and resilience. However, it also poses challenges in terms of communication, leadership, and operations management. For SMEs, which already operate under resource constraints, these challenges can be particularly pronounced.

Globally, operations management has evolved from its roots in manufacturing efficiency to encompass broader dimensions such as supply chain integration, service excellence, and sustainability. Modern frameworks emphasise not only productivity but also adaptability, cultural awareness, and strategic alignment with societal expectations. Yet much of this research is centred on large enterprises in North America, Europe, and Asia, with limited focus on SMEs in smaller economies such as New Zealand.

The assumption that operations management strategies for large firms can be directly transferred to SMEs has limited the development of tailored frameworks. Furthermore, SME-focused research often concentrates on technical capabilities or entrepreneurial orientation rather than comprehensive operations management approaches that integrate leadership, communication, and cultural diversity [2]. The result is a significant research gap: New Zealand SMEs lack an evidence-based operations management framework that addresses both global best practices and local realities of diversity.

This paper addresses that gap by developing a globally benchmarked operations management framework tailored to New Zealand SMEs in diverse workplace contexts. Specifically, the research seeks to:

1. Identify the key differences between global operations management strategies and those currently practiced by New Zealand SMEs.
2. Examine the role of cultural diversity in shaping operational strategies and leadership effectiveness.
3. Develop and propose a conceptual framework that integrates global best practices with the unique context of New Zealand SMEs.

4. Validate the framework through case studies and propose pathways for implementation.

The contribution of this paper lies in bridging three important domains: operations management, SME strategy, and cross-cultural leadership. From a theoretical perspective, it enriches engineering management literature by demonstrating how diversity can be systematically integrated into operational frameworks. From a practical standpoint, it provides SME leaders with tools to enhance efficiency, adaptability, and competitiveness in a globalised market.

Unlike established excellence models such as EFQM and the Baldrige Performance Excellence Framework, which are predominantly designed for large organisations with formalised systems, the proposed framework is purpose-built for SMEs operating under resource constraints and informal operational structures. Its novelty lies in explicitly integrating inclusive leadership and cultural intelligence as operational enablers, rather than treating diversity as a peripheral HR concern. Furthermore, the framework uniquely combines global benchmarking mechanisms with indigenous and bicultural principles relevant to the New Zealand context, offering an engineering-oriented yet culturally grounded operations management model [3].

The remainder of the paper is structured as follows. Section 2 reviews relevant literature on operations management, SMEs, and cross-cultural strategies, highlighting gaps in both global and New Zealand contexts. Section 3 presents the research methodology, outlining the mixed-methods design and framework development process. Section 4 introduces the proposed conceptual framework, followed by a discussion in Section 5 on implications, contributions, and limitations. Section 6 concludes with recommendations for managers, policymakers, and future research.

2. Literature Review

2.1 Evolution of Operations Management

Operations management (OM) has undergone significant transformation over the past century. Traditionally associated with manufacturing efficiency and productivity, OM has expanded to encompass service delivery, supply chain integration, quality management, and sustainability. A study done by Chopra [4] redefines operations management as the design

and management of transformation processes that create value for society, rather than solely for firms. Another researcher names Hendry [5], further notes that “world-class manufacturing” should be studied at highly aggregated levels for maximum effectiveness, reflecting a shift towards strategic integration of operations in business planning.

Much of this research, however, has focused on large corporations in established economic regions such as North America, Europe, and Japan [6]. While these frameworks have contributed significantly to global operations excellence, they may not be directly transferable to SMEs, which operate under distinct constraints and contexts [7].

2.2 SMEs and Operations Management

SMEs are often assumed to follow the same operational logics as large firms, with scale being the only differentiator. However, Cagliano [8] argues that SMEs require distinct management approaches due to their limited resources, informality in leadership, and greater exposure to market volatility. Despite their economic importance, SMEs have been underrepresented in OM literature, partly due to two assumptions: (i) existing excellence frameworks are equally applicable to all firm sizes, and (ii) SMEs are primarily focused on growth and therefore do not prioritise continuous improvement in OM [9].

The New Zealand Small Business Strategy [10] highlights that SMEs face unique challenges, including limited access to capital, constrained managerial capabilities, and insufficient government support in research and training. These findings underscore the need for frameworks tailored specifically to SMEs, rather than adopting scaled-down versions of large-firm models.

