# LABOUR SHORTAGES IN FACILITIES MANAGEMENT IN NEW ZEALAND: STRATEGIES FOR FUTURE DEVELOPMENT NEEDS

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**Abstract**

Facilities Management (FM) is an important part of the built environment because it helps organisations maintain safe, functional, and efficient workplaces. In New Zealand, the FM industry is facing labour shortages, and this has created challenges for service delivery, maintenance work, staff workload, and long-term workforce development. This study explores the causes, impacts, and possible responses to labour shortages in the FM sector in New Zealand.

This research used a qualitative approach. Data was collected through semi-structured interviews with seven participants who had experience in FM, facilities operations, and related workplace management roles. The interview data were analysed manually using thematic analysis. This involved reading the interview data several times, identifying important codes, grouping similar ideas, and developing themes based on repeated patterns across participants' responses.

The findings show that labour shortages in FM are caused by several connected issues. These include low awareness of FM as a career, limited entry pathways, skills gaps, high workload, retention problems, and the growing complexity of FM roles. The findings also show that labour shortages affect organisations in different ways. Participants reported increased pressure on existing staff, delays in maintenance, reduced service quality, higher operational risk, and a stronger reliance on reactive work instead of planned maintenance.

The study also found that FM organisations use different coping strategies, such as outsourcing, internal training, mentoring, flexible work practices, and relying on experienced workers. However, these strategies are often short-term and do not fully solve the wider workforce problem. The findings suggest that the FM sector needs stronger career pathways, better industry visibility, more training opportunities, and closer cooperation between employers, education providers, and policymakers.

This study contributes to knowledge by showing how labour shortages are experienced in the New Zealand FM sector and how they affect daily operations and long-term workforce planning. It also provides practical recommendations to support a more sustainable FM workforce in New Zealand.

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**Attestation of Authorship**

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgement), nor used artificial intelligence tools or generated artificial intelligence content (unless it is clearly stated and referenced, along with the purpose of use), nor material which, to a substantial extent, has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background

Facilities Management (FM) is recognised as a multidisciplinary organisational function that integrates people, place, and process to ensure the functionality, comfort, safety, and efficiency of the built environment (International Organisation for Standardisation [ISO], 2017). The International Facility Management Association (IFMA, 2021) further extends this definition to include technology, positioning FM as a profession that not only maintains operational continuity but also strategically supports core business objectives. FM encompasses activities that span both strategic and operational dimensions, ranging from asset lifecycle planning to day-to-day maintenance and service delivery, making it an essential component in sustaining organisational productivity and societal well-being (Pilanawithana & Sandanayake, 2017).

Historically, FM was associated primarily with basic building operations and maintenance. However, over recent decades, industry has undergone significant expansion in scope, reflecting the increasing complexity of organisational demands and the built assets they occupy. According to Teicholz (2001), the FM industry now undertakes responsibilities grouped into eight major categories, including real estate management, budgeting, space planning, interior design and installation, architecture and engineering services, and building maintenance operations (Sari, 2018). These diverse functions underline the strategic importance of FM in aligning physical environments with organisational goals, ensuring that facilities remain adaptable, compliant, and efficient in a rapidly evolving socio-economic landscape (Lee & Ryu, 2021).

The global FM sector plays a crucial role in supporting economic development by managing physical assets, infrastructure, and services. As a result, the demand for skilled FM professionals has increased steadily across industries. However, this demand is increasingly challenged by persistent labour shortages. The mismatch between workforce requirements and the availability of appropriately skilled personnel has become a critical constraint on the sector's capacity to deliver high-quality, timely, and cost-effective services (Macqueen, 2021). Factors contributing to these shortages include restrictive immigration policies, demographic shifts such as ageing workforces, low unemployment rates, and education systems that have not kept pace with the evolving skill demands of the FM profession (Buckley et al., 2016; Dainty et al., 2007).

Labour shortages in FM have been documented across various global regions, with each presenting a unique challenge. In the Asia–Pacific region, rapid urbanisation and industrialisation have driven significant growth in FM services, yet the supply of qualified workers has lagged demand. Many workers entering the FM workforce lack specialised training, limiting their ability to handle large-scale, complex projects (Othman & Ahmed, 2013; FMANZ, 2023). In the Middle East and Africa, the expansion of the FM sector, fuelled by large

infrastructure projects, has similarly been hindered by a scarcity of skilled labour. These trends highlight the global nature of the issue while also underlining the importance of localised strategies to address workforce gaps. The New Zealand FM sector reflects many of these global patterns but also has distinct characteristics shaped by its economic structure and labour market. FM in New Zealand spans diverse contexts, including commercial real estate, education, healthcare, industrial facilities, and public infrastructure. Sector growth has been driven by increasing asset complexity, sustainability imperatives, and heightened health and safety requirements. Despite this growth, industry reports have consistently identified a shortage of skilled FM personnel. The constrained talent pool has resulted in increased competition for qualified staff, rising labour costs, and greater reliance on contractors or temporary staff, which can compromise service continuity and institutional knowledge retention (FMANZ, 2023). The operational impacts of labour shortages in FM are significant. Insufficient staffing can lead to delayed maintenance, reduced preventive care, and prioritisation of urgent over planned work, resulting in increased asset deterioration and higher long-term costs. In critical environments such as hospitals, universities, and transport hubs, these delays can directly affect service quality, occupant satisfaction, and operational resilience (Sambasivan & Soon, 2007). Furthermore, overburdening existing staff can lead to burnouts and higher turnover rates, perpetuating the cycle of shortages and impacting organisational stability.

Addressing labour shortages requires a combination of immediate and long-term strategies. Short-term measures may involve targeted recruitment, competitive remuneration packages, and the strategic use of immigration policy to attract overseas talent in high-need areas. Longer-term solutions focus on building sustainable talent pipelines through education, vocational training, and professional development programmes aligned with industry needs. The integration of emerging technologies such as predictive maintenance systems, building information modelling, and integrated workplace management systems can also alleviate some workload pressures, but these innovations simultaneously demand new technical competencies, further reinforcing the importance of continuous upskilling (Nafukho et al., 2004).

In summary, FM has evolved into a strategic profession central to the performance of the built environment and organisational success. Labour shortages within this sector, both globally and in New Zealand, present a multifaceted challenge that affects operational efficiency, economic productivity, and asset sustainability. Understanding the causes, impacts, and potential solutions to these shortages is therefore essential for safeguarding the future resilience of the FM industry.

### 1.2 Rationale and Significance of the Study

The facilities management (FM) sector in New Zealand represents a critical component of the national economy, underpinning the operational efficiency, safety, and sustainability of the built environment. As a multidisciplinary field that integrates people, place, process, and increasingly, technology (ISO, 2017; IFMA, 2021), FM contributes directly to the performance of commercial, institutional, and public infrastructure assets. This sector encompasses a wide

range of services, including asset lifecycle management, maintenance operations, space optimisation, health and safety compliance, and environmental performance improvement (Sari, 2018). Through these functions, FM not only supports core business operations but also generates measurable socio-economic value by extending asset lifespans, reducing operational costs, and enhancing occupant well-being (Lee & Ryu, 2021).

In recent years, the FM industry in New Zealand has experienced both expansion and increasing complexity, driven by factors such as technological advancement, stricter regulatory requirements, and heightened sustainability expectations. These changes have amplified the demand for a workforce that is both technically skilled and adaptable to evolving industry needs. However, the sector is currently constrained by persistent labour shortages, mirroring a global trend that threatens FM's capacity to deliver on its strategic and operational mandates (FMANZ, 2023). Labour scarcity in FM is not limited to technical trades but extends to management-level positions, where strategic planning, compliance oversight, and multidisciplinary coordination skills are essential (Macqueen, 2021).

The economic significance of addressing FM labour shortages is substantial. In high-dependency sectors such as healthcare, education, and transportation, the timely and efficient operation of facilities is directly linked to service delivery outcomes. Delays in maintenance, poor asset management, or insufficient preventive care due to workforce constraints can result in higher long-term costs, service disruptions, and reduced user satisfaction (Sambasivan & Soon, 2007). For instance, in the tertiary education sector, where universities and institutes rely on FM teams to manage complex campuses, labour shortages can lead to deferred maintenance backlogs, compliance risks, and decreased campus usability. These operational inefficiencies ultimately impact institutional reputation, student experience, and community engagement.

The rationale for this study stems from the urgent need to identify, analyse, and address the root causes of labour shortages within the New Zealand FM sector. Previous research in related industries has shown that workforce constraints are often the product of intertwined factors, including demographic trends, migration policies, education and training gaps, and limited career awareness (Buckley et al., 2016; Dainty et al., 2007). In New Zealand, these factors are compounded by a relatively small labour pool and competition from other industries for skilled personnel. The tightening of immigration policies in recent years has further limited the ability to recruit experienced FM professionals from overseas, exacerbating the challenge (FMANZ, 2023).

From a strategic perspective, this issue has long-term implications for New Zealand's ability to maintain and develop infrastructure in line with population growth, climate resilience requirements, and technological innovation. FM professionals play a pivotal role in achieving sustainability targets by implementing energy efficiency measures, optimising resource use, and ensuring compliance with environmental regulations (Atkin & Brooks, 2021). Without an adequately skilled workforce, the sector's contribution to national sustainability goals could be severely undermined.

The importance of this study also lies in its contribution to workforce development in the FM sector, which remains essential but still under-recognised in many contexts. Facilities management supports the daily operation and long-term performance of buildings and infrastructure across sectors such as education, healthcare, commercial property, and public services. When labour shortages occur, the effects are not limited to staffing pressure alone. They can also influence maintenance quality, response times, risk management, regulatory compliance, and the experience of those who use these facilities. For this reason, workforce shortages in FM should be understood as a strategic issue that affects operations, organisations, and the wider built environment.

From this perspective, the study is important not only for FM organisations, but also for education providers, professional associations, and those involved in workforce and policy planning. By examining labour shortages through the experiences of practitioners, the research can help identify where the main pressures exist, what types of skills are most lacking, and what kinds of strategies may be more effective in strengthening the sector over time. In this way, the study contributes to a more practical understanding of how workforce development can support the long-term resilience of FM in New Zealand.

Addressing labour shortages is therefore not merely an operational necessity but a matter of national economic and social importance. This study explored the perspectives of both in-house FM teams within higher education institutions and external FM practitioners operating in diverse industry contexts. By comparing these viewpoints, it was possible to identify both universal and sector-specific challenges, as well as potential strategies that have demonstrated success in different operational environments. Such comparative insight is critical for designing interventions that are both practical and scalable. Moreover, the findings of this research have the potential to inform workforce development policies, vocational training programme design, and industry recruitment strategies. Aligning training curricula with the current and future skill demands of FM can strengthen the domestic talent pipeline, while targeted awareness campaigns can attract new entrants to the profession. At the same time, the strategic use of immigration settings can help address immediate skill gaps, particularly in specialised technical and managerial roles that require years of experience to develop.

The significance of this study also lies in its potential to contribute to the academic and professional discourse on FM workforce sustainability. While there is a growing body of literature on labour shortages in construction, healthcare, and other operational sectors, research specifically addressing FM, particularly in the New Zealand context, remains limited. By filling this gap, the study provides a foundation for evidence-based decision-making among policymakers, industry associations, and FM service providers. In conclusion, the rationale for investigating labour shortages in New Zealand's FM sector is grounded in the sector's central role in maintaining the functionality, safety, and sustainability of the built environment. The economic, operational, and societal stakes are high, and without targeted interventions, the labour shortage issue is likely to intensify. This study's findings are therefore significant not only for enhancing FM workforce resilience but also for safeguarding the broader economic and social value generated by the sector.

## 1.3 Statement Regarding the Research Problem

Past research has shown that the facilities management (FM) sector plays an important role in supporting the operational efficiency, safety, and productivity of the built environment. However, in New Zealand, the sector is facing an increasing labour shortage problem, which threatens its ability to maintain service quality, support operational continuity, and respond to growing industry demands. Although FM continues to expand in importance, there remains limited empirical research examining the causes of labour shortages specifically within the New Zealand FM context. This creates a gap in understanding, particularly because FM has its own professional, operational, and workforce characteristics that are not always fully captured when labour shortages are discussed more broadly within construction or the wider built environment.

Several interrelated factors appear to contribute to these shortages. These include restrictive immigration settings, demographic change, insufficient and misaligned education and training pathways, low visibility of FM as a career, and the increasing complexity of modern FM roles. The sector also faces growing expectations in areas such as compliance, sustainability, digital systems, and asset planning, which means that workforce shortages are not only about the number of available workers, but also about whether the workforce has the right capability to meet changing sector needs. In this sense, the problem is not simply one of labour supply but also of workforce preparedness and long-term sectoral development.

The shortage of skilled labour in FM has important consequences. It can increase operational pressure, delay maintenance and service delivery, reduce organisational efficiency, and place additional strain on existing workers. Over time, these pressures may also contribute to lower job satisfaction, higher turnover, and weaker service continuity, which can further deepen the labour shortage problem. Although some responses, such as training and development initiatives, have shown potential, they remain limited in scale and may not be sufficient to address the wider structural nature of the issue.

Therefore, the problem addressed in this research can be stated as follows: current workforce capacity and workforce development efforts in New Zealand's FM sector are not sufficient to meet industry demand, resulting in ongoing labour shortages that affect operational performance, service quality, and the long-term sustainability of the sector.

## 1.4 Refinement of the Research Focus

The focus of this study became clearer as the research problem was developed, the literature was reviewed, and the New Zealand facilities management context was examined more closely. Labour shortages are often discussed within the wider construction and built environment sectors, but this study treats labour shortages in FM as a distinct issue because FM has its own operational, technical, and strategic responsibilities. FM is not only concerned with maintaining physical assets. It also supports service continuity, compliance, safety, user experience, and wider organisational performance. For this reason, labour shortages in FM should not be understood only as a general labour market issue, but as a sector-specific

challenge that has direct implications for the performance and resilience of the built environment.

As the focus of the study became more defined, it also became clear that labour shortages in FM are not only about worker numbers. They are also related to workforce capability, the changing complexity of FM roles, and the future development of the sector. The literature suggests that FM organisations increasingly require workers who can combine technical knowledge with compliance awareness, strategic understanding, and the ability to adapt to technological and organisational change. However, the available workforce and existing education pathways do not always meet these expectations. This creates a gap between what the sector requires and what the labour market can currently provide.

This clearer focus is important because it positions the study directly within the FM sector rather than treating it only as part of wider construction labour issues. It also supports the wider purpose of the research, which is to examine not only the causes and effects of labour shortages, but also how the New Zealand FM sector can respond to future workforce needs in a more planned and sustainable way. In this sense, the study is concerned with both the current labour shortage problem and the longer-term development of workforce capability in FM.

### 1.5 Research Aim and Objectives

The primary aim of this research is to examine the key factors contributing to labour shortages in New Zealand's Facilities Management (FM) sector, and to evaluate their impacts on operational efficiency, project delivery, and industry sustainability. The study also aims to identify effective strategies and best practices that can be implemented to mitigate these shortages, ensuring that the FM sector can meet both current and future demands.

The following objectives have been formulated to support the overarching aim of the study:

1. To investigate the primary factors contributing to labour shortages in the New Zealand FM industry, including immigration policies, workforce demographics, education and training gaps, and technological change.

2. To analyse the impacts of labour shortages on operational efficiency, project timelines, budgets, productivity, and overall service quality within the FM sector.

3. To evaluate the challenges faced by FM organisations in addressing workforce shortages, including structural, policy, and market-related barriers.

4. To identify and assess strategies, policies, and best practices, both existing and emerging, that can effectively address labour shortages in the FM industry in New Zealand.

## 1.6 Research Questions

The following are the principal research questions formulated to achieve the research objectives described above. Table 1.1 presents how these research questions correspond to the stated objectives. These questions were addressed at different stages throughout the research process.

1. What are the main causes of labour shortages in the FM industry in New Zealand?
2. What are the effects of labour shortages on the performance and sustainability of the FM sector in New Zealand?
3. What strategies have previously been implemented to address labour shortages in FM in New Zealand?
4. How effective have these strategies been in mitigating labour shortages in FM?
5. What are the future workforce development needs of the FM industry in New Zealand?
6. Which strategy or combination of strategies is most effective in addressing current and future labour shortage challenges in the FM sector?

## 1.7 Summary of Research Methodology

The research problem addressed in this study developed from the researcher's interest in labour shortages in the facilities management (FM) sector, a review of relevant literature, and early insights from industry observation and discussion. The research questions presented in Section 1.6 were designed to examine the causes, effects, and possible responses to labour shortages within the New Zealand FM context. The broader purpose of the study is to provide a clearer understanding of the issue and generate findings that may support future workforce development in the sector.