2.3 Cultural Diversity and Operations Management

Modern business environments increasingly recognise cultural diversity as a strategic driver of innovation, adaptability, and sustainable growth rather than merely a human resource concern. Moran [11] highlights that managing cultural differences effectively enhances team cohesion and global competitiveness. However, traditional operations management literature has been slow to integrate these dimensions into process design and performance metrics [12]. The emphasis on standardisation and efficiency, inherited from industrial-era frameworks, often conflicts with the flexibility required to manage culturally diverse teams [13].

In SMEs, cultural diversity manifests in everyday operational interactions—decision-making, communication styles, problem-solving, and employee engagement. Brougham and Haar [14] note that cultural intelligence within small firms in New Zealand directly influences productivity and innovation outcomes. Moreover, diversity-oriented leadership is found to enhance employee satisfaction and organisational commitment [15]. SMEs, due to their smaller size and flatter hierarchies, can implement inclusive practices more organically than large corporations, though they often lack formal systems to support them [16].

From an operational standpoint, diversity affects not only interpersonal relationships but also process design, innovation management, and supply chain collaboration. Studies in multicultural SME environments suggest that diversity-driven creativity leads to novel solutions, provided communication and trust are effectively managed [17]. Conversely, unmanaged diversity can lead to friction, miscommunication, and inefficiency [18]. Therefore, incorporating cultural intelligence training, multilingual communication tools, and inclusive leadership strategies into SME operations management frameworks will be essential [19].

Global benchmarking initiatives such as ISO 30415:2021 on Human Resource Management—Diversity and Inclusion—provide structured guidance for integrating inclusivity into business operations. When aligned with lean management and continuous improvement philosophies, such practices transform diversity from a compliance obligation into a source of strategic advantage. For New Zealand SMEs, embedding cultural sensitivity within operational workflows aligns with both national values of biculturalism and global standards of responsible management [20].

2.4 New Zealand Context

New Zealand’s demographic and cultural landscape has evolved rapidly, making its workplaces among the most diverse in the OECD. According to Diversity Works NZ, the proportion of employees identifying with multiple ethnicities continues to increase, reflecting a mosaic of Māori, Pacific peoples, Asian, and European heritages [1]. This diversity, while enriching the innovation ecosystem, introduces operational complexities

that require adaptive leadership and inclusive workplace design.

Historically, SME management research in New Zealand has emphasised entrepreneurship and innovation but has paid less attention to operations management and workforce integration. Recent studies, however, indicate that SMEs with inclusive management practices achieve higher employee retention, customer satisfaction, and productivity [21]. The New Zealand Small Business Strategy of 2019 further identifies cultural competency and workforce inclusion as key enablers of SME resilience in volatile markets [1].

Another defining feature of the New Zealand SME context is digital transformation. The COVID-19 pandemic accelerated the adoption of remote work and digital tools, which in turn reshaped communication and leadership dynamics [22]. Digitalisation has also enabled SMEs to benchmark globally, participate in international supply chains, and attract multicultural talent [23]. However, the same transformation has widened capability gaps between digitally mature and resource-constrained SMEs [24].

Additionally, New Zealand's Treaty of Waitangi principles—partnership, participation, and protection—offer a distinctive framework for integrating bicultural values into organisational governance [25]. Embedding these principles in SME operations encourages ethical leadership and community-oriented decision-making, strengthening both legitimacy and stakeholder trust.

Overall, New Zealand's SME ecosystem stands at the intersection of global benchmarking aspirations and local cultural imperatives. A context-specific operations management framework must therefore synthesise international best practices with indigenous values, inclusive leadership, and the realities of small-business constraints.

2.5 Comparative Positioning of Global Operations Management Frameworks

To clearly establish the novelty of the proposed framework, it is compared with widely adopted global excellence and SME operations management models. Table 3 contrasts the proposed framework with EFQM, Baldrige, and Lean-based SME frameworks across key operational and engineering dimensions [26].

Table 1 - Comparative Positioning of Global Operations Management Frameworks

Dimension	EFQM/ Baldrige	Lean-based SME Frameworks	Proposed Framework
Primary Orientation	Organisational excellence	Efficiency & waste reduction	Inclusive operational performance
Target Firm Size	Large organisations	Manufacturing SMEs	Multi-sector SMEs
Diversity Treatment	Implicit / HR-focused	Minimal	Core operational enabler
Benchmarking Logic	Excellence criteria	Process best practices	KPIs, ISO standards, peer SMEs
Engineering KPIs	High-level metrics	Process efficiency	Process + system-level metrics
Cultural Context	Universal	Context-neutral	NZ bicultural & multicultural

2.6 Hypotheses Development

Drawing from the preceding literature review, this study proposes six hypotheses that link global benchmarking, cultural diversity, inclusive leadership, and operational performance in New Zealand SMEs. The hypotheses are designed to test both direct and moderate relationships within diverse workplace settings.

H1: Adoption of globally benchmarked operations management (OM) practices positively influences SME operational performance, measured through productivity, efficiency, and innovation outcomes.

H2: Cultural diversity positively affects innovation capability in SMEs, and this relationship is strengthened by the presence of inclusive leadership.

H3: Effective multicultural communication strategies significantly reduce operational inefficiencies and enhance coordination within New Zealand SMEs.

H4: SMEs that integrate global best practices with local cultural considerations achieve higher employee satisfaction than those that rely solely on local practices.

H5: Leadership training in cultural intelligence moderates the relationship between workplace diversity and SME operational performance,

such that higher cultural intelligence amplifies performance gains.

H6: Inclusive leadership mediates the relationship between cultural diversity and operational performance, fostering the transformation of diversity into a strategic advantage.

Collectively, these hypotheses reflect the proposition that global benchmarking, when integrated with inclusive leadership and cultural awareness, enhances both the operational and human dimensions of SME performance.

2.7 Operationalising Global Benchmarking in SME Operations Management

In this study, *global benchmarking* is operationalised through three interrelated mechanisms:

- **Performance Benchmarks:** Comparison of SME operational KPIs against international SME datasets and industry averages, including OECD SME Indicators and World Bank Enterprise Surveys [27].
- **Standards-Based Benchmarking:** Alignment with internationally recognised standards including ISO 9001 (Quality Management), ISO 56002 (Innovation Management), and ISO 30415 (Diversity and Inclusion) [28].
- **Process Benchmarking:** Comparative analysis of operational practices against SMEs in reference regions such as Australia, Singapore, and the United Kingdom, selected due to structural similarity and comparable SME ecosystems.

This multi-layered benchmarking approach ensures that global comparison is measurable, replicable, and context-sensitive, rather than aspirational.

3. Methodology

This research adopts a **design science approach**, which is widely used in engineering and management studies to develop artefacts such as frameworks and models that solve practical problems [29]. The methodology is designed to ensure both academic rigour and practical relevance.

3.1 Research Philosophy

The study is grounded in pragmatism, recognising that SMEs operate in dynamic

environments that require practical solutions. The research integrates qualitative and quantitative methods to capture both the depth of cultural dynamics and the breadth of operational practices.

3.2 Research Design

The study follows a **multidisciplinary, mixed-methods design**, comprising:

- **Literature Review:** A systematic review of global and New Zealand SME management practices, cross-cultural management, and OM frameworks.
- **Quantitative Surveys:** Structured questionnaires distributed to SME managers across sectors to capture data on operational strategies, diversity management practices, and performance metrics.
- **Qualitative Interviews:** Semi-structured interviews with SME leaders, employees, and policymakers to capture nuanced perspectives on cultural dynamics and operational challenges.
- **Case Studies:** In-depth analysis of selected SMEs that exemplify diverse workplace practices, allowing for comparative insights.
- **Cross-Cultural Analysis:** Examination of how cultural differences influence leadership, communication, and decision-making in SMEs.

Based on the synthesis of global operations management theories, SME management literature, and cross-cultural leadership studies, a conceptual framework was developed to illustrate the interrelationships among key operational dimensions in diverse workplace settings.

The framework integrates five core components—leadership and strategic alignment, communication and knowledge sharing, cultural integration, operational efficiency and innovation, and global benchmarking and continuous improvement. These components interact through the mediating influence of inclusive leadership and cultural intelligence to enhance overall operational performance.

Figure 1 presents the proposed conceptual framework that guides the structure of analysis and provides the foundation for empirical validation in subsequent research stages.

Conceptual Framework: Operations Management for NZ SMEs in Diverse Workplaces

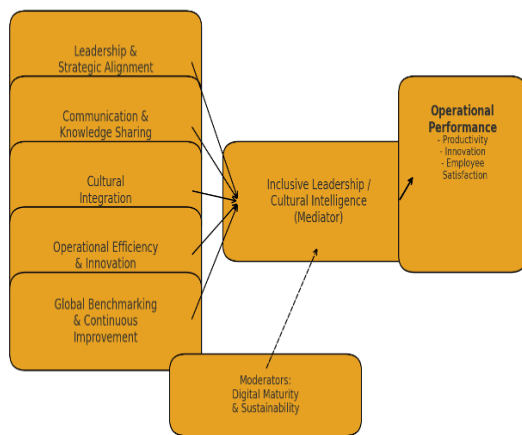


Figure 1 - Conceptual framework for operations management in New Zealand SMEs operating within diverse workplaces.