Given the exploratory nature of the topic and the need to understand the views and experiences of those working in FM, this study adopted a qualitative research approach within an interpretive paradigm. This approach is appropriate because labour shortages in FM are not experienced uniformly. They are shaped by organisational context, workforce structure, operational pressures, and the changing demands placed on the sector. Qualitative design, therefore, provides a suitable way to explore how these issues are understood and managed in practice.

The research strategy consisted of two sequential interview phases. The first phase focused on internal, campus-based perspectives through semi-structured interviews with senior management personnel in university FM settings. This stage was intended to capture organisational-level insights into the causes of labour shortages, operational effects, and workforce challenges within a structured institutional environment. The second phase involved semi-structured interviews with FM practitioners from external organisations across New

Zealand. This stage broadened the scope of the study by incorporating broader industry perspectives and enabling comparisons across different operational contexts.

Data from both phases were analysed manually through thematic analysis. This process involved coding the interview data, identifying recurring patterns and themes, and developing an integrated understanding of how labour shortages are experienced across FM settings. By combining insights from both phases with the literature review, the study aimed to produce findings that are grounded in practitioner experience and relevant to future workforce planning and sector development in the New Zealand FM sector.

**Table 1.1**

*Relationships between the research objectives, research questions, and adopted data collection techniques*

| **Research objectives** | **Research questions** | **Data collection techniques** |
|---|---|---|
| To investigate the primary factors contributing to labour shortages in the New Zealand FM industry, including immigration policies, workforce demographics, education and training gaps, and technological change. | What are the main causes of labour shortages in the FM industry in New Zealand? | Literature review; semi-structured interviews with senior FM managers (campus-based) and FM practitioners (nationwide) |
| To analyse how labour shortages affect operational efficiency, project timelines, budgets, productivity, and overall service quality in the FM sector. | What are the effects of labour shortages on the performance and sustainability of the FM sector in New Zealand? | Semi-structured interviews |
| To evaluate the challenges FM organisations face in addressing workforce shortages, including structural, policy, and market-related barriers. | How effective have these strategies been in mitigating labour shortages in FM? | Semi-structured interviews; Literature synthesis |

| | | |
|---|---|---|
| To identify and assess strategies, policies, and best practices, both existing and emerging, that can effectively address labour shortages in the FM industry in New Zealand. | What strategies have previously been implemented to address labour shortages in FM in New Zealand?<br><br>What are the future workforce development needs of the FM industry in New Zealand?<br><br>Which strategy or combination of strategies is most effective in addressing current and future labour shortage challenges in the FM sector? | Semi-structured interviews; Literature synthesis |

**1.8 Limitations**

It is important to acknowledge the possible limitations of this study to ensure that the research findings are interpreted appropriately. Since this research adopts a fully qualitative approach using two stages of semi-structured interviews, the validity of the findings is inherently linked to the accuracy, honesty, and depth of the responses provided by participants. As qualitative interviews rely on personal perspectives and subjective experiences, participant bias and selective memory may influence the data (Creswell & Poth, 2016).

The first stage of interviews involved senior management staff from the Facilities Management (FM) department within a university setting. While these participants possessed deep institutional knowledge, their experiences may be specific to the higher education context and may not fully represent the entire FM industry in New Zealand. The second stage involved FM practitioners from various external companies, which provided broader industry perspectives; however, the sample size remained limited due to time and resource constraints. Guest et al. (2006, 2020) suggest that relatively small interview samples may be sufficient to identify recurring themes in homogeneous participant groups. However, the participants in this study came from different FM contexts, so these benchmarks were not treated as evidence of full sector-wide saturation. Through the seven interviews, repeated patterns were identified and were sufficient to support the main themes within the exploratory scope of this study. However, the sample cannot represent the full diversity of the New Zealand FM sector, and further research with a larger and more diverse group may identify additional perspectives. Additionally, the study relies on the participants' ability to articulate their experiences in sufficient detail, which may be influenced by their communication style, willingness to share, or perceived sensitivity of the topic, particularly when discussing internal workforce

challenges. The findings therefore reflect the specific contexts and situations of the selected participants and may not be directly generalisable to all FM settings in New Zealand. Finally, as with most qualitative studies, the researcher's own interpretation plays a role in the analysis process. Although measures such as careful coding, thematic analysis, and peer debriefing were applied to enhance trustworthiness, the subjective nature of qualitative interpretation means that complete objectivity cannot be guaranteed.

### 1.9 Key Assumptions

Firstly, this study assumes that the semi-structured interview questions developed for both stages of the research are valid and capable of capturing the essential factors related to labour shortages in New Zealand's Facilities Management (FM) sector. The topics and themes used in the interviews were derived from an extensive review of relevant literature and preliminary discussions with experts, and are assumed to comprehensively represent the key issues, challenges, and strategies relevant to the research objectives.

Secondly, it is assumed that all participants, both from the university FM department and from external FM organisations, provided responses that are accurate, honest, and reflective of their real experiences. Given that the participants were selected based on their professional expertise and substantial involvement in FM operations, it is assumed that the data collected reflects practical, first-hand industry knowledge.

Thirdly, the study assumes that the participants' perspectives, while context-specific, provide useful insight into recurring issues within the New Zealand FM sector. Although qualitative research acknowledges the uniqueness of each organisational context, it is assumed that there are commonalities in challenges and strategies across different FM environments that can inform broader sector understanding.

Finally, it is assumed that the researcher's interpretation of the interview data, supported by systematic coding and thematic analysis, accurately reflects the meaning intended by participants. While the inherently interpretive nature of qualitative research is recognised, steps such as peer review of coding and reflective journaling were taken to reduce the risk of researcher bias.

### 1.10 Synopsis

**Chapter 1 (Introduction)** introduces the research study and provides background information on the issue of labour shortages in New Zealand's Facilities Management (FM) sector. This is followed by a justification of the study and an explanation of the significance of the research problem. The chapter then outlines the principal aim, objectives, and research questions of this study. It also provides a summary of the qualitative methodology adopted, along with the stated limitations and key assumptions of the research.

**Chapter 2 (Literature Review)** reviews the literature related to the FM sector in New Zealand and internationally, with particular attention to the causes, effects, and wider challenges of labour shortages. It examines the meaning, scope, and development of FM as both an

operational and strategic function, before discussing the factors that shape labour shortages in the sector. The chapter also reviews the effects of these shortages on service delivery, operational efficiency, workforce stability, and long-term sector sustainability. In addition, it considers strategies that have been used or proposed to address labour shortages, including attraction, workforce development, retention, and policy-related responses. The chapter concludes by identifying the key themes and knowledge gaps that inform the design of the present study.

**Chapter 3 (Research Methodology)** explains the qualitative research methodology adopted in this study. It outlines the research process, the philosophical position of the study, and the reasons for selecting a qualitative approach. The chapter then justifies the use of semi-structured interviews as the main method of data collection and explains the two-phase design of the study: the first phase involving university-based FM staff, particularly senior management, and the second phase involving FM practitioners from external organisations. The chapter also describes the data collection and thematic analysis procedures, followed by a discussion of trustworthiness, ethical considerations, and the scope and limitations of the methodology. Overall, the chapter explains how the chosen design supports a deeper understanding of labour shortages in the New Zealand FM sector through practitioner experience.

**Chapter 4 (Results)** presents the findings from the seven semi-structured interviews conducted across the two phases of the study. The chapter organises the findings around the main themes identified through thematic analysis, including the causes and impacts of labour shortages, current coping strategies, barriers to workforce development, and future workforce development needs. It also presents evidence from both university-based FM participants and external FM practitioners, showing recurring patterns, similarities, and differences across the interview data. The chapter provides the empirical foundation for the discussion that follows Chapter 5.

**Chapter 5 (Discussion)** discusses the findings in relation to the research questions, existing literature, and the wider New Zealand FM context. The chapter examines the deeper meaning of the findings, including weak workforce pathways, skills mismatch, education and training gaps, professional recognition, retention, and the limitations of short-term coping strategies. It also considers the wider structural and policy issues influencing workforce development and explains how the findings contribute to understanding labour shortages as a broader system problem rather than only a staffing issue.

**Chapter 6 (Conclusion)** concludes the research by summarising the main findings in relation to the research aim, objectives, and research questions. The chapter highlights the study's contribution to knowledge and practice, discusses the limitations of the research, and presents recommendations for the FM sector, education providers, professional bodies, policymakers, and future researchers. It brings together the main argument of the thesis and identifies areas for future research and workforce development.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

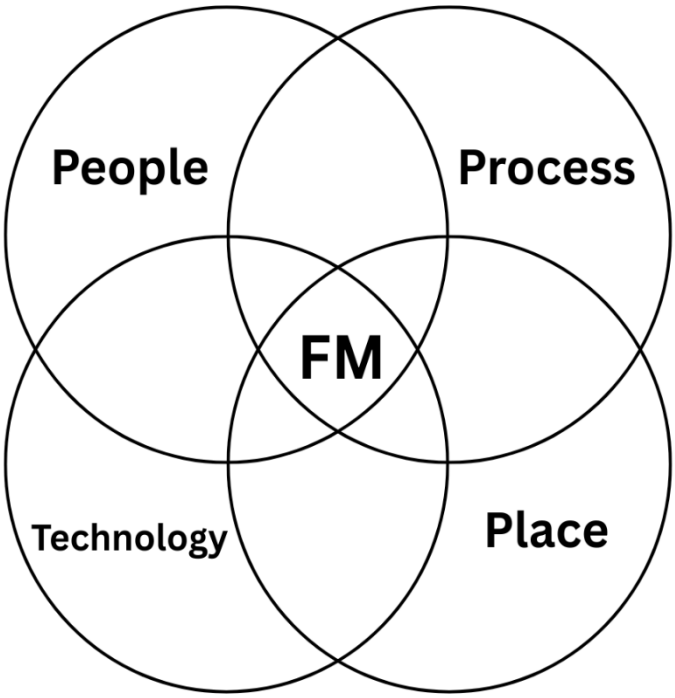
This literature review chapter is structured into six key sections that provide an overview of Facilities Management (FM) and the issue of labour shortages within the sector, with a particular focus on the New Zealand context. The chapter first introduces the concept and scope of FM, outlining its definitions, functions, and strategic significance in both academic and industry settings. It then explores the broader concept of labour shortages, highlighting global trends and their relevance to FM. The third section examines the underlying causes of labour shortages in the FM sector, including policy, demographic, educational, and technological factors, with emphasis on New Zealand's specific conditions. The fourth section discusses the impacts of these shortages on operational efficiency, project delivery, budgets, productivity, and service quality. This is followed by an analysis of strategies and best practices that have been implemented or proposed to address workforce gaps, drawing from both domestic and international perspectives. Finally, the chapter presents a focused review of New Zealand-specific FM workforce issues, incorporating data and insights from government agencies, industry associations, and previous research. Collectively, these sections aim to establish a strong foundation for understanding the research problem, identifying existing knowledge gaps, and framing the research questions addressed in this study.

## 2.2 Overview of Facilities Management

The facilities management (FM) sector is an essential discipline in ensuring the functionality, safety, sustainability, and efficiency of the built environment. In both global and New Zealand contexts, FM integrates people, place, process, and technology to support and enhance the core activities of organisations (FMANZ, 2020).

**Figure 2.1**

*Scope of Facilities Management and Key Functional Areas*




***Note***. Adapted from International Facility Management Association (2014).

FM responsibilities encompass a diverse range of functions, from operational maintenance and asset management to sustainability, risk management, and strategic space planning (Schutte, 2014).

In New Zealand, FM is a comparatively young profession compared to more mature sectors in the UK and Europe (Crutzen, Losekoot, & Staal, 2016). While its strategic importance is increasingly recognised, particularly in supporting core business operations, managing risk, and improving resilience, many FM roles are still operationally focused. The role of FM in enhancing organisational continuity has been highlighted in critical events such as the Christchurch earthquake, where facilities managers played pivotal roles in emergency response and recovery (Crutzen et al., 2016). Globally, FM is defined by the British Institute of Facilities Management as *"*The integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities*"* (BIFM Annual Review, 2013). This definition has been widely adopted, including FMANZ, with an emphasis on integrating multidisciplinary expertise to meet organisational goals efficiently.

The New Zealand FM industry contributes significantly to the national economy. According to the Global Facilities Management Impact Report (FMANZ, 2023), in 2022, the sector

represented approximately 0.9% of GDP and employed 0.9% of the total national workforce. However, a shortage of qualified FM professionals continues to limit the sector's growth potential. This skills gap is compounded by the fact that many FM professionals in New Zealand transition from related fields such as engineering, property management, and project management, rather than from specialised FM education pathways (Schutte, 2014). In the context of this study, FM in New Zealand is not only viewed as a support service but also as a strategic contributor to organisational performance, resilience, and sustainability. As the industry faces mounting challenges, such as labour shortages, skills mismatches, and increasing demands from sectors like IT, healthcare, and education, the need for effective FM practices and workforce development is more critical than ever.

### 2.2.1 Definition and Scope of FM

Facilities Management (FM) has evolved over the past four decades into a critical discipline in managing the built environment, integrating both operational and strategic functions to ensure that physical assets effectively support organisational objectives. In today's increasingly complex economy, driven by globalisation, technological advancement, sustainability imperatives, and workforce market dynamics, FM plays a pivotal role in ensuring facilities remain functional, safe, and efficient, while also enhancing user experience and the long-term value of assets. In New Zealand, this role is particularly significant given the sector-specific challenges, especially the shortage of skilled labour in the construction and FM industries (Macqueen, 2021; Duncan MacLennan et al., 2021). A clear understanding of FM's definition and scope provides the essential foundation for this research, which examines FM practices in both university campus settings and external organisational contexts.

Various definitions of FM appear in the literature, reflecting its evolution from a supporting service function to a strategic management discipline. The British Institute of Facilities Management (BIFM), now known as the Institute of Workplace and Facilities Management (IWFM), defines FM as *"the integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities"* (BIFM Annual Review, 2013, p. 4). Similarly, the International Facility Management Association (IFMA) describes FM as a profession that *"encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process, and technology"* (IFMA, 2014). The Facilities Management Association of New Zealand (FMANZ, 2020) adopts this definition in the Australasian context, emphasising FM as both a strategic and operational discipline essential for creating safe, sustainable, and productive environments. This is aligned with ISO 41011:2017, the international standard for FM terminology, which defines FM as *"an organisational function that integrates people, place, and process within the built environment, intending to improve the quality of life of people and the productivity of the core business."*

While these definitions share common themes, such as integration, support of core activities, and the people–process–place focus, interpretations vary in practice. Crutzen, Losekoot, and

Staal (2016) note that ambiguity in defining FM persists, particularly in relatively young markets such as New Zealand, where FM is often performed under alternative labels such as property management or building services, lacking a standardised professional identity.

**Table 2.1**

*Comparative Definitions of Facilities Management from Major Professional Bodies*

| Source | Definition | Key Focus | Key Elements |
|---|---|---|---|
| IFMA | Integration of people, place, process, and technology to support functionality, safety, and efficiency of the built environment. | Integration and performance of the built environment. | People, place, process, and technology. |
| ISO 41011 | Organisational function integrating people, places, and processes to enhance the quality of life and organisational productivity. | Organisational performance and user well-being. | People, place, process, quality of life, and productivity. |
| FMANZ | Management of workplaces to ensure safety, compliance, and functionality across operational areas. | Operational performance and compliance. | Health and safety, compliance, functionality, and building efficiency. |
| IWFM/BIFM | Organisational function integrating people, places, and processes to improve workplace effectiveness and business productivity. | Workplace effectiveness and organisational support. | People, place, process, workplace performance, and productivity. |

***Note.*** Compiled by the author based on IFMA (2014), ISO 41011 (2017), FMANZ (2017), and IWFM (2016).

The scope of FM encompasses a wide spectrum of activities, including hard FM, which focuses on technical and physical services such as building maintenance, asset management, and regulatory compliance, and soft FM, which involves human-oriented services such as cleaning, catering, security, and workplace experience (Atkin & Brooks, 2021). This dual character positions FM as operating across two dimensions: operationally, to ensure the daily functionality of facilities, and strategically, to align the built environment with organisational objectives, including long-term asset planning and sustainability targets. As Schutte (2014) argues, an effective FM strategy is one that successfully integrates both operational and strategic dimensions, enabling organisations to balance short-term requirements with long-term vision.

In practice, FM is inherently interdisciplinary, requiring collaboration with domains such as property management, civil engineering, architecture, information technology, human resources, and sustainability management. In New Zealand, the scope of FM has expanded to include climate resilience, digital transformation through the Internet of Things (IoT) and Artificial Intelligence (AI) for asset management, and workplace design that prioritises health and well-being (FMANZ, 2023). Although New Zealand's FM industry is relatively young compared to more established markets such as the UK or Western Europe, its economic contribution is significant. According to FMANZ (2020), FM professionals are responsible for approximately $7 billion in direct annual expenditure, contributing $3.5 billion to GDP and supporting nearly 22,800 full-time equivalent jobs. The *Global Facilities Management Impact Report* (FMANZ, 2023) confirms that the sector accounts for 0.9% of GDP and the same share of the national workforce, underscoring its substantial role in the economy.