(Source: Developed by the authors based on literature synthesis from operations management, SME strategy, and cross-cultural management studies)

The model proposes that leadership, communication, cultural integration, operational efficiency, and global benchmarking function as key antecedents that drive operational performance through the mediating effect of inclusive leadership and cultural intelligence. The relationships are further moderated by digital maturity and sustainability, which strengthen the link between inclusive practices and performance outcomes such as productivity, innovation, and employee satisfaction.

The proposed survey sample size of approximately 200 SMEs is justified based on established quantitative research guidelines for multivariate analysis, ensuring statistical power above 0.80 for medium effect sizes [30]. For qualitative inquiry, 30 semi-structured interviews and five in-depth case studies are sufficient to achieve theoretical saturation and cross-case validation in SME research.

3.3 Data Analysis

The data collected in this study were analysed using a combination of quantitative, qualitative, and comparative techniques to ensure robust and comprehensive evaluation of SME operational practices.

- **Quantitative Data:** Analysed using statistical methods (e.g., regression, ANOVA) to identify patterns,

correlations, and differences between SMEs.

- **Qualitative Data:** Thematic content analysis to extract insights from interviews and case studies.
- **Comparative Analysis:** Benchmarking New Zealand SME practices against global best practices to identify gaps and opportunities.

Table 2 below summarises the data collection plan for this study, highlighting methods, participants, purposes, and expected outcomes.

Table 2 - Data Collection Plan

Meth od	Partici pants	Purpose	Expect ed Outco me
Surve ys	SME manag ers (n≈200)	Capture operational practices & diversity management	Quantit ative dataset
Interv iews	SME leaders (n≈30)	In-depth insights on leadership/com munication	Qualita tive themes
Case Studi es	5 SMEs	Contextual testing of framework	Compa rative analysi s

3.4 Framework Development

The framework will be developed iteratively, based on the synthesis of findings from literature, surveys, interviews, and case studies.

The process involves:

1. Identifying essential elements of SME operations management.
2. Categorising elements into leadership, communication, cultural integration, innovation, and strategic flexibility.
3. Mapping interactions and interdependencies between elements.
4. Designing the framework structure and application pathways.

Table 3 outlines the core components of the proposed framework along with key practices and SME examples for application.

Table 3 - Framework Components and Application

Component	Key Practices	SME Example
Leadership & Strategic Alignment	Inclusive leadership, strategic clarity	SME adopting cultural intelligence training
Communication & Knowledge Sharing	Clear protocols, multilingual tools	Retail SME using bilingual notices
Cultural Integration	Flexible decision-making, respect for norms	Hospitality SME adapting menus for diverse staff/customers
Operational Efficiency & Innovation	Lean practices, iterative improvement	Manufacturing SME reducing waste
Global Benchmarking	KPIs, best practice adoption	Tech SME benchmarking against global peers

3.5 Validation

Validation will be conducted through pilot studies with New Zealand SMEs, comparing operational performance before and after framework implementation. Feedback from participants will be used to refine the framework.

To enhance methodological credibility, pilot testing with two SMEs has been initiated, focusing on communication protocols and inclusive leadership interventions. Preliminary observations indicate improvements in workflow coordination and reduced rework, supporting the framework's practical viability.

These pilot observations are exploratory in nature and are intended to inform subsequent large-scale empirical validation rather than to provide confirmatory statistical evidence.

3.6 Ethical Considerations

This study received approval from the Auckland University of Technology Ethics Committee [31]. Informed consent was obtained from all participants, and organisational permissions were secured prior to data collection. Confidentiality and anonymity of participants will be strictly maintained.

4. Proposed Framework

The proposed Globally Benchmarked SME Operations Management Framework consists of five interrelated components designed to enhance operational performance in culturally diverse SME environments.

4.1 Leadership and Strategic Alignment

This component emphasises adaptive and inclusive leadership that aligns operational strategies with organisational objectives. It focuses on leadership capability development in areas such as cultural intelligence, ethical decision-making, and strategic clarity, enabling leaders to effectively guide diverse teams while maintaining operational focus.

4.2 Communication and Knowledge Sharing

This component establishes structured communication mechanisms that support clarity, coordination, and shared understanding in culturally diverse workplaces. It promotes transparent information flows, collaborative knowledge-sharing practices, and the use of appropriate communication tools to enhance operational coordination and support innovation.

4.3 Cultural Integration

Cultural diversity is positioned as a strategic operational resource rather than a managerial challenge. This component embeds inclusive practices such as culturally responsive conflict management, flexible team structures, and integrative decision-making processes that enhance workforce cohesion and operational resilience.

4.4 Operational Efficiency and Innovation

Lean principles tailored to SME contexts are applied to optimise resource utilisation and improve workflow performance. Continuous improvement tools, including value stream mapping, waste reduction strategies, and process standardisation, support productivity enhancement and innovation outcomes.

Beyond productivity and innovation gains, this component explicitly recognises sustainability as a critical dimension of engineering performance. Environmental sustainability is incorporated through resource efficiency, waste minimisation, and energy optimisation. SMEs are encouraged to adopt ESG-aligned performance indicators such as material utilisation rates, carbon intensity measures, and recycling performance metrics. Integrating sustainability within operational workflows



aligns SME performance with emerging global engineering standards and responsible production practices.

4.5 Global Benchmarking and Continuous Improvement

This component integrates international benchmarking mechanisms using SME performance datasets, ISO standards, and cross-regional peer comparisons. Continuous performance monitoring enables SMEs to identify performance gaps, adopt best practices, and refine operational strategies in line with global benchmarks.

4.6 Framework Application

The framework is designed to be adaptable across industries, allowing SMEs to prioritise components relevant to their operational context. For example, manufacturing SMEs may place greater emphasis on lean process optimisation, while service-oriented SMEs may prioritise communication effectiveness and cultural integration.

In engineering-intensive SME sectors such as construction, engineering consultancy, and infrastructure delivery, the framework supports the integration of multicultural project teams, coordination across specialised technical disciplines, and optimisation of project workflows. Construction SMEs, for instance, can apply inclusive communication protocols to improve site coordination among multicultural trade teams, while engineering consultancies may utilise cultural intelligence capabilities to enhance collaboration across multidisciplinary design teams. These applications contribute to improved project delivery efficiency, reduced rework cycles, and enhanced safety compliance.

4.7 Implementation Pathway for SMEs

The proposed framework is designed for practical implementation through a staged adoption approach suitable for resource-constrained SMEs:

Step 1 - Diagnostic Assessment
SMEs evaluate existing operational processes, diversity management practices, and benchmarking maturity.

Step 2 - Leadership and Communication Alignment

Organisations implement cultural intelligence training and inclusive communication strategies.

Step 3 - Process Optimisation
Lean improvement tools such as workflow standardisation and waste elimination are introduced.

Step 4 - Global Benchmarking Integration
Operational KPIs are benchmarked against ISO standards and international SME datasets.

Step 5 - Continuous Monitoring and Improvement

Performance indicators including productivity, innovation outcomes, employee engagement, and sustainability metrics are monitored to support continuous improvement.

5. Discussion

The proposed framework bridges key theoretical and practical gaps identified in the literature by offering a globally benchmarked yet locally grounded approach to SME operations management. Its integration of leadership, communication, cultural inclusion, operational efficiency, innovation, and benchmarking responds directly to the evolving realities of New Zealand's culturally diverse SME landscape [32].

5.1 Theoretical Contributions

The framework advances operations management literature by explicitly linking diversity and cultural intelligence with operational performance outcomes—an intersection that remains underexplored. It operationalises the concept of inclusive efficiency, where process improvement is aligned with employee engagement and equity objectives [33]. Furthermore, by adopting a design science methodology, the study demonstrates how multidisciplinary approaches can generate both theoretical and practical value in SME research [34].

The framework aligns with global performance models such as the EFQM and Baldrige Excellence Frameworks while adapting these models for SME contexts through an emphasis on flexibility, human-centred processes, and continuous learning [35].

5.2 Practical Implications

For SME leaders, the framework provides actionable guidance for embedding diversity-driven strategies into daily operations. Practices such as cultural intelligence training, participatory communication systems, and collaborative problem-solving can enhance productivity, workforce engagement, and innovation outcomes. Policymakers may also use these insights to design targeted interventions, including subsidised training initiatives and SME capability-building programmes [36].