However, this growth faces challenges due to a constrained labour market. Macqueen (2021) reports that labour shortages in the construction sector have led to significant project delays, with only 12% of projects completed on time within six months. This is further compounded by skill mismatches, where the available workforce lacks the specific competencies required for modern FM roles (Hatos & Saveanu, 2016). As a result, the sector's capacity to meet the full scope of services is limited, particularly in highly specialised areas such as sustainability, digital asset management, and regulatory compliance.

The broad scope of FM delivers a strategic impact on organisational performance. Its areas of responsibility include asset management (life-cycle planning, capital expenditure forecasting, condition monitoring), workplace management (space utilisation, ergonomics, employee experience), sustainability and compliance (environmental performance, health and safety, legal adherence), and crisis management/business continuity (risk assessment, emergency preparedness, post-disaster recovery). Successful management of these dimensions positions FM as a core business function, particularly in settings where operational continuity is critical, such as university campuses, healthcare facilities, and commercial office portfolios.

This study adopts the FMANZ (2014) definition of FM because it captures both strategic and operational aspects and remains consistent with international standards. This definition is particularly relevant to the research focus of comparing FM practices across two distinct contexts: senior management-led campus facilities management and FM practitioners in the external sector. By establishing a clear definition and scope, this research positions FM not merely as a support service but as a strategic driver of organisational resilience and long-term performance.

### 2.2.2 Global Development of FM

The development of Facilities Management as a distinct professional discipline can be traced back to the 1970s and 1980s, when organisations began to recognise the need for systematic management of their physical assets and workplace environments. Initially emerging in North America and Western Europe, FM was largely driven by outsourcing non-core services in response to cost-cutting pressures and a desire to improve operational efficiency (BIFM Annual Review, 2013). Over time, FM has transitioned from a reactive, maintenance-focused role to a strategic, multidisciplinary function that aligns the built environment with organisational objectives. This evolution reflects broader economic, technological, and cultural shifts influencing how facilities are designed, operated, and adapted over their life cycles.

In the United States, the formation of the International Facility Management Association (IFMA) in 1980 marked a pivotal moment in the formalisation of the profession. IFMA's early work focused on establishing professional standards, fostering industry networks, and introducing formal education in FM, with Cornell University launching the first dedicated FM bachelor's and master's programmes in 1983 (IFMA, 2014). The association's "People, Process, and Place" model became a widely recognised framework for understanding the holistic nature of FM, later expanded to include technology as a fourth core dimension in response to digitalisation trends.

In the United Kingdom, the British Institute of Facilities Management (BIFM), founded in 1993, played a similar role in shaping the profession. The UK's FM sector expanded rapidly during the 1990s and early 2000s as organisations increasingly outsourced both "hard" FM services (building maintenance, asset management) and "soft" services (cleaning, catering, security) to specialist providers. This shift reflected a broader movement toward public–private partnerships and performance-based contracts in sectors such as healthcare, education, and government services (Atkin & Brooks, 2021).

Globally, FM has grown into a multi-billion-dollar industry. According to the FMANZ (2023) *Global Facilities Management Impact Report*, the global FM market was valued at USD 15.2 trillion in 2021 and is projected to reach USD 25.65 trillion by 2027, growing at a compound annual growth rate (CAGR) of 9.11% between 2023 and 2030. This growth is fuelled by increasing demand from sectors such as information technology, healthcare, retail, education, and financial services (Shah, 2007; Atkins & Brooks, 2021). These sectors require highly specialised FM support to manage complex operational environments, regulatory compliance,

and evolving customer expectations. The regional development of FM demonstrates distinct patterns shaped by cultural, economic, and policy contexts.

**Table 2.2**

*Regional Characteristics of Global FM Development*

| **Region** | **State of FM Development** | **Key Characteristics** | **Key Drivers** | **Challenges** |
|---|---|---|---|---|
| North America | Mature | Data-driven FM, strong benchmarking, and integrated services | Cost efficiency, sustainability, and performance optimisation. | Cost pressures and maintaining service efficiency. |
| Europe | Mature | Strong professionalisation and institutional development (EuroFM, BIFM/IWFM), growing integration with the sustainability agenda, increasing alignment with organisational strategy | Regulatory frameworks and legislation, market growth and professional bodies, emphasis on sustainability and organisational performance | Inconsistent adoption of sustainable FM practices, variation across regions, lack of knowledge and expertise in sustainability, and limited organisational commitment in some contexts |
| Asia-Pacific | Developing | Growing use of benchmarking, focus on cost and performance measurement, increasing emphasis on energy management and sustainability | Need for performance evaluation, cost management, sustainability pressures, adoption of global FM practices, and data-driven improvement | Variability across markets needs to be improved, along with efficiency and standardisation. |
| New Zealand | Developing | Predominantly operational focus, fragmented | Development of a professional body, growing awareness of | Weak professional identity and recognition, |

| | | | | |
|---|---|---|---|---|
| | | professional identity, growing but small industry, limited integration of soft FM services | FM value, education initiatives, adoption of international practices, need to improve asset performance and building quality | skills shortages and limited training pathways, small market size limiting growth, focus on short-term cost over long-term strategy, lack of a standardised framework and data |

***Note.*** Compiled by the author based on International Facility Management Association (2021a, 2021b), EuroFM research publications (Jensen, 2014), and Facilities Management Association of New Zealand (2017).

The globalisation of FM has also been accompanied by increasing professionalisation. International standards, such as ISO 41001:2018, have provided a formal framework for FM systems, emphasising continuous improvement, stakeholder engagement, and alignment with organisational strategy. Professional associations, such as IFMA, IWFM, the European Facilities Management Network (EuroFM), and FMANZ, have played a key role in developing competency frameworks, certification programmes, and industry benchmarking. These initiatives aim to address persistent challenges, including the shortage of skilled professionals, which remains a barrier to growth in many markets (FMANZ, 2023). However, the global FM industry also faces significant challenges. Labour shortages, skills mismatches, and demographic shifts have impacted on the capacity to deliver high-quality FM services, particularly in specialised areas such as sustainability reporting, advanced building analytics, and integrated workplace management systems (IWMS). The COVID-19 pandemic further highlighted the strategic importance of FM in managing health and safety, indoor air quality, and remote work support. Organisations that adopted flexible, technology-driven FM strategies demonstrated greater resilience and operational continuity during the crisis (IFMA, 2021). In sum, the development of FM globally reflects both its adaptability and its increasingly strategic role. From its origins as a support function focused on cost control and maintenance, FM has become a driver of organisational performance, sustainability, and innovation. The New Zealand FM industry, while relatively young, draws on these global trends and frameworks, adapting them to local contexts, regulatory environments, and market conditions. This intersection between global best practices and local realities forms the foundation for examining FM strategies and their effectiveness in diverse organisational settings, as explored in subsequent sections of this chapter.

### 2.2.3 Cross-Cultural Influences on FM

Facilities Management is not a uniform discipline; instead, its practices, priorities, and performance are strongly shaped by cultural, social, and institutional contexts. The way FM is defined, implemented, and evaluated varies significantly between countries and regions, influenced by factors such as leadership styles, communication norms, decision-making processes, regulatory frameworks, and societal expectations (Vaiman & Brewster, 2015). These cultural differences manifest both in the strategic priorities of FM and in the day-to-day operational decisions that facilities managers make.

One of the clearest examples of cross-cultural influence lies in the divergent priorities across regions. In Western Europe, for instance, sustainability, green building certifications (e.g., BREEAM, LEED), and carbon reduction targets are deeply embedded in FM strategies. The European Union's environmental policies have driven organisations to adopt comprehensive sustainability reporting, energy performance monitoring, and waste reduction initiatives as core FM responsibilities (FMANZ, 2023). By contrast, in Southeast Asia, FM strategies are often shaped by resource constraints, leading to a focus on cost efficiency, rapid problem-solving, and short-term operational solutions rather than long-term sustainability investments (Nguyen et al., 2018). Leadership styles also differ significantly. In North America and parts of Northern Europe, FM leadership tends to emphasise collaborative decision-making, cross-functional teams, and stakeholder engagement. In contrast, hierarchical leadership structures dominate in many Asian and Middle Eastern countries, where facilities managers may have less autonomy and decision-making authority, with strategic directions flowing top-down from senior executives (Bergman & Feser, 2020). These cultural dynamics influence how quickly FM departments can adapt to emerging challenges, such as technological change or sustainability mandates.

Technological adoption is another area where cross-cultural differences emerge. North America has been at the forefront of integrating Internet of Things (IoT) devices, Artificial Intelligence (AI), and data analytics into FM processes, enabling predictive maintenance, smart energy management, and real-time space utilisation tracking. By comparison, some developing markets, while increasingly aware of these technologies, still face barriers such as high initial investment costs, lack of technical expertise, and limited interoperability between legacy systems and new digital tools (Atkin & Brooks, 2021). The degree of outsourcing in FM is also culturally and economically determined. In the United Kingdom, Australia, and the United States, outsourcing both hard and soft FM services is common, with competitive tendering processes driving efficiency and quality control. Conversely, in countries such as Japan and Germany, in-house FM teams remain more prevalent, reflecting cultural preferences for maintaining institutional knowledge, long-term employment relationships, and direct oversight of service quality (Losekoot et al., 2016).

**Table 2.3**

*Examples of Cross-Cultural Differences in FM*

| **Dimension** | **Developed Markets** | **Other Contexts** | **Key Insight** |
|---|---|---|---|
| Technology Adoption | Increasing integration of AI and IoT technologies; use of data analytics for predictive maintenance and automated workflows; continuous monitoring and real-time alert systems; technology used to improve efficiency and reduce downtime | Barriers to adoption identified, including the need for reliable data, data cleansing, system integration, and ensuring a human–technology balance | Technology adoption is advancing, but it depends on data quality, integration capability, and addressing implementation barriers |
| Outsourcing Models | Outsourcing strategies focus on cost reduction, efficiency improvement, and performance measurement; use of structured outsourcing relationships and performance evaluation systems | Outsourcing effectiveness depends on relationship quality, resource allocation, and understanding between client and service provider; challenges in managing outsourcing relationships and strategy design | Outsourcing is not only a cost-driven strategy but also depends on relationship management, performance measurement, and strategic alignment |
| Professionalisation | Defined professional knowledge base and skill set; emphasis on ethics, social responsibility, and specialised competencies; FM positioned as a professional interface between technical operations and organisational management | Slow development of FM professionalisation; lack of standards and formal recognition; limited awareness of FM as a profession; need for improved education, policy support, and institutional frameworks | Professionalisation is linked to the development of recognised competencies, ethical standards, and defined roles within organisations |

***Note**. Compiled by the author based on DMA Group (2025), Lok et al. (2025), Grimshaw (2003), Keskin et al. (2023), and Azhan (2025).*

Cross-cultural differences are not merely operational details; they influence the overall maturity of FM as a profession in different markets. Countries with well-established FM standards, certification pathways, and strong professional associations tend to have more strategic FM functions. For example, IFMA in the United States and IWFM in the UK actively develop competency frameworks and educational programmes, which raise professional standards globally. In contrast, countries where FM is still emerging often lack clear role definitions, consistent training pathways, and industry-wide performance benchmarks (Crutzen, Losekoot, & Staal, 2016).

New Zealand's FM sector illustrates the interplay between global influences and local adaptations. While New Zealand draws heavily on UK and Australian FM models, particularly in outsourcing, sustainability, and lifecycle asset management, it also faces unique challenges. These include a relatively small talent pool, geographic isolation, and a need for resilience in the face of natural disasters such as earthquakes. The Christchurch earthquake in 2011, for example, highlighted the role of FM professionals in emergency response, rapid building assessments, and business continuity planning (FMANZ, 2020). This event accelerated the integration of resilience planning into FM strategies, a feature that is now a defining characteristic of the New Zealand FM approach. Moreover, cross-cultural collaboration is increasingly important as FM projects become more globalised. Multinational corporations operating in multiple regions must reconcile differing FM norms, regulations, and stakeholder expectations. This requires managers to possess not only technical and managerial competencies but also cultural intelligence, the ability to navigate and adapt to diverse cultural contexts.

Ultimately, cross-cultural influences in FM reflect the discipline's adaptability. While the core mission, ensuring the functionality, safety, and efficiency of the built environment, remains constant, the methods, priorities, and strategic focus of FM vary significantly between regions. For researchers and practitioners, understanding these differences is essential for developing context-specific FM strategies, benchmarking performance across markets, and fostering global best practice exchange. In the context of this study, recognising these variations is crucial for situating New Zealand's FM sector within the wider global landscape, particularly in addressing labour shortages, skills development, and strategic resilience.

### 2.2.4 Facilities Management in New Zealand

Facilities Management (FM) in New Zealand sits at the intersection of strategy and operations, charged with sustaining the functionality, safety, productivity, and long-term value of the built environment across public and private sectors. In the New Zealand context, FM is widely described as "ensuring functionality of the built environment by integrating people, place, process and technology," and facilities managers are defined as professionals who organise, control, and coordinate both strategic and operational management of buildings to maintain safe and productive environments for occupants (FMANZ, 2021). While this aligns with

international practice, the domestic profession remains comparatively young and still consolidating its identity, education pathways, and labour market signals.

Over the last decade, several national studies have tried to "take the pulse" of the sector. A landmark BRANZ industry census framed FM as pivotal to building quality and explored who practices FM in Aotearoa, what services they provide, and how purchasers perceive FM's value, then compared New Zealand patterns with Australia's more mature market (BRANZ, 2018). The same programme linked early FM involvement in design and procurement to measurable improvements in building functionality, durability, and performance, noting that stronger professionalisation, better purchaser awareness of FM's value, and procurement models that recognise whole-of-life costs would unlock larger benefits (BRANZ, 2018; Alexander, 2013). In short, when FM is engaged early and at a strategic level, buildings perform better over their life cycle; when engagement is late or purely operational, opportunities for value are lost. Economically, FM touches a large asset base and a diverse set of client sectors, from commercial offices and education to government, healthcare, logistics, and critical infrastructure. FMANZ's market-defining work maps both demand-side segments (e.g., commercial property and professional services; education; government; hospitality/entertainment; industrial; energy/resources) and supply-side service lines (e.g., mechanical/electrical, cleaning, catering, security, property services, environmental services, and total-FM providers) that deliver to those segments, making visible the breadth of activity that sits under the FM umbrella (FMANZ, 2021). This segmentation matters for workforce planning: skills, certifications, and staffing models vary sharply between, say, technical M&E maintenance and soft-service delivery, but all feed the same promise: reliable, safe, and efficient places. Yet, despite this breadth, New Zealand's FM professional pipeline has lagged in peer regions. Empirical research commissioned through FMANZ and AUT identified "little FM education available in NZ," finding just two relevant courses at the time of study and concluding there was "no educational programme specifically focused on FM in NZ." The analysis showed many practitioners enter FM from adjacent fields (project management, trades, property, operations) and that formal FM qualifications are the exception rather than the norm (Crutzen, Losekoot, & Staal, 2016). BRANZ's review similarly emphasised the profession's relatively recent emergence and the way outsourcing during economic liberalisation accelerated FM's growth while leaving education and credentialing to play catch-up (BRANZ, 2018). Together, these findings help explain persistent capability gaps and the sector's dependence on mid-career transitions.

The capability picture links directly to this thesis's focus on labour shortages. Practitioner forums and industry analyses highlight acute challenges in finding competent staff across multiple service lines, with calls for stronger professionalisation, NZQA-aligned training, and clearer career routes to support client-facing sophistication and technology-enabled practice. Security is one illustrative example: stakeholders report skill shortages, low-cost competition, and fast-rising technology requirements, recommending strategy-led models, better alignment between FM and related associations, and investment in upskilling to avoid quality erosion (FMANZ, 2021). More broadly, FMANZ's market report and segmentation work point to the same fundamentals: the sector is diverse, increasingly technology-intensive, and battling

uneven recognition of value, conditions that amplify recruitment and retention problems when the overall labour market is tight (FMANZ, 2023). Strategically, elevating FM from a purely operational cost centre to an integrated, value-creating partner remains a live agenda. The BRANZ census argues that early FM engagement, especially during briefing and detailed design, ensures end-user needs are represented accurately, durability targets are realistic, and performance requirements can be maintained over time. The likely system-level payoff is better quality in both new-build and retrofit projects and higher standards of maintenance in existing stock (BRANZ, 2018; Alexander, 2013). However, procurement models that overweight the lowest upfront price remain a barrier to this shift, and the report explicitly calls for whole-of-life thinking and purchaser awareness as preconditions to move the dial (BRANZ, 2018). Professional infrastructure is growing but still consolidating. FMANZ has positioned itself as the national body for practice, education, and networking, reflecting international patterns where practice, education, and research triads drive maturity (FMANZ, 2021). The association's widely used definition anchors FM's multidisciplinary scope and helps standardise language across policy and procurement settings. At the same time, the education landscape retains many of the gaps identified by earlier studies, with industry relying heavily on upskilling programmes, vendor certifications (e.g., IWMS, BMS, H&S), and learning on the job (Crutzen, Losekoot, & Staal, 2016). This "learn-by-migration" model can work for individual careers. Still, at the system level, it complicates workforce planning and contributes to skills mismatches, core dynamics at the heart of New Zealand's FM labour shortages problem that this research investigates. Technology adoption is a further defining feature of the local sector. From IoT sensors and smart meters to analytics and AI within integrated workplace management systems, technology is steadily reshaping asset insights, service routing, and compliance reporting. These capabilities increase demand for digitally literate FM practitioners who can integrate data streams into decision-making and performance contracts, again tightening the labour market for hybrid skill sets that blend operations, data, and stakeholder management (Peters, 2020; McKinney & Parker, 2019). Industry commentary and market studies repeatedly point to this shift, reinforcing why professional development pathways (from technician to strategist) must evolve in step with digital FM.

In summary, FM in New Zealand is consequential, complex, and transitioning: consequential because it underpins health, safety, and productivity across large slices of the economy; complex because it spans heterogeneous service lines and client sectors; and transitioning because it is moving, unevenly, from an operational maintenance paradigm to a strategic, data-enabled, whole-of-life discipline. The literature consistently identifies three levers to accelerate that transition: (1) embed FM earlier in asset lifecycles through procurement that values life-cycle outcomes; (2) professionalise the workforce through clearer pathways, targeted qualifications, and industry-recognised credentials; and (3) improve purchaser literacy so FM is commissioned for value, not only cost. Each lever intersects with the labour shortages this thesis examines: early engagement and purchaser literacy reshape demand for higher-skill roles; professionalisation and education expand and stabilise supply. The following sections build on this New Zealand picture to analyse the causes and impacts of FM labour shortages and to surface strategies, grounded in local evidence, for strengthening workforce capacity and capability.

The New Zealand context is important because it shows that labour shortages in facilities management are not only the result of immediate recruitment difficulties. They are also connected to wider issues such as how the sector has developed, the strength of education and training pathways, the level of professional recognition, and the extent to which FM is adapting to technological and policy change. When these wider conditions remain underdeveloped, labour shortages are more likely to persist and become difficult to resolve through short-term hiring alone. This is especially relevant in New Zealand, where FM continues to develop as a profession while expectations around compliance, sustainability, digital capability, and organisational performance are becoming more demanding. For this reason, the New Zealand FM sector provides an important context for understanding how workforce capability, professional development, and sector maturity influence both present labour shortages and longer-term workforce needs.

### 2.2.5 Definition and Industry Context in NZ

In New Zealand, facilities management (FM) is commonly defined as the integration of people, place, process, and technology to ensure the functionality, safety, and productivity of the built environment (FMANZ, 2014; FMANZ, 2023). This mirrors long-standing UK/European definitions that emphasise coordinated service delivery in support of an organisation's core activities (BIFM, 2013). New Zealand's community of practice has grown out of this lineage, but it remains relatively young and still consolidating its professional identity (Schutte, 2014; Crutzen, Losekoot & Staal, 2016). Sector studies repeatedly note a lack of unified educational pathways, with many practitioners entering from adjacent domains such as engineering, corporate real estate, project management, and the building trades (Schutte, 2014; Crutzen et al., 2016). In practical terms, this has historically skewed the field toward "hard-FM" (assets, plant, and physical infrastructure), with "soft-FM" (customer experience, workplace services) and strategic business partnering expanding more recently (Schutte, 2014; BRANZ, 2018).

A prominent feature of the New Zealand FM landscape is its dual operational and strategic remit. At an operational level, FM teams deliver maintenance, compliance, lifecycle renewals, cleaning, security, and grounds services across public- and private-sector portfolios (Schutte, 2014; BRANZ, 2018). At a strategic level, FMs are increasingly drawn into asset planning, whole-of-life decision-making, space strategy, and risk management, particularly in central and local government, tertiary education estates, and healthcare (FMANZ, 2023; BRANZ, 2018). The Christchurch earthquake sequence, for example, highlighted FM's role in business continuity and resilience, raising awareness of FM's contribution to organisational risk management (Crutzen et al., 2016). Despite progress, several contextual constraints persist. First, terminology and scope can be contested, with overlaps among property, asset management, operations, and project delivery blurring boundaries (BRANZ, 2018). Second, procurement practices that favour low up-front capital cost over total cost of ownership still limit early FM involvement in design, hampering downstream performance (BRANZ, 2018). The "soft landings" movement, bringing FM into design to embed maintainability, usability, and performance, has been promoted as a remedy (Wang et al., 2013; BRANZ, 2018). Third,

labour and skills pressures, tight labour markets, immigration settings, and competition for technical and digital skills shape delivery capacity and service quality (Macqueen, 2021). In aggregate, these conditions produce a sector that is maturing, increasingly data-informed, and strategically interdependent with property, construction, and workplace functions (FMANZ, 2023; BRANZ, 2018).

These conditions suggest that workforce issues in FM are closely related to how the profession is understood and positioned within the wider built environment sector. When the role of FM is not clearly recognised, or when it is still viewed mainly as a support function, it becomes more difficult to attract new entrants, strengthen training pathways, and build long-term workforce planning. In this sense, labour shortages in FM are not only about the number of workers available, but also about how the profession is defined, valued, and supported in practice. A stronger professional identity may therefore be an important part of improving workforce stability and long-term sector development in New Zealand FM.

### 2.2.6 Economic Impact of FM in NZ

FM makes a material contribution to Aotearoa New Zealand's economy. Recent national estimates attribute $7 billion in direct annual FM expenditure, contributing $3.5 billion to GDP and supporting 22,800 FTEs (FMANZ, 2020). Complementary analysis from the Global FM Impact country report indicates that, counting both in-house and outsourced delivery, the sector accounts for 0.9% of GDP and 0.9% of national employment (FMANZ, 2023). These figures situate FM among the critical enabling industries underpinning productivity across education, health, transport, commercial offices, and public infrastructure (FMANZ, 2023).

From a value creation perspective, FM influences organisational outcomes through whole-of-life cost optimisation, risk reduction, and user productivity. BRANZ's industry census underscores the benefits of early FM engagement in the capital delivery process, linking design decisions to functionality, durability, and performance, and argues that procurement models should recognise lifecycle cost and maintainability rather than only the lowest up-front price (BRANZ, 2018). This improves long-term asset performance and reduces operational expenditure through better access strategies, component standardisation, and data-enabled maintenance (BRANZ, 2018). Economically, the sector's footprint is partly shaped by delivery models. New Zealand mixes in-house FM (common in universities, councils, and health) with outsourced provider ecosystems for specialist trades and bundled services (FMANZ, 2023; BRANZ, 2018). Demand cycles are influenced by public capital programmes, regulatory compliance (e.g., seismic, fire, health & safety), and market occupancy trends in commercial property (BRANZ, 2018). The multiplier effects span supply chains in building materials, equipment, software (IWMS/CMMS), and professional services, with FM decisions cascading to contracting SMEs and regional trades. In a constrained labour market, firms sometimes accept longer project durations rather than turn work away, risking schedule slippage and penalties, behaviour that can erode margins and reputations (Macqueen, 2021). Finally, the policy environment matters. Moves toward carbon reduction, resilience, and healthy buildings expand FM's scope to include energy management, embodied carbon in renewals, and IAQ monitoring, creating new demand for capabilities and tools. These policy priorities translate

into investment that sustains sectoral GDP contribution, while also raising the bar for skills and digital maturity (FMANZ, 2023; BRANZ, 2018).

The economic contribution of the FM sector also reinforces why labour shortages in this field should be taken seriously. If FM supports employment, organisational productivity, asset performance, and service continuity across important sectors, then ongoing shortages of skilled workers represent more than an internal staffing issue. They also affect infrastructure quality, operational reliability, and the wider resilience of organisations that depend on well-managed facilities. In the New Zealand context, this means that labour shortages in FM should be understood not only as a workforce problem, but also as an economic and strategic issue linked to the effective performance of the built environment.

### 2.2.7 Technological Integration in the NZ FM Sector

Technology is reshaping FM practice in New Zealand. Integrated Workplace Management Systems (IWMS) and Computerised Maintenance Management Systems (CMMS) are now the backbone of service planning, work order control, and lifecycle tracking. Paired with IoT sensors, smart meters, and BMS data streams, they enable predictive maintenance, occupancy analytics, and energy optimisation (McKinney & Parker, 2019; Peters, 2020). As estates become more digital, FM teams orchestrate data governance, asset hierarchies, and condition baselines to close the loop between design intent and operational reality. In this sense, technology is not a bolt-on; it is integral to how FM delivers value (Madhusanka et al., 2019).

New Zealand literature flags two integration levers with outsized impact. The first is design-to-operations continuity. BRANZ highlights the benefits of early FM involvement and “soft landings” from design through commissioning, ensuring that maintainability, access, and user needs are embedded and that digital asset data (e.g., COBie/asset registers) are handed over cleanly (BRANZ, 2018; Wang et al., 2013). Where adopted, this reduces reactive failures, shortens defect cycles, and supports predictive regimes once in operation. The second lever is BIM-enabled operations. Even without full digital twins, consistent as-built models linked to IWMS improve spatial planning, shutdown coordination, and replacement forecasting (Wang et al., 2013; BRANZ, 2018). Sector-specific adoption patterns vary. Universities and hospitals tend to be early adopters of IWMS, asset condition modelling, and sensor platforms because their estates are complex, highly regulated, and continuously occupied. Local government is advancing geospatial integration (GIS + asset data) to optimise networks and civic facilities. Commercial offices are pushing workplace experience stacks (room booking, IAQ dashboards, utilisation analytics) to align FM with tenant experience and hybrid work. Across all segments, cybersecurity and data privacy considerations increasingly shape technology choices and vendor governance.

However, barriers in the FM sector persist. Practitioners cite budget constraints, legacy assets without as-built data, fragmented vendor ecosystems, and skills gaps in analytics and systems integration (Schutte, 2014; BRANZ, 2018). Value is maximised when organisations pair platforms with process redesign and capability uplift, for example, standardising preventive maintenance libraries, investing in data stewards, and training supervisors to interpret

dashboards rather than rely exclusively on contractors. Even incremental steps, such as a targeted sensor pilot on critical HVAC, can generate a track record of savings that funds broader rollouts.

Looking forward to convergence trends, BIM-to-FM data pipelines, condition-based maintenance, AI-assisted scheduling, and carbon/energy analytics suggest a progressive shift from schedule-based to outcome-based FM. For this study, these developments suggest that strategies addressing labour shortages using technology, such as automation of low-value tasks, remote monitoring, and analytics-based triage, may be feasible and beneficial in the New Zealand FM context (BRANZ, 2018). Technology on its own is unlikely to solve labour shortages in the FM sector. While digital systems can improve efficiency, reduce some routine workload, and support better operational decision-making, they also increase the need for workers who can understand data, interpret system outputs, and apply technical information in practice. In this way, technology may reduce pressure in some areas while making skills shortages more visible in others. This is particularly important in the New Zealand FM sector, where digital tools are becoming more common but formal training and specialist capability are still developing. As a result, the value of technological integration depends not only on access to systems but also on whether the workforce can use them effectively.

### 2.2.8 Workforce Characteristics in NZ in FM

NZ FM's workforce profile reflects its history, pathways, and market structure. Surveys and case studies show that many practitioners enter from adjacent fields and that few hold specialised FM qualifications (Schutte, 2014; Crutzen et al., 2016). In one study, only a small fraction of respondents reported FM-specific academic credentials, and respondents described short-term, reactive decision-making with limited influence over corporate strategy, signs of a profession still asserting its strategic voice (Crutzen et al., 2016; Schutte, 2014). The skills mix is correspondingly broad: technical maintenance and compliance; commercial acumen for contracts and outsourcing; asset lifecycle and capex planning; stakeholder and user experience management; health, safety, and risk; and, increasingly, digital skills for data-enabled operations (BRANZ, 2018; FMANZ, 2023). Yet gaps remain. BRANZ's census characterises NZ FM as less mature than Europe, with limited educational pathways and notes a tendency for value to be judged more on experience than formal qualification (BRANZ, 2018). This has implications for career development and for the consistency of practice across organisations.

Labour market tightness compounds these structural issues. Broader construction-sector surveys point to low unemployment, immigration settings, and competing demand across infrastructure and building services that make it difficult to increase headcount (Macqueen, 2021). At the organisational level, this can translate into backlogs, longer response times, and pressure on service quality, especially where roles require scarce cross-disciplinary capability (e.g., asset strategy, digital, regulatory). Where providers and in-house teams accept additional workload rather than rebalance portfolios, projects slip, and margins are squeezed (Macqueen, 2021). Against this backdrop, professionalisation initiatives are gathering pace. FMANZ has

expanded CPD frameworks, competency models, and networking platforms; universities and polytechnics are exploring micro-credentials aligned to FM roles; and employers are building in-house academies to accelerate on-the-job learning (FMANZ, 2023; Schutte, 2014). Internationally portable certifications and modular learning that cover asset information management, lifecycle costing, procurement, and people leadership are especially relevant to NZ's needs. In parallel, diversity and inclusion efforts seek to widen entry pathways, from apprenticeships through graduate programmes, to broadening the talent pool.

Taken together, these workforce characteristics suggest that labour shortages in FM are partly linked to the way the profession has developed in New Zealand. The movement of workers into FM from related sectors can bring useful practical and technical experience, but it can also result in uneven skill development, unclear progression pathways, and inconsistent expectations across organisations. Over time, these conditions make it more difficult to build a stable workforce and strengthen the professional identity of the sector. This indicates that labour shortages in FM are not only a matter of worker numbers, but are also connected to workforce structure, formal pathways, and the wider maturity of the profession.

### 2.3 Labour Shortages in the FM Sector

Labour and skills shortages have become a defining constraint on Facilities Management (FM) performance in many advanced economies, and New Zealand is no exception. In FM, an industry that integrates people, place, process, and technology to sustain safe, productive, and sustainably built environments, staffing gaps immediately translate into operational risk, cost escalation, and deferred service quality (FMANZ, 2023). International labour market analyses show that shortages have intensified over the last decade in construction-adjacent and building services occupations due to demographic ageing, low participation among younger cohorts, and persistent skill mismatches (OECD, 2025; ECB, 2023). Within New Zealand, FM's occupational boundaries and pathways remain comparatively under-defined, with the sector drawing heavily from adjacent disciplines (e.g., trades, building services, property, and engineering), making workforce planning, training pipelines, and credible headcount estimates difficult (BERL, 2023; Schutte, 2014).

Two structural forces amplify the problem. First, rapid technological change, IoT, Building Management Systems, data analytics, digital twins, and AI, have expanded the skill set required for modern FM, outpacing formal education and on-the-job upskilling (Massey University, 2024; McKinney & Parker, 2019). Second, the post-2020 immigration environment constrained inflows of experienced technicians and managers who historically filled gaps, while retirements accelerated among older workers (MBIE, 2023; FMANZ, 2023). Sector surveys echo these trends: New Zealand organisations report that labour is their single biggest challenge, with project delays, cost overruns, and reputation risk as common consequences (Macqueen, 2021).

This section synthesises the effects (Section 2.3.1) and the causes (Section 2.3.2) of FM labour shortages, using a New Zealand lens but situating the analysis in global evidence. Two theoretical frames help organise the arguments. The human capital perspective emphasises how investments in education, training, and health raise productivity and earnings (Schultz, 1961; Nafukho et al., 2004). The skills-mismatch lens focuses on imbalances between the competencies demanded by employers and those supplied by workers. Skills shortages, skills gaps, overskilling, and underskilling can coexist and shift over time (CEDEFOP, 2018; Hatos & Saveanu, 2016). Together, they clarify why FM shortages persist and where interventions should target: improving the quality and attractiveness of FM work, building credible learning pathways, leveraging migration strategically, and aligning incentives across asset owners, service providers, and government (FMANZ, 2023; BERL, 2023; Harrison et al., 2017).

### 2.3.1 Effects of Labour Shortages

Labour shortages in the facilities management (FM) sector have become a serious constraint on operational efficiency and organisational performance. In New Zealand, the BDO construction sector report *Beyond Boom and Bust* indicates that the volume of work in the industry has continued to exceed the available workforce, with 80% of respondents identifying labour as their main challenge (Macqueen, 2021). This imbalance has contributed to significant capacity pressure, with only 12% of projects reported as being completed on time over the previous six months (Macqueen, 2021). Rather than declining new work, many organisations continue to accept projects and attempt to manage them with limited staff. While this may help maintain activity in the short term, it also places additional pressure on the existing workforce and increases the risk of delays, weaker service delivery, and reputational damage.

The consequences of labour shortages are not limited to scheduling delays but extend to broader operational and financial impacts. The BERL report on the economic impact of facilities managers found that workforce gaps have compromised productivity levels, delayed both maintenance and capital investment projects, and degraded the overall quality of facility services across New Zealand (BERL, 2023). The need to rely on a limited pool of multi-tasking staff has also heightened the risk of employee cuts, contributing to higher turnover rates and perpetuating the shortage cycle. This scenario mirrors global findings from the OECD (2025), which report that labour deficits in FM and related technical sectors constrain the capacity to deliver high-quality services, with repercussions including deferred projects, increased health and safety incidents, and reputational risks for organisations.

Labour shortages also have strategic implications for long-term organisational goals, particularly in sustainability and technological advancement. According to BERL (2023), gaps in skilled personnel hinder the implementation of sustainability initiatives, slow down the integration of new technologies, and create long-term operational vulnerabilities for both public and private facility owners. The Frost & Sullivan (2021) analysis of New Zealand's FM sector similarly points out that the scarcity of skilled professionals leads to elevated project costs, extended completion timelines, and a heavier reliance on international talent or outsourcing. This reliance not only inflates operational expenditure but can also reduce the

competitive standing of New Zealand's FM market in comparison with neighbouring economies.

On a global scale, labour shortages in FM are closely linked to broader labour market inequalities. The OECD (2025) underscores that poor job quality, manifested through irregular shifts, exposure to physical and mental health risks, and limited wage growth, is a major contributing factor to persistent workforce deficits in sectors such as construction, accommodation, and services, all of which overlap significantly with FM. These conditions contribute to difficulties in both attracting and retaining skilled personnel. Moreover, labour shortages often disproportionately affect underrepresented groups in the workforce, such as migrants and women, underscoring the need for inclusive policy interventions that address both the quantity and quality of available jobs (OECD, 2025).

The operational impacts are also evident in in-service quality metrics. Research by Alotaibi (2019) highlights that FM facilities experiencing labour shortages report prolonged response times for repairs, reduced cleanliness standards, and overall deterioration in maintenance quality. These service deficiencies have a direct effect on tenant and occupant satisfaction, with delays in addressing maintenance issues leading to grievances or even premature lease terminations (Atkin & Brooks, 2021). The accumulation of unresolved maintenance tasks over time compounds these problems, creating backlogs that are increasingly difficult to manage without a substantial increase in workforce capacity (IFMA, 2020; IFMA, 2021).

Labour shortages also make it difficult to keep FM service delivery consistent. When there are not enough workers, organisations try to keep the main services running, but the quality can change from one task to another or from one location to another. This means urgent or visible problems are fixed first, while other important tasks are delayed. Over time, this inconsistency can make people lose trust in FM services and make it harder for organisations to keep a good standard. In areas like education, healthcare, and public facilities, this problem is even more serious because service interruptions or lower maintenance can affect both the buildings and the people who use them every day.

Labour shortages also force organisations to focus on urgent and reactive work instead of planned and preventive tasks. When staff numbers are low, organisations give priority to fixing breakdowns, meeting rules, and solving visible issues. Because of this, regular checks, preventive maintenance, and long-term planning are delayed. This may solve problems for a short time, but it can cause hidden issues, repeated breakdowns, and higher costs in the future. So, labour shortages reduce current service capacity and harm the long-term condition and reliability of assets.

Labour shortages also put more pressure on the staff who are still working. These workers may have to do extra tasks, work in different areas, or handle problems they are not trained for. This can keep operations running for a while, but it often leads to lower job satisfaction and more stress. Over time, this pressure can cause tiredness, less interest in work, and more people leaving their jobs, which makes the shortage even worse. In this way, labour shortages can create a cycle where the problem keeps repeating.

Overall, the literature shows that labour shortages in FM affect the sector at several levels. They contribute to project delays, lower service quality, increased pressure on existing staff, and greater risk to the long-term condition and performance of assets. They may also create less visible problems, such as reduced stakeholder confidence, damage to organisational reputation, and weaker organisational resilience over time. In the New Zealand context, these effects are especially important because FM supports sectors where service continuity, compliance, and asset reliability are critical. Without stronger and more coordinated responses, labour shortages are likely to continue limiting the sector's ability to support the built environment effectively.

### 2.3.2 Causes of Labour Shortages

Labour shortages in the facilities management (FM) sector are shaped by a combination of structural, demographic, educational, economic, and labour market factors. In the New Zealand context, one of the main challenges is that FM is still not always recognised or classified as clearly as many other professions. This weak recognition makes it more difficult to plan workforce needs accurately and to establish clear pathways for entry and progression within the sector. Many FM-related roles, including maintenance, asset management, sustainability, and operational management, are not always consistently reflected in labour market data. As a result, it becomes difficult to estimate demand properly, anticipate future shortages, or design targeted responses for the sector.

Another problem is that the FM workforce is not spread evenly across New Zealand. Most FM managers work in big cities, especially Auckland, so the regional areas have more problems with labour shortages. This shows that the issue is not only about how many workers there are, but also about where they are working. Some organisations in different parts of the country cannot find the skills they need. Because of this, there is more competition for workers, jobs stay empty for longer, and companies must depend more on a few experienced staff.

Demographic change also plays an important role. The FM workforce in New Zealand is ageing, and many experienced workers are approaching retirement age, while younger people are not entering the sector in sufficient numbers to replace them (FMANZ, 2024). This creates a long-term workforce risk, particularly in roles that rely heavily on practical experience, technical judgement, and operational knowledge. Similar patterns have also been identified in other labour markets, where ageing workforces and lower participation among younger cohorts contribute to ongoing shortages in sectors that require specialist knowledge and applied skills (ECB, 2023). In FM, this problem is made more serious because the profession often depends on experience built up over time, meaning that the loss of older workers can also mean the loss of valuable organisational and sector knowledge.

Immigration policy is another factor affecting labour supply. New Zealand has often relied on international labour to fill gaps in technical and specialist roles, but restrictive immigration settings and slow movement through skilled migrant pathways can limit that option (FMANZ, 2024; MBIE, 2023). In a sector already dealing with a small domestic labour pool, barriers to bringing in experienced overseas workers can make shortages more difficult to manage. While

migration is not the only solution, it has been an important support mechanism for many sectors facing skill shortages, including FM and related building services.

Economic and market conditions also make the labour shortage problem worse. When the labour market is tight and unemployment is low, it is hard for businesses to find more staff, even if there is more work to do. FM companies must compete with other industries for workers who have similar skills. This shows that labour shortages in FM are not only because of problems inside the sector, but also because of competition from other sectors. Construction, engineering, healthcare, and property jobs all need workers with similar skills, so FM employers feel more pressure, and it becomes harder to keep their staff.

Skill mismatch is another major cause. Hatos and Saveanu (2016) describe skill mismatch as the gap between the skills workers have and the skills employers require. In FM, this includes shortages in technical maintenance knowledge, building systems understanding, sustainability practice, compliance management, and advanced asset planning. CEDEFOP (2018) also explains that mismatch can appear in different forms, including shortages, qualification gaps, and over- or under-skilling. In the FM context, these mismatches are becoming more visible because the profession is changing. Building automation, digital systems, AI-supported operations, and data-based decision-making all require a workforce with stronger digital and analytical capabilities. However, when training systems do not develop at the same pace, the gap between workforce capability and sector demand becomes wider.

The weakness of formal education pathways is also a key part of the problem. In New Zealand, FM-specific education remains limited compared with more established professions. Although institutions such as Massey University and Wintec have introduced certificates and diplomas linked to FM, formal participation in FM education is still not common across the sector (BOINZ, 2026). As a result, many people enter FM from adjacent areas such as engineering, construction, operations, or property management without receiving training that is specifically designed for the strategic and operational demands of FM (Schutte, 2014). While this pathway can bring useful experience, it can also lead to inconsistency in skills, varied professional expectations, and unclear progression routes.

Another problem is that FM is not seen as a separate or attractive career by many people. Many people do not really know what FM is or how important it is in the built environment. Because of this, school leavers, graduates, job seekers, and even employers do not always see FM as a good choice. When FM is not well recognised, people may choose other jobs like engineering, architecture, or project management, even though FM can also give good opportunities. This problem is worse when there are not enough formal qualifications, clear career paths, or job descriptions. As a result, FM looks less visible and less organised, and this makes it harder to attract new people and to develop the profession in the future.

Job quality is also an important reason for labour shortages. In many countries, jobs with irregular hours, hard physical work, low pay increases, and few chances to move up are not attractive to workers. This is also true for FM, because some jobs have heavy workloads, changing shifts, and a lot of pressure, but the pay and recognition are not always enough for

the responsibility. When job quality is low, workers may leave FM and go to other sectors where they can get better pay, more chances to grow, or a higher status. This is a big problem when the labour market is tight, and workers with good skills have many options.

FM also shares its staff with other sectors that need large numbers of staff. FM is not working alone. It must compete with construction, engineering, healthcare, property services, and infrastructure jobs, because all these areas want similar workers. Even if FM needs more workers, it can be hard to find them if other sectors give better pay, more recognition, or clearer career paths. So, labour shortages in FM are not only due to problems within FM, but also to strong competition from the broader labour market.

Overall, the literature indicates that labour shortages in the FM sector are caused by several interrelated conditions rather than by one isolated problem. These include weak professional recognition, demographic pressure, restrictive immigration settings, skill mismatch, limited education pathways, low career visibility, job quality concerns, and strong competition from other sectors. These factors are further intensified by technological change and the growing complexity of FM roles. This suggests that labour shortages in FM should be understood as a broader workforce development issue as well as a labour market problem.

Because these causes are diverse and closely connected, literature does not support a single solution. Instead, it points towards the need for a combination of responses that address both immediate workforce gaps and longer-term sector capability. For this reason, the next section examines the main strategies discussed in the literature, including attraction, workforce development, retention, and policy or migration-related responses.

## 2.4 Strategies to Address Labour Shortages

### 2.4.1 Talent Attraction Strategies

Attracting talent into the facilities management (FM) sector has become an important issue in New Zealand and internationally, particularly as the sector continues to face labour shortages, skills gaps, and demographic pressure. FM includes a wide range of roles, covering both hard FM functions such as engineering, maintenance, and building services, and soft FM functions such as cleaning, security, and catering. Because of this broad scope, the sector faces recruitment challenges. It is not only competing with construction and property-related industries, but also with other sectors that require similar technical, operational, or service-based skills. For this reason, talent attraction in FM is not simply a matter of advertising vacancies. It also depends on how the profession is understood, how accessible it is as a career pathway, and how attractive it appears to potential entrants.

One of the main barriers to attracting talent is the low visibility of FM as a profession. BERL (2023) suggests that many people, especially younger job seekers and school leavers, have only a limited understanding of what FM involves. In many cases, the field is seen only as building maintenance or general operations support, rather than as a professional area that combines technical, strategic, and organisational responsibilities. This narrow understanding makes FM

less visible than professions such as engineering, architecture, or project management, even though FM can involve similar levels of responsibility and long-term career development. If people are not aware of the profession, they are less likely to consider it as a future pathway.

Because of this, building awareness is a very important way to attract people to FM. Public awareness campaigns are one way to show that FM is a diverse and rewarding career. Activities like career expos, employer branding, working with schools, and using media can help more people know about FM. This is important because many young people want to work in jobs that are new, meaningful, and have a future. FM can offer these things, especially because it relates to sustainability, digital technology, workplace experience, and the long-term success of buildings.

However, awareness alone is not enough if there are still weak entry pathways into the profession. Another important attraction strategy is improving access to FM careers through clearer and more structured routes into the sector. Shahzad et al. (2023) argue that apprenticeships, graduate pathways, and trade-linked entry programmes are still underdeveloped in New Zealand compared with other OECD contexts. When entry routes are not clear, the sector becomes more difficult to access, especially for young people who are making early career decisions. This is why stronger links between employers, education providers, and government agencies are important. If FM-related content is introduced into engineering, trades, vocational training, or built environment programmes, potential entrants may become more familiar with the profession before entering the labour market.

The increase in formal qualifications is also important for FM. Diploma and certificate programmes in FM, like those at Massey University and Wintec, give people a clear and trusted way to enter the profession. These qualifications can help make entry-level jobs more professional and show that FM is a career people can choose on purpose, not just by chance. In the future, having more education options can also make FM look more organised, recognised, and focused on the future.

Industry engagement with schools and tertiary institutions is another important attraction strategy. Frost and Sullivan (2021) emphasise the value of early engagement activities such as guest lectures, internships, career talks, and participation in job fairs. These efforts can give students a more realistic understanding of FM and allow them to see the variety of opportunities within the sector. They also allow employers to connect with potential future workers at an earlier stage. This matters because many people may not consider FM simply because they have never been exposed to it as a career option. Early engagement can therefore help shift FM from a hidden or secondary profession into one that is seen as a real and worthwhile choice.

Pay and working conditions are also important for attracting people to FM. Research shows that job quality is a big reason why people choose to work in some sectors and not others. In FM, this means things like salary, job security, flexibility, safety, and the overall work environment. When there is a lot of competition for workers, people with technical or operational skills may go to jobs that pay more or have better career growth. Because of this, FM employers need to think about not just salary, but also other benefits if they want to get

good workers. Flexible hours, training, and a good balance between work and life can also help make FM more attractive, especially for people who are looking at different industries.

International recruitment can also form part of talent attraction, particularly in specialised or hard-to-fill roles. FMANZ (2024) notes that immigration barriers and complex visa settings have historically made it difficult for New Zealand to attract skilled FM professionals from overseas. Where there are shortages in domestic supply, targeted international recruitment may help fill urgent gaps, especially in technical, managerial, or digitally focused roles. Shahzad et al. (2023) suggest that overseas recruitment can be effective when it is supported by proper onboarding, integration, and recognition of prior experience. However, migration should be seen as part of a wider attraction strategy rather than the only response, as long-term workforce sustainability still depends on strengthening local pathways.

Another important point is how FM connects with global trends. Many young people want to work in jobs that are new, important for society, and good for the environment. FM can use this by showing it is involved in sustainability, smart buildings, wellbeing, and new technology. Companies that talk about their work with digital systems, AI, energy saving, and green buildings can attract people who want a job with purpose and chances to grow. In this way, FM can change its image from a hidden support job to a key part of organisations and society.

Diversity and inclusion are also important in broadening the talent pool. The FM sector has often been male dominated, especially in technical areas, and this can limit entry for women and other underrepresented groups. If talent attraction is focused only on traditional worker profiles, the sector may miss opportunities to widen participation and strengthen the workforce supply. Programmes that support outreach, mentoring, and inclusive recruitment may help improve access for women, migrants, and indigenous communities. OECD (2025) findings suggest that underrepresented groups are already significant participants in shortage sectors, so better support and more inclusive attraction strategies may offer practical benefits as well as social value.

Overall, attracting talent into FM requires more than one response. It involves improving awareness of the profession, creating clearer entry pathways, offering better employment conditions, and strengthening both local and international recruitment where needed. If these areas are improved together, the sector is more likely to attract a broader and stronger workforce for the future.

### 2.4.2 Workforce Development

Workforce development in the facilities management (FM) sector is not only a response to current labour shortages but also a strategic investment in long-term industry resilience. In New Zealand, as in many advanced economies, FM is undergoing rapid transformation due to demographic changes, technological advancements, and evolving customer expectations. These shifts demand a workforce that is adaptable, highly skilled, and capable of integrating new tools and practices into day-to-day operations (Massey University, 2024). Workforce development in FM encompasses a range of activities, including structured training

programmes, upskilling and reskilling initiatives, leadership development, and the creation of clear career pathways that align with both industry needs and employee aspirations.

A central challenge for FM workforce development in New Zealand is the lack of formal, sector-specific training compared to other professional fields (BERL, 2023). While institutions such as Massey University and Wintec have introduced diploma-level qualifications in FM, the overall number of FM-focused educational offerings remains limited (BOINZ, 2026). This shortage of formalised education pathways contributes to a fragmented workforce where many professionals enter FM from adjacent industries, such as construction, engineering, or property management, without dedicated FM training. Consequently, there is a strong reliance on on-the-job learning, which, while valuable, may not provide the comprehensive skill sets needed for the increasingly complex demands of modern facilities. Expanding the availability of structured FM qualifications and making participation in ongoing professional development mandatory for certain roles could help professionalise the sector and raise baseline competencies (FMANZ, 2024).

In addition to formal qualifications, workforce development in FM also depends on how clearly the sector presents progression over time. In many cases, FM workers may enter the profession through operational or technical roles, but they are not always shown how these roles can develop into supervisory, strategic, or specialist positions. This weakens the profession because workforce development is not only about improving current skills, but also about helping workers see a future within the sector. Where progression is unclear, workers may move to other industries that appear more organised or offer stronger long-term opportunities. In the New Zealand context, this means that workforce development should include not only training provision but also clearer career structures that support retention, professional growth, and long-term sector capability.

Upskilling is a particularly important dimension of workforce development, especially in the face of technological disruption. The increasing integration of building automation systems, digital twins, and AI-driven analytics into FM operations requires staff to develop new competencies in data interpretation, digital literacy, and sustainable building practices (Massey University, 2024). Frost & Sullivan (2021) emphasises that without systematic upskilling, FM organisations risk utilising advanced systems, resulting in lost efficiency gains and reduced competitiveness. Training programmes in these areas can be delivered through partnerships between employers, technology providers, and training institutions, ensuring that learning content reflects real-world tools and applications.

In parallel, reskilling initiatives are critical for enabling workers whose roles are being transformed or displaced by automation to transition into new, in-demand FM positions. Shilova et al. (2021) note that automation is reducing the need for certain routine tasks, such as basic maintenance checks, while increasing demand for higher-level problem-solving and technical integration skills. Structured reskilling programmes can enable, for example, a maintenance technician to develop expertise in energy efficiency retrofits or IoT-enabled systems management. This not only retains valuable industry experience but also helps alleviate skill shortages in emerging FM specialisations.

A further issue in workforce development is that learning in FM often remains uneven across organisations. Some employers can support training, mentoring, and broader skill development, while others rely more heavily on workers learning only through daily practice. This creates differences in how capability develops across the sector. In some cases, workers may gain strong practical knowledge but still have limited exposure to wider areas such as asset strategy, digital systems, sustainability requirements, or long-term planning. Over time, this can produce an uneven workforce where experience exists, but deeper professional capability is not developed consistently. For the New Zealand FM sector, this suggests that workforce development should not depend only on individual employers but also needs stronger sector-wide support to improve consistency and long-term capability.

Another key area of workforce development is leadership and management capability. Effective FM requires a combination of technical knowledge and strategic oversight, with leaders expected to balance operational priorities, client relationships, and long-term asset planning (Atkin & Brooks, 2021). However, leadership pipelines in FM are often informal, with few structured development programmes aimed at preparing mid-level staff for senior roles (FMANZ, 2024). Introducing targeted leadership training, mentorship schemes, and succession planning can help ensure continuity in strategic expertise, especially given the sector's ageing workforce and anticipated retirements (MBIE, 2023).

Leadership development is also important because FM increasingly involves coordination across different service areas rather than only supervision of individual tasks. In many organisations, facilities managers are expected to manage contractors, budgets, compliance requirements, building users, and operational risk at the same time. This means leadership in FM now requires judgement, communication, and strategic awareness as well as technical understanding. If the sector does not prepare people for these broader responsibilities, workforce development may remain too focused on immediate operational needs and not enough on the future leadership capacity of the profession. In the New Zealand context, stronger leadership pathways can therefore help the sector respond not only to current labour shortages but also to longer-term capability and succession challenges.

The multi-skilled workforce model, as advocated by Shahzad et al. (2023), offers a particularly promising approach to workforce development. In their New Zealand case study, the authors demonstrate that equipping employees with cross-functional skills, allowing them to perform a range of related FM tasks, improves operational flexibility and reduces vulnerability to staffing gaps. For example, training security staff in basic building maintenance, or cleaning personnel in workplace health and safety compliance, not only enhances service delivery but also creates more engaging, varied roles for employees. This approach requires careful design to avoid overloading staff, but when implemented strategically, it can make FM teams more resilient and adaptable.

Workforce development must also be responsive to demographic trends. An ageing FM workforce, combined with low participation rates among younger workers, creates a dual

challenge of knowledge transfer and succession planning (FMANZ, 2024; BERL, 2023). Capturing institutional knowledge before experienced professionals retire is vital, whether through mentorship arrangements, structured documentation of best practices, or digital knowledge management platforms. Simultaneously, attracting and retaining younger workers requires adapting development programmes to their career preferences, including opportunities for rapid skill advancement, project variety, and visible career progression.

The demographic issue also has implications for how the sector plans continuity over time. When experienced workers leave, organisations not only lose staff numbers, but also practical judgement, informal knowledge, and familiarity with specific buildings, systems, and service relationships. This is especially important in FM because much of the work depends on knowing how facilities operate in practice rather than only understanding procedures on paper. For this reason, workforce development should include more deliberate approaches to knowledge transfer, such as mentoring, shadowing, and structured handover of operational knowledge. In the New Zealand context, this may help reduce the loss of capability that can happen when experienced staff retire before their knowledge is passed on effectively.

Partnerships between industry and government are essential in scaling workforce development initiatives. Public funding for vocational education, subsidies for employer-led training, and the inclusion of FM roles in government-supported apprenticeship schemes can lower the financial barriers to upskilling (MBIE, 2023). International examples suggest that aligning FM workforce planning with national infrastructure and sustainability strategies can create long-term demand for skilled professionals while ensuring training programmes are future-focused (OECD, 2025). Soft skills development is another crucial, yet sometimes overlooked, element of FM workforce growth. The FM role often involves extensive stakeholder engagement, requiring capabilities in communication, negotiation, conflict resolution, and cultural competence, particularly in diverse workplace settings (Vaiman & Brewster, 2015). Training in these areas not only improves daily operational effectiveness but also enhances client satisfaction and organisational reputation. As FM increasingly intersects with workplace experience management, soft skills can be a significant differentiator in service quality.

Evaluation and continuous improvement are also critical in workforce development strategies. Without clear mechanisms to track training outcomes, identify skill gaps, and adjust programmes accordingly, development initiatives risk becoming outdated or misaligned with industry needs. Performance metrics might include employee retention rates, client satisfaction scores, and the proportion of staff holding relevant certifications. FMANZ (2024) advocates for industry-wide benchmarking to allow organisations to assess their workforce development performance against sector norms, fostering a culture of continuous learning and improvement. In conclusion, workforce development in FM is a multifaceted endeavour requiring coordinated action across education, industry, and government. Effective strategies combine formal qualifications, targeted upskilling and reskilling, leadership development, demographic responsiveness, and the cultivation of both technical and soft skills. By embedding a culture of lifelong learning and aligning workforce planning with emerging industry trends, the FM sector

can build a resilient, adaptable, and highly skilled workforce capable of meeting both present and future challenges.

### 2.4.3 Retention and Employee Engagement

Retention and employee engagement are central pillars in addressing labour shortages within the facilities management (FM) sector. While talent attraction and workforce development are essential to filling immediate gaps, retaining existing employees ensures that the investment in recruitment and training yields sustained benefits. High turnover rates not only exacerbate labour shortages but also incur high costs in terms of lost productivity, recruitment expenses, and the erosion of organisational knowledge (OECD, 2025). Engagement, in turn, fosters a sense of commitment and purpose among FM professionals, directly influencing retention rates, service quality, and organisational resilience. In New Zealand, FM retention challenges are amplified by structural factors such as an ageing workforce, limited career progression opportunities, and competition for talent from adjacent sectors like construction, engineering, and property management (BERL, 2023; FMANZ, 2024). As BERL (2023) notes, many FM professionals migrate to higher-paying industries after gaining transferable skills, leaving FM employers with a persistent talent drain. These dynamics underline the need for a strategic, multi-layered approach to retention that goes beyond competitive remuneration and addresses the broader employee experience.

Retention is especially important in FM because labour shortages are not solved only by bringing new people into the sector. If existing workers continue to leave, organisations may remain under pressure even when recruitment improves. In this sense, retention is closely connected to workforce stability, service continuity, and the preservation of practical knowledge. For the FM sector in New Zealand, where experience is often built over time, and many roles involve operational judgement as well as technical responsibility, keeping capable workers is an important part of strengthening the sector for the future.

Competitive compensation remains an important retention factor, particularly in an environment where skill shortages place pressure on wages (ECB, 2023). However, research shows that remuneration alone is insufficient to secure long-term loyalty, especially among younger professionals who prioritise career development, work-life balance, and meaningful work over salary alone (FMANZ, 2024; Frost & Sullivan, 2021). Organisations that supplement fair pay with clear progression pathways, mentoring, and opportunities for skill diversification are better positioned to retain employees, even in competitive labour markets. Career development plays a critical role in retention by providing employees with a sense of growth and progression. Shahzad et al. (2023) argue that structured career ladders, clearly defining the skills, qualifications, and experience required for advancement, help employees envision a future within their current organisation. This can be supported by access to funded training, formal certification programmes, and leadership development initiatives. Such approaches also contribute to engagement by signifying to employees that the organisation is invested in their long-term success.

Clear progression is important not only for development but also for retention. When employees can see how their role may grow over time, they are more likely to feel that staying in the sector is valuable. In FM, this is especially important because many workers begin in operational roles and may not always be shown how those roles can lead to supervisory, specialist, or strategic positions. If progression remains unclear, workers may move to other sectors that appear to offer stronger career futures. For this reason, retention in FM is closely linked to whether organisations can provide visible pathways for advancement as well as day-to-day employment support.

Employee engagement in FM is also closely linked to workplace culture. The diverse and often decentralised nature of FM work, spanning multiple sites, shifts, and client environments, can make it challenging for employees to feel connected to the organisation (Vaiman & Brewster, 2015). Employers can counteract this by fostering a culture of inclusion, recognition, and open communication. Regular team meetings, recognition programmes for outstanding performance, and opportunities for employees to provide feedback can strengthen bonds between staff and management. Importantly, recognition should extend beyond productivity metrics to include contributions to sustainability goals, safety compliance, and client satisfaction (FMANZ, 2024). Flexibility in work arrangements has become a key engagement driver, particularly in the post-pandemic era. While many FM roles require physical presence, employers can still introduce flexible scheduling, job-sharing, or rotational assignments to accommodate employees' personal needs and preferences (OECD, 2025). Frost & Sullivan (2021) highlight that such measures can improve work-life balance, reduce burnout, and enhance retention without compromising operational effectiveness. For example, implementing four-day workweeks in certain FM functions or allowing remote monitoring of building systems for eligible roles can make the sector more attractive to diverse talent pools, including caregivers and semi-retired professionals.

Another important dimension of retention is health, safety, and well-being. FM roles often involve physical labour, irregular hours, and exposure to environmental risks, all of which can contribute to fatigue and injury if not properly managed (Shilova et al., 2021). Employers who invest in comprehensive health and safety programmes, ergonomic work practices, and mental health support not only comply with regulatory requirements but also demonstrate a commitment to employee welfare. This, in turn, enhances loyalty and reduces turnover. Initiatives might include access to counselling services, wellness allowances, and proactive workload management to prevent overextension of staff (FMANZ, 2024).

Retention is also affected by whether employees feel that their work is manageable and recognised in realistic ways. In labour shortage conditions, organisations may depend heavily on committed staff for long periods, but this approach can become difficult to sustain if workers feel that extra effort is treated as normal rather than exceptional. Over time, this can weaken morale and make employees more willing to leave, even where they remain committed to the work itself. In the FM sector, where service continuity often depends on the reliability of experienced staff, this means retention strategies need to address not only pay and progression, but also workload fairness and day-to-day recognition.

Job enrichment, expanding the scope of work to include more varied and meaningful tasks, has also been shown to improve engagement and retention (Shahzad et al., 2023). For example, assigning FM technicians to cross-functional project teams can provide exposure to different areas of the business, fostering skill development and breaking the monotony of repetitive tasks. The multi-skilled workforce model not only enhances operational flexibility but also makes employees feel more valued and invested in, which strengthens their organisational commitment.

Retention strategies should also address the issue of underutilisation of skills, which can lead to disengagement. As Hatos and Saveanu (2016) note, when employees feel their abilities are not being fully used, they are more likely to seek opportunities elsewhere. Ensuring that roles are designed to match employee competencies and providing pathways to take on more complex responsibilities helps maintain motivation and satisfaction. Organisational transparency plays a significant role in both engagement and retention. Employees who understand the organisation's strategic goals, performance metrics, and decision-making processes are more likely to feel connected to its mission (Atkin & Brooks, 2021). Regular communication from leadership, whether through town halls, newsletters, or digital platforms, can bridge the gap between front-line staff and management, especially in large FM organisations where employees are geographically dispersed. From a policy perspective, retention can be supported by industry-wide initiatives that set standards for fair employment practices, training obligations, and worker protections. FMANZ (2024) advocates for sector-wide codes of conduct and certification frameworks that establish minimum standards for pay, safety, and professional development. Such measures not only enhance retention by improving job quality but also help position FM as a career choice rather than a transient employment option.

Employee engagement, while closely related to retention, requires its own deliberate strategies. Engagement can be cultivated through participatory decision-making, where employees have a say in operational improvements and organisational initiatives (Vaiman & Brewster, 2015). Involving staff in sustainability projects, innovation pilots, or community outreach programmes can provide a sense of ownership and pride in their work. Similarly, providing opportunities for peer-to-peer learning and networking, such as through industry conferences, branch meetings, or collaborative platforms, can deepen professional engagement. Incorporating employee feedback into policy and practice is a powerful engagement tool. Regular surveys, focus groups, and one-on-one check-ins enable organisations to identify and address concerns before they escalate into turnover. However, the effectiveness of such mechanisms depends on visible follow-through; employees must see that their input leads to tangible changes (FMANZ, 2024). Retention and engagement in the FM sector require a holistic approach that integrates competitive pay, career development, workplace culture, flexibility, well-being, job enrichment, skill utilisation, transparency, and participatory practices. By creating an environment where employees feel valued, supported, and connected to the organisational mission, FM employers can reduce turnover, enhance service quality, and build a more sustainable workforce. Given the significant costs and operational risks associated

with attrition, investing in retention and engagement is not just a human resources priority but a strategic imperative for the sector's long-term viability.

### 2.4.4 Policy and Migration Measures

Policy and migration measures are critical levers for addressing the persistent labour shortages in the facilities management (FM) sector, particularly in a geographically isolated country like New Zealand, where the domestic talent pool is limited. The FM sector's workforce challenges are driven by structural issues, such as demographic ageing, low visibility of FM as a career, and insufficient training pipelines, that cannot be resolved by domestic strategies alone (BERL, 2023; FMANZ, 2024). Therefore, coordinated policy interventions and targeted migration pathways are necessary to both attract international talent and create a regulatory environment that supports the retention and development of skilled workers.

Policy matters in this area because labour shortages in FM are not only shaped by what organisations do internally. They are also influenced by how the wider workforce system operates, including how occupations are recognised, how migration pathways are structured, and how education and training are supported at the sector level. In a field such as FM, where the workforce often comes from mixed backgrounds and where professional identity is still developing, policy settings can either strengthen or weaken the sector's ability to build a stable labour supply over time. For this reason, policy and migration measures should be viewed not only as short-term responses to vacancies, but also as part of longer-term workforce development.

The FM industry in New Zealand has historically drawn part of its workforce from related sectors, including construction, property management, engineering, and building services (FMANZ, 2024). While this cross-sectoral mobility has helped fill short-term gaps, it does not provide a sustainable pipeline of FM specialists. An important policy issue is how Facilities Management is classified within national occupational and immigration systems. Under ANZSCO, Facilities Manager (149913) is classified at Skill Level 2 rather than as a separate Skill Level 1 occupation. Although FM is therefore formally recognised, its classification may not fully reflect the increasingly strategic, digital, compliance, and leadership responsibilities found in contemporary FM roles. This can reduce the visibility of FM within workforce planning and make it more difficult for policy settings to respond specifically to shortages in higher-level FM capability. Greater recognition of the changing scope of FM work would support the more targeted workforce and migration planning. Immigration policy plays a direct role in shaping the FM talent supply. The post-2020 tightening of immigration rules in response to the COVID-19 pandemic, coupled with ongoing bureaucratic delays in skilled migrant processing, has limited the sector's ability to import talent (MBIE, 2023). Although the government has since reintroduced certain skilled migrant categories, these are often focused on high-profile industries such as healthcare and technology, leaving FM underrepresented in priority lists (FMANZ, 2024). Expanding these priority lists to include FM roles, especially those in acute shortage areas like building services engineering, sustainability management, and digital facilities operations, would align policy with labour market realities. Policy can also incentive migration through streamlined visa pathways. Frost & Sullivan (2021) highlights that

competing markets such as Australia and Canada have leveraged fast-track work permits, relocation support packages, and recognition of prior overseas experience to attract FM talent. Without similar measures, New Zealand risks losing potential recruits to jurisdictions with more favourable entry conditions. The adoption of reciprocal skill recognition agreements with key labour-source countries, such as the UK, the Philippines, and South Africa, could further expand the available talent pool while reducing administrative bottlenecks (FMANZ, 2024).

At the same time, migration policy on its own cannot provide a full solution to labour shortages in FM. While international recruitment may help address immediate capability gaps, especially in specialist or hard-to-fill roles, long-term workforce stability still depends on strengthening local pathways into the profession. If migration is relied on too heavily without improving domestic training, progression, and sector visibility, the underlying workforce problem may remain unresolved. In the New Zealand context, this suggests that migration should be treated as one part of a wider response rather than as a substitute for long-term workforce development.

However, migration alone cannot solve the problem. Policies must be designed to balance the inflow of skilled migrants with the upskill of the domestic workforce. Over-reliance on foreign labour can create vulnerabilities, especially in times of global mobility restrictions (Shahzad et al., 2023). A dual-track policy approach, combining targeted migration with investments in domestic training infrastructure, can ensure a more resilient workforce. For example, Australia's FM sector has implemented a quota-based migration policy that caps foreign recruitment at a certain percentage while mandating employer investment in apprenticeships and domestic training (OECD, 2025). Adopting a similar model could strengthen New Zealand's long-term workforce capacity.

Regional disparities within New Zealand's FM workforce also require policy attention. The concentration of FM professionals in Auckland, accounting for 44% of the total workforce, leaves regional areas struggling to fill vacancies (BERL, 2023). Migration policy could address this by introducing regional visa schemes that tie work permits to underserved areas, like the regional skilled migration programmes in Australia. These policies not only help distribute talent more evenly but also stimulate regional economies by ensuring the maintenance and optimisation of critical infrastructure outside major urban centers. In addition to migration, broader labour policy reforms can improve retention and sector attractiveness. FM roles often involve irregular hours, physical demands, and high responsibility, yet they remain undervalued compared to other professional services (Shilova et al., 2021). Policies that set sector-specific minimum pay standards, regulate workloads, and mandate professional development requirements would elevate FM job quality. Such measures are particularly important for attracting and retaining younger workers who value work-life balance and clear career pathways (Frost & Sullivan, 2021).

Policy frameworks can also facilitate collaboration between government, industry, and educational institutions. The FMANZ Operational Plan (2024) advocates joint policy initiatives to create FM-specific qualifications at both secondary and tertiary levels, integrated with apprenticeship schemes. Embedding FM modules into related disciplines, such as architecture, engineering, and business management, can raise awareness of the sector and

create a broader pipeline of potential recruits. Government funding for FM-related research, especially in sustainability and digital transformation, would also strengthen the sector's profile and draw interest from highly skilled professionals globally (FMANZ, 2024).

Migration measures must also be future proved to account for changing skill requirements. As the FM sector becomes increasingly digitalized, integrating IoT, AI, and digital twins into building operations, the skill sets required for effective FM management are evolving rapidly (Massey University, 2024). Immigration policy needs to anticipate these shifts by prioritising applicants with competencies in digital facility operations, energy optimisation, and smart building management. Aligning migration criteria with emerging skill demands will ensure that incoming talent contributes directly to the sector's innovation capacity. One barrier to attracting skilled migrants is the perception of FM as a secondary or non-core profession (Vaiman & Brewster, 2015). International marketing campaigns, supported by both government and industry, could help rebrand New Zealand's FM sector as a vital and rewarding career choice. These campaigns could highlight the sector's role in sustainability, community well-being, and technological advancement, while featuring testimonials from successful migrant professionals. It is also important to note that policy and migration measures can be undermined if workplace integration is neglected. Migrants may face cultural adjustment challenges, a lack of local professional networks, or difficulties in navigating regulatory requirements (FMANZ, 2024). Employers and industry associations can support integration through structured onboarding, mentoring programmes, and cultural competency training for both local staff and newcomers. Such measures not only improve retention but also enhance workplace cohesion and productivity. In the context of sustainability goals, migration policy can be strategically leveraged to advance environmental objectives. Recruiting FM professionals with expertise in green building certification, renewable energy integration, and sustainable asset management aligns with New Zealand's commitments under international climate agreements (FMANZ, 2024). In this way, migration becomes not just a solution to labour shortages but also a catalyst for sectoral transformation.

Ultimately, effective policy and migration measures for the FM sector must be multi-dimensional, addressing recognition, attraction, integration, and retention simultaneously. Policies that position FM as a priority occupation, facilitate targeted migration, promote equitable regional distribution, and integrate workforce development with immigration are essential for overcoming chronic skill shortages. Without such coordinated action, the FM sector risks ongoing operational strain, misses sustainability targets, and reduces competitiveness in the global market.

### 2.4.5 Technology and Innovation

Technology and innovation have emerged as pivotal solutions in addressing labour shortages within the facilities management (FM) sector. The integration of digital systems, automation, and innovative service delivery models can not only compensate for the lack of human resources but also enhance operational efficiency, reduce costs, and improve service quality (Massey University, 2024; Frost & Sullivan, 2021). The FM industry, traditionally labour-

intensive, is undergoing a transformation in which technological tools are becoming central to strategic management, enabling fewer workers to manage more assets at a higher standard.

One of the most impactful technological advances in FM is the adoption of the Internet of Things (IoT). IoT devices, such as smart sensors, meters, and automated monitoring systems, enable real-time tracking of building performance, occupancy, and environmental conditions. This technology allows FM teams to identify maintenance needs before they escalate into costly issues, reducing reactive repairs and extending asset lifespan (McKinney & Parker, 2019). In the context of labour shortages, IoT reduces the demand for manual inspections and allows existing staff to focus on complex, value-added tasks. For example, predictive maintenance, powered by IoT and AI analytics, can pre-empt equipment failures, thereby minimizing downtime and reducing the workload pressure on overstretched technical teams (Peters, 2020). Building Information Modelling (BIM) and Digital Twin technologies are also redefining FM operations. BIM provides a digital representation of a facility's physical and functional characteristics, which supports informed decision-making throughout the building lifecycle (Madhusanka et al., 2019). Digital Twins go a step further by creating a dynamic, real-time digital counterpart of physical assets, enabling remote monitoring, simulation, and optimisation of building performance (FMANZ, 2024). These tools enable FM managers to visualise potential issues, test interventions virtually, and coordinate maintenance without requiring large on-site teams, directly mitigating the impact of workforce shortages.

Automation in routine facility tasks is another key innovation. Robotics are increasingly being deployed for cleaning, security, and even minor maintenance activities (Shilova et al., 2021). Autonomous cleaning machines, for example, can operate outside of regular working hours, reducing the need for manual labour in repetitive, low-skill tasks. Similarly, AI-driven security systems, equipped with facial recognition, motion detection, and behavioural analytics, allow for continuous monitoring with minimal human intervention, freeing up security staff for higher-level incident management. Energy management technologies are particularly relevant given the FM sector's growing focus on sustainability. Smart energy systems optimise heating, ventilation, air conditioning (HVAC), and lighting based on real-time occupancy and environmental data, significantly reducing energy waste and operational costs (Atkin & Brooks, 2021). These systems require fewer personnel for manual adjustments, as optimisation processes are automated, thus alleviating staffing constraints. The integration of renewable energy management tools, such as solar panel performance trackers and battery storage monitoring, also aligns FM operations with New Zealand's carbon reduction commitments while reducing the operational burden on human staff (FMANZ, 2024).

Cloud-based Integrated Workplace Management Systems (IWMS) have become a cornerstone of tech-enabled FM. These platforms centralise critical functions, including space planning, asset management, maintenance scheduling, and compliance tracking, into a single interface accessible from anywhere (Peters, 2020). This not only enables remote work for FM professionals but also allows smaller teams to coordinate more effectively. During periods of acute labour shortage, IWMS can prioritise and assign tasks based on urgency and resource availability, ensuring that essential services remain uninterrupted. The application of Artificial

Intelligence (AI) and Machine Learning (ML) is further amplifying FM capabilities. AI-driven analytics can identify patterns in maintenance logs, energy consumption, and asset performance, generating actionable insights that improve efficiency and reduce unnecessary labour (Massey University, 2024). For example, AI can automatically generate maintenance schedules that minimise downtime and optimise technician workloads, ensuring that scarce labour is allocated where it will have the most impact.

Technology also plays a critical role in workforce training and upskilling. Virtual Reality (VR) and Augmented Reality (AR) are being deployed to simulate maintenance scenarios, allowing technicians to practise complex tasks in a safe, controlled environment before performing them on-site (Shahzad et al., 2023). This reduces training time, accelerates skill acquisition, and ensures higher quality work, which is essential in an environment where the labour pool is both limited and ageing. Furthermore, mobile learning platforms enable continuous professional development without requiring extended absences from work, helping FM professionals adapt to evolving technologies while remaining productive. Innovation in service delivery models is another avenue through which FM is adapting to workforce shortages. Outsourcing and partnership models, enabled by digital platforms, allow FM companies to tap into on-demand, freelance, or remote specialist talent as needed. The rise of "FM as a Service" (FMaaS) offers scalable, subscription-based solutions for building owners, integrating technology with external expertise to manage facilities more efficiently (Frost & Sullivan, 2021). From a policy and strategic standpoint, technology adoption is also linked to talent attraction. Younger professionals, particularly those from digital-native generations, are more likely to be drawn to technologically advanced workplaces that use cutting-edge tools and offer opportunities for tech-based career growth (FMANZ, 2024). By branding the FM sector as an innovation-driven industry, companies can attract a broader and more diverse talent pool, offsetting some of the recruitment challenges caused by labour shortages. However, the integration of technology is not without challenges. A significant barrier is the digital skills gap among existing FM professionals, particularly those nearing retirement age (BERL, 2023). Without targeted digital literacy training, the benefits of advanced technology cannot be fully realised. In some cases, the implementation of new systems has been slowed by resistance to change, concerns over job security, or the high capital costs of adopting technology (FMANZ, 2024). Addressing these barriers requires both organisational leadership and supportive policy frameworks that incentivise technological investment and training.

Cybersecurity is another critical consideration. As FM operations become increasingly digital and data-driven, they become more vulnerable to cyber threats. IoT devices, cloud-based systems, and AI-driven platforms all create potential entry points for malicious actors (Shilova et al., 2021). Ensuring strong cybersecurity measures, such as encryption, regular audits, and staff training, must therefore accompany any technological advancement in FM. In the sustainability context, technology and innovation also offer a pathway to achieving broader societal goals. Smart building technologies, circular economy principles, and sustainable materials management all reduce environmental impact while optimising resource use. This not only improves operational efficiency but also enhances the public image of FM organisations, making them more attractive to both employees and clients (Atkin & Brooks,

2021). Ultimately, technology and innovation do not replace human labour in FM; rather, they amplify human capacity, enabling fewer workers to deliver higher-quality services on a larger scale. In the face of labour shortages, this capacity amplification is essential for maintaining service levels, meeting regulatory requirements, and supporting long-term industry growth. A proactive, strategic approach, combining investment in digital infrastructure, training, and process innovation, will position the FM sector to thrive despite ongoing workforce constraints.

### 2.5 Research Gaps and Motivations

This chapter has reviewed the literature on labour shortages in facilities management (FM), their underlying causes, and the strategies proposed to address them, alongside the broader economic, technological, and operational context of the FM industry in New Zealand. The literature highlighted that FM plays a critical role in supporting the country's-built environment, contributing approximately $7 billion in direct expenditure annually, $3.5 billion to GDP, and employing nearly 22,800 full-time equivalent workers (FMANZ, 2020; BERL, 2023). However, despite its economic significance, the sector is facing acute and persistent labour shortages, which are exacerbated by demographic changes, skill mismatches, and low uptake of advanced technologies (Macqueen, 2021; MBIE, 2023; FMANZ, 2023–2024). These shortages are particularly pronounced outside major urban centres, where FM services are nonetheless critical to the functioning of infrastructure and community facilities. The literature suggests that the shortage of skilled FM workers cannot be attributed to a single cause. Factors include the tight labour market, low unemployment rates, limited migration pathways, and an ageing workforce (Macqueen, 2021; MBIE, 2023). The human capital theory emphasises that targeted investments in employee education, training, health, and compensation can increase productivity and service quality (Duncan MacLennan et al., 2021). However, past research has not yet provided an FM-specific framework that operationalises these investments across a diverse range of roles within the sector, from technical specialists to general operations staff. Furthermore, while skill mismatches have been recognised in the broader construction and building services industries (Hatos & Saveanu, 2016; CEDEFOP, 2018), little attention has been given to aligning FM training pathways with the rapidly evolving demands of the sector, especially considering technological advancements and sustainability goals.

International literature offers valuable comparisons. In some markets, such as Western Europe, FM strategies focus heavily on sustainability and advanced technological integration, while in parts of Asia-Pacific, rapid industrialisation drives demand for FM services but often prioritises cost efficiency over long-term investment (Vaiman & Brewster, 2015; Nguyen et al., 2018; Bergman & Feser, 2020). Although these differences are acknowledged, there is little research on how best to adapt global best practices to New Zealand's unique operating environment, which combines urban concentration with regional service delivery challenges. This represents an important gap, as the ability to transfer and localise international approaches could significantly strengthen the sector's resilience. In addition to workforce and skill challenges, the literature identifies technology adoption as a major barrier to FM development in New Zealand. While the potential benefits of Internet of Things (IoT) systems, integrated workplace management systems (IWMS), and artificial intelligence are well recognised (McKinney &

Parker, 2019; Peters, 2020), adoption remains slow. The FMANZ Global Impact Report (2023–2024) attributes this to both capacity constraints and a lack of targeted technical training yet does not offer detailed empirical evidence on the root causes or on strategies for overcoming them. This gap is particularly significant because technology adoption has direct implications for workforce requirements, service quality, and the ability to meet sustainability objectives.

The reviewed research also notes a lack of comprehensive retention strategies tailored to the FM sector in New Zealand. While there is acknowledgement that factors such as employee engagement, career development, and workplace culture influence staff retention (Shahzad et al., 2023; Frost & Sullivan, 2021), sector-specific evidence is limited. There is little understanding of how these factors interact with regional labour market dynamics, organisational size, or service type, all of which can affect turnover and workforce stability. Similarly, while skilled migration could help address shortages, few studies evaluate the integration and long-term retention of migrant FM workers, or how migration strategies might be balanced with domestic workforce development. The existing literature does not yet provide an integrated approach to understanding and addressing labour shortages in the FM sector that brings together talent attraction, skills development, retention, technology integration, and migration policy within one coherent perspective. Most existing studies tend to examine these issues separately, which can lead to fragmented explanations of the problem and fragmented responses in practice. As a result, there is still a limited understanding of how these different factors interact with one another in shaping labour shortages across the FM sector.

This gap also points to the importance of looking beyond organisational responses alone. In the New Zealand context, labour shortages in FM are shaped not only by recruitment difficulties within individual organisations, but also by wider conditions such as labour market settings, migration pathways, education systems, and the increasing complexity of workforce capability requirements. This means that labour shortages in FM should be understood as part of a broader workforce planning and sector development issue. A more integrated understanding is therefore needed, one that connects professional recognition, training pathways, workforce retention, technology-related skills, and policy settings rather than treating them as separate concerns. This reinforces the need for a study that connects these components into a coherent framework, allowing for a coordinated industry-wide response that is sensitive to New Zealand's specific market conditions and regional disparities.

These gaps need to be addressed for the FM sector to move towards a more resilient, sustainable, and future-ready workforce. This study seeks to address these gaps by contributing to a more integrated understanding of workforce development in New Zealand's FM industry. To do this, it will draw on both the best international practices and domestic sector insights, incorporating perspectives from key stakeholders, including FM professionals, industry associations, training providers, policymakers, and technology suppliers. The research will identify the critical success factors for attracting, training, and retaining FM workers, assess barriers to technology adoption, and explore strategies for aligning migration policy with domestic skill-building initiatives. It will also consider the regional distribution of FM workforce challenges to ensure that recommendations are equitable and applicable across

different contexts. The proposed framework, grounded in evidence and informed by the voices of those directly engaged in FM delivery, provided a roadmap for enhancing the sector's capacity and capability. By integrating workforce planning, training pathways, retention strategies, and technological readiness, the framework aims to support a more efficient, attractive, and sustainable FM industry in New Zealand. It is hoped that with such a framework, both the industry and policymakers will be better equipped to address current and future labour shortages, ensuring that FM can continue to play its essential role in supporting the built environment and contributing to the nation's economic and social well-being.

## 2.6 Summary

This chapter reviewed the literature related to labour shortages in the facilities management (FM) sector, with particular attention to the New Zealand context. It first examined the meaning, scope, and development of FM as both an operational and strategic function within the built environment. The review showed that FM is not limited to routine maintenance activities, but also contributes to asset performance, compliance, sustainability, workplace effectiveness, and the wider continuity of organisational operations. At the same time, the literature suggests that FM in New Zealand is still a developing profession compared with more established international contexts, especially in relation to professional recognition, education pathways, and workforce maturity.

The chapter then explored the New Zealand FM sector in more detail and showed that labour shortages are shaped by a wider set of structural and professional conditions. These include limited formal education pathways, uneven professional recognition, ageing workforce patterns, increasing technological demands, and competition for labour from related industries. The literature also showed that FM in New Zealand continues to rely heavily on workers entering from adjacent sectors, which can strengthen practical experience but may also contribute to uneven capability, unclear career pathways, and inconsistency across organisations. This indicates that labour shortages in FM are not only about the number of workers available, but also about the development, capability, and longer-term stability of the sector.

The review further examined the effects of labour shortages and found that these shortages influence FM performance at several levels. They affect operational efficiency, project delivery, service quality, staff workload, and the long-term condition of assets. Shortages can push organisations away from planned and preventive work towards more reactive service delivery, while also increasing pressure on the workers who remain. In sectors where continuity, compliance, and asset reliability are critical, these effects may have wider implications for organisational resilience and user experience.

The chapter also reviewed the main causes of labour shortages identified in the literature. These include weak professional recognition, demographic pressure, restrictive immigration settings, skill mismatch, limited education and training pathways, low visibility of FM as a career, job quality concerns, and strong competition from other sectors. Because these causes are closely

connected, the literature suggests that labour shortages in FM should be understood as a broader workforce development issue rather than as a short-term recruitment problem alone.

Finally, the chapter examined a range of strategies proposed to address labour shortages in FM. These include talent attraction, workforce development, retention, employee engagement, and policy or migration-related measures. The literature suggests that no single strategy is sufficient on its own. Instead, more effective responses are likely to involve coordinated action across education, industry, workforce planning, and policy settings. Overall, this chapter has shown that labour shortages in FM are complex, multi-dimensional, and strongly shaped the profession that has developed in New Zealand. It also highlights the need for research that captures practitioner experience to better understand how these issues are being experienced and addressed in practice. The next chapter, therefore, outlines the research methodology adopted for this study.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter presents an overview of the methodological approach adopted for this study, which investigates strategies to address labour shortages in the facilities management (FM) sector in New Zealand through the perspectives of industry practitioners. The chapter begins by defining research and the process undertaken in this study, followed by a discussion of the qualitative research methodology applied. The process of establishing the research problem is outlined, drawing from both the literature review and preliminary expert insights. The problem investigated is then restated with an overarching research aim, objectives, and research questions. Subsequently, the philosophical position adopted for the study is described, along with its underlying ontological, epistemological, and axiological assumptions. The justification for the choice of a qualitative approach is provided, together with the research strategy and techniques used. The research design comprises two sequential phases of semi-structured interviews: Phase 1 with senior FM management within a university campus context, and Phase 2 with FM practitioners from various organisations outside the campus environment. Following this, the data collection and thematic analysis procedures are explained in detail, including the sampling approach and the analytical framework used to identify patterns, themes, and insights from participants' experiences. The chapter also discusses strategies to ensure the trustworthiness of the findings, including credibility, dependability, confirmability, and transferability. Ethical considerations are addressed, with specific attention to privacy, confidentiality, and cultural sensitivity, including alignment with the principles of the Treaty of Waitangi. The chapter concludes by outlining the scope and limitations of the study.

The methodological design of this study was chosen based on the research problem and the kind of understanding needed. Labour shortages in the New Zealand FM sector do not happen in the same way everywhere. They depend on the organisation, the structure of the workforce, the pressures in operations, and the different responsibilities in FM roles. Because of these reasons, a qualitative design was selected instead of only using quantitative methods. This is because qualitative research can explore more deeply how people see, experience, and manage labour shortages in real situations.

The use of two phases in the interview process also corresponds to the research problem with the research design. In the first phase, interviews with senior FM managers at a university campus help to understand the internal pressures, challenges in service delivery, and workforce issues inside a structured organisation. In the second phase, interviews with FM practitioners from other organisations give a wider view of the industry and make it possible to compare different situations. This two-stage design helps to understand labour shortages better because it shows that the problem can look different in each context, but there are also some common issues.

In this way, the method is not only a technical decision. It is also a direct answer to the complicated nature of the problem. The design helps the study to go deeper than just describing the problem. It aims to build a strong understanding of the causes, effects, and possible solutions to labour shortages in FM, based on the real context. This approach also makes the study stronger because it keeps the experiences of FM practitioners at the centre of the research.

### 3.2 Definition of Research

In simple terms, research is defined by Rajasekar, Philominathan, & Chinnathambi (2006) as "*a logical and systematic search for new and useful information on a particular topic… a discovery of hidden truths*" (p. 1). Depoy & Gitlin (2005) broaden this by describing research as "*a multiple, systematic strategy to generate knowledge about human behaviour, human experience, and human environments*…" highlighting the importance of clarity and utility in the researcher's thought and action processes. Leedy & Ormrod characterise research as "*a process of collecting, analysing, and interpreting data to understand a phenomenon,*" and underscore its role as a structured means of increasing or revising current knowledge through the discovery of new facts. Creswell (2008) offers a similarly process-oriented definition: "*research is a process of steps used to collect and analyse information to increase our understanding of a topic or issue,*" composed of posing a question, collecting relevant data, and then presenting an answer. Merriam Webster, meanwhile, defines research as "*studious inquiry or examination… aimed at the discovery and interpretation of facts*."

Slesinger and Stephenson expand the remit of research by suggesting it involves manipulating concepts or symbols "for the purpose of generalising to extend, correct or verify knowledge," whether that supports theory-building or practical application. From these perspectives, research is more than mere information gathering; it is a systematic, purposive, and reflexive process aimed at generating or refining knowledge. Good research should be organised, critical, analytical, and effectively communicable (Grey, 2009; Amaratunga et al., 2002; Saunders et al., 2011). This study adopts this understanding, employing a qualitative, systematic approach to exploring labour shortages in facilities management through in-depth interviews with experienced practitioners, aiming to produce reliable, contextually grounded knowledge.

### 3.3 The Process of Conducting Research

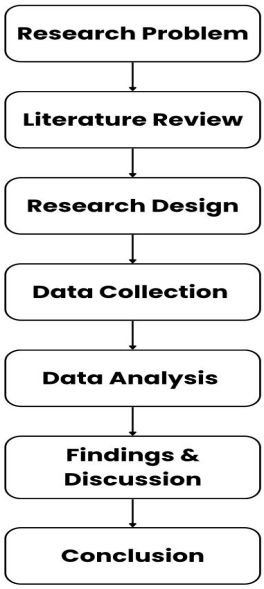
The process of conducting research can be understood by examining and understanding the context surrounding a particular problem to explore possible solutions (Cavana, Delahaye, & Sekaran, 2001). In essence, research is a voyage of discovery (Fellows & Liu, 2008; Stebbins, 2001) that begins with curiosity and proceeds through a logical, structured process to investigate and address a contemporary issue. Figure 3.1 presents a simplified overview of the research process adapted from Grey (2009). Throughout this study, the researcher followed this logical progression from the identification of the problem to the final reporting of the findings (Punch, 2005; Sekaran, 2005). O'Leary (2004) suggests that researchers should consider three fundamental questions during this process:

What needs to be done?

What research methods are most appropriate to generate, validate, and refine the knowledge?

What can be derived from the research to contribute to the knowledge base?

**Figure 3.1**




**Simplified overview of the research process**

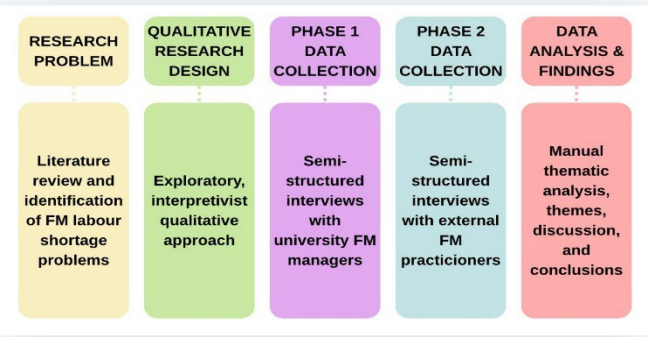
***Note.*** Adapted from Grey (2009).

In the present study, the research process commenced with a review of existing literature on labour shortages in the facilities management (FM) sector, both globally and in New Zealand. Informal discussions with FM professionals provided additional insights and context, helping refine the scope and focus of the study.

Following this, the research was designed as a two-phase qualitative inquiry. Phase 1 involved semi-structured interviews with senior management personnel working in FM roles within a university campus, aiming to understand their experiences, perceived causes, and strategies related to labour shortages. Phase 2 extended the investigation to FM practitioners from different companies outside the campus environment, ensuring a broader industry perspective. Data from both phases were analysed using thematic analysis to identify recurring patterns, key challenges, and potential solutions. The findings were then synthesised to form a comprehensive understanding of labour shortages in FM, grounded in the lived experiences of practitioners. Figure 3.2 illustrates the step-by-step research process undertaken in this study.

**Figure 3.2**

*Outline of the research design*




## 3.4 Types of Research

Depending on the purpose of the study, research can be exploratory, explanatory, or descriptive (Bernard, 2012). Exploratory research investigates new phenomena or situations where little prior knowledge exists, explanatory research aims to establish causal relationships between variables, and descriptive research aims to present a detailed account of a phenomenon as it naturally occurs (Neuman, 2006). While a research project can combine these types, one type typically dominates based on the objectives of the study. This study primarily adopts an exploratory research design. The objective is to explore the perspectives, experiences, and practices of Facilities Management (FM) professionals regarding the issue of labour shortages, both within university campus environments and across different private-sector organisations. The exploratory nature of the study is justified because there is limited empirical research in the New Zealand context specifically addressing how FM practitioners experience, perceive, and respond to workforce shortages, as well as the strategies they employ to mitigate such challenges. The research was conducted in two phases of qualitative data collection. The first phase involved semi-structured interviews with senior FM management personnel within a university campus. The aim was to obtain an in-depth understanding of the institutional challenges and internal strategies applied in an academic environment. The second phase consisted of interviews with FM practitioners from various external organisations across different industries. This stage provided comparative insights and allowed for the identification of patterns, differences, and potential transferable practices across sectors. The decision to use an exploratory approach stems from the need to build a foundational understanding of the problem before formulating potential frameworks or policy recommendations. The qualitative design allows for flexibility, enabling the researcher to probe deeper into emerging themes during the interviews and capture the complexity of participants lived experiences (Bhattacherjee, 2012).

## 3.5 Exploratory Research

Exploratory research is employed when comparatively little is known about a topic and existing theories may not offer useful guidance (Teddlie & Tashakkori, 2009). It is useful for discovering appropriate information and forming initial ideas or hypotheses (Stebbins, 2001). Exploratory research allows researchers to scope out the extent of a particular phenomenon, to

generate initial insights, and to assess the feasibility of more extensive studies later (Bhattacherjee, 2012). According to the Cambridge University Press, exploration studies help researchers perform a tentative first analysis of a new topic or propose new ideas and hypotheses on an underexplored subject (Cambridge University Press, 2020). Meanwhile, Tegan George (2021) notes on Scribbr that exploratory research typically investigates questions that have not been examined deeply and is often qualitative in nature, incorporating open-ended methods like interviews or grounded theory approaches.

In this study, the exploratory research model is entirely qualitative. Phase 1 consisted of semi-structured interviews with senior FM managers at a university campus to understand internal perspectives and challenges. Phase 2 expanded the exploration to include FM practitioners from multiple external companies, allowing for cross-sector comparisons and broader insight. This flexible and open-ended approach is well-suited to uncovering previously under-investigated nuances and practitioner experiences, including the "what," "how," and "why" behind workforce shortage issues. By centring on exploratory qualitative methods, this study does not test hypotheses or quantitatively measure variables but instead prioritises understanding the lived realities of FM professionals. This rich, contextual insight forms the necessary foundation for any future, more structured research, should that be planned later.

### 3.6 Establishment of the Research Problem

The formulation of the research problem was derived from the researcher's initial motivation, an in-depth review of past literature, and exploration discussions with facilities management practitioners. In the context of this study, the research problem addresses the persistent labour shortages in the Facilities Management (FM) sector in New Zealand, both within the educational environment (campus) and across external companies. These shortages have significant implications for service quality, operational efficiency, and the long-term sustainability of the sector.

#### 3.6.1 Initial Motivation

A research project should be initiated with a strong interest and competence in the selected subject area (Remenyi, 1998; Saunders et al., 2011). The researcher possesses an academic and professional background in facilities management, which underpins a deep interest in the issue of labour shortages in the FM industry. This interest is reinforced by practical experience and direct observation of the challenges faced by facilities managers in optimising human resources.

Labour shortages in this sector not only hinder productivity but also affect service quality, organisational reputation, and the sector's overall sustainability. These issues motivated the researcher to undertake an in-depth qualitative study to explore the causes, impacts, and strategies to address the problem of labour shortages in the New Zealand FM industry. The study is designed around in-depth interviews to capture the lived experiences and perspectives of FM professionals.

### 3.6.2 Literature Review

Previous literature highlights that labour shortages represent a major challenge for both the construction and FM sectors. The Beyond Boom-and-Bust report by BDO (Macqueen, 2021) revealed that 80% of respondents identified labour shortages as their primary challenge, with only 12% of projects completed on time. Companies often take on more work despite limited resources, resulting in extended project durations and reputational risks. Contributing factors include a tight labour market, low unemployment rates, and strict immigration restrictions (Macqueen, 2021).

The concept of human capital emphasises that the abilities, skills, and knowledge of employees can be measured and contribute to productivity (Duncan MacLennan et al., 2021). Investments in training, education, health, and compensation are considered essential for improving workforce performance (Nafukho et al., 2004; Schultz, 1961). Furthermore, the human capital hypothesis suggests that targeted education and training programmes are necessary to ensure alignment between workforce skills and employer needs (David & Lopez, 2001).

Scholars also point to the importance of multi-faceted strategies for addressing labour shortages, including attracting new talent, developing the existing workforce, improving retention rates, addressing migration barriers, and leveraging technology (Harrison et al., 2017). Cross-cultural differences in FM practices, such as leadership style, decision-making processes, and approaches to sustainability, influence how labour shortages are managed in different regions (Vaiman & Brewster, 2015).

Within the New Zealand context, FMANZ (2014) estimates that FM professionals manage $7 billion in direct expenditure annually, supporting nearly 22,800 full-time equivalent employees. However, more recent studies (Alotaibi, 2019; IFMA, 2020; Atkin & Brooks, 2021) indicate that labour shortages have led to longer response times, reduced cleanliness, increased maintenance backlogs, and declining occupant satisfaction. These operational challenges highlight an urgent need for strategic workforce planning in FM. From this literature review, a research gap is identified: there is limited qualitative research capturing the lived experiences of FM practitioners facing labour shortages, both within campus-based FM teams and in external organisations. This study aims to fill that gap through two phases of qualitative inquiry: the first involving senior FM management within a university campus, and the second engaging FM practitioners from various companies in the wider industry.

### 3.6.3 Description of the Research Problem

The research problem addressed in this study concerns the persistent labour shortages in the Facilities Management (FM) sector in New Zealand, a challenge impacting service quality, operational efficiency, and sector resilience. To remedy this problem, it is essential to develop an in-depth understanding of how FM professionals perceive and respond to workforce constraints and the adaptive strategies they employ. Therefore, this research engages FM senior managers within university campuses and FM practitioners across various external organisations. Tyden (1994) emphasises that effective research design must reflect three

characteristics: scope, nature, and complexity, as these factors determine the validity and potential impact of the findings.

### 3.7 The Scope of the Problem (Transferability)

In qualitative research, transferability refers to the degree to which findings can apply to other contexts through "fittingness" rather than statistical generalisation (Guba, 1981). It relies on thick description and clear contextual detail to empower future readers to judge applicability to their own settings (McLeod, 2024). In this study, the scope is deliberately specific yet transferable. While labour shortage dynamics may vary across institutions or organisations, the insights regarding barriers, adaptive strategies, and organisational responses in FM have relevance beyond the New Zealand university and company contexts. Rich, contextual interviews ensure that the findings carry contextual credibility, enhancing their applicability to similar FM environments (McLeod, 2024).

#### 3.7.1 The Nature of the Problem

The nature of a research problem guides methodological choice and should explain both what is happening and why it happens (Babbie, 2012). Complex socio-behavioural technical challenges, ones shaped by human, organisational, and systemic factors, often require qualitative approaches to be fully understood (Springer, 2015). Labour shortages in FM clearly require such depth. Simple counts of vacancies or turnover rates do not capture the operational nuances and emotional burden faced by FM professionals. A qualitative approach (semi-structured interviews) allows exploration of both what strategies or challenges are occurring and why stakeholders perceive them that way, enabling rich, emergent understanding (Polkinghorne, 2005).

#### 3.7.2 The Complexity of the Problem

Facilities Management workforce dynamics in New Zealand exemplify a complex adaptive system (CAS). In CAS theory, systems consist of multiple interacting agents whose behaviours adapt to ongoing changes in their environment, leading to unpredictable emergent outcomes (Miller & Page, 2007; Holland, 1995). Facilities managers, frontline staff, institutional policies, labour markets, and regulations form interconnected components within the FM "ecosystem." No