The integration of global benchmarking mechanisms enables SMEs to assess performance against international standards while maintaining local relevance. As digital transformation accelerates, SMEs can leverage technology to enhance both operational efficiency and inclusive workplace practices [37].

5.3 Limitations and Future Research Directions

Despite its contributions, this study has several limitations. First, the framework is primarily conceptual and has not yet undergone full empirical validation. Future research should employ longitudinal and multi-sectoral case studies to evaluate its effectiveness across diverse SME contexts. Quantitative testing using methods such as SEM or PLS-SEM could provide statistical evidence of causal relationships among framework components.

Second, the study focuses on New Zealand SMEs, which may limit generalisability. Comparative studies involving other small, open, and culturally diverse economies would strengthen the framework's global applicability. Third, while sustainability considerations are integrated conceptually within the framework, further empirical operationalisation of environmental performance indicators remains an important avenue for future research. Additional studies could examine how ESG-aligned metrics influence long-term SME competitiveness [38].

Finally, future research could adopt a broader multi-stakeholder perspective by incorporating employee, customer, and policy viewpoints, supported by mixed-method research designs.

6. Conclusion

This paper proposes a globally benchmarked operations management framework tailored to New Zealand SMEs in diverse workplace contexts. Building on literature from OM, SME strategy, and cross-cultural management, the framework integrates leadership, communication, cultural integration, efficiency, and continuous improvement.

The framework makes two key contributions. Theoretically, it enriches engineering management literature by linking diversity to SME operational success. Practically, it offers SME leaders and policymakers tools to strengthen competitiveness in an increasingly globalised economy.

As New Zealand SMEs navigate the challenges of limited resources and growing diversity, adopting an evidence-based operational framework is crucial [39]. By aligning global best practices with local realities, this research contributes to building resilient, innovative, and inclusive SMEs that drive sustainable economic growth.

By explicitly integrating global benchmarking mechanisms, engineering performance indicators, and inclusive leadership constructs, this revised framework advances SME-focused engineering management research. It demonstrates how diversity, when operationalised through measurable systems and processes, becomes a catalyst for efficiency, resilience, and innovation rather than a managerial burden.

7. Recommendations

Drawing on the proposed globally benchmarked operations management framework and the preceding discussion, the following recommendations are offered for SME practitioners, policymakers, and future research, with specific relevance to engineering and technology-oriented SME environments.

7.1 Recommendations for SME Practitioners

SME leaders are encouraged to strengthen inclusive leadership capabilities, particularly cultural intelligence, ethical decision-making, and participatory leadership practices. Enhancing leadership effectiveness in culturally diverse environments improves operational coordination, employee engagement, and innovation performance. SMEs should also formalise communication mechanisms through culturally sensitive and technology-enabled systems that support clear information flows and knowledge sharing across diverse teams.

Diversity should be integrated into operational strategy and process design rather than treated solely as a human resource function. Embedding inclusive practices within workflow planning, project coordination, and team structuring can reduce operational inefficiencies, minimise rework, and enhance productivity [40]. In addition, SMEs should adopt simplified lean and continuous improvement practices tailored to resource-constrained contexts to optimise operational efficiency while maintaining flexibility.

SMEs are further advised to adopt global benchmarking mechanisms using internationally recognised management standards and peer-based performance comparisons. Such benchmarking enables systematic performance evaluation, supports continuous improvement, and aligns SME operations with globally accepted engineering management practices.

7.2 Recommendations for Policymakers and Industry Bodies

Government agencies and professional engineering institutions should develop targeted capability-building initiatives that support SME leadership development, diversity management, and operational benchmarking. Providing technical guidance, financial incentives, and simplified access to international standards and certification frameworks would facilitate wider SME adoption of best practices [41].

Policymakers should also strengthen digital transformation support programmes to enable SMEs to implement collaborative technologies, performance monitoring systems, and flexible workforce management solutions. Encouraging the integration of indigenous and bicultural governance principles within SME operational practices can further enhance ethical leadership, stakeholder trust, and sustainable business performance.

7.3 Recommendations for Future Research

Future studies should empirically validate the proposed framework using quantitative and longitudinal research designs to assess its impact on SME operational performance across sectors. Comparative research involving other culturally diverse and small-economy contexts would enhance generalisability. Further research is also recommended to operationalise sustainability and ESG-related performance indicators within SME operations management frameworks and examine their influence on long-term competitiveness.

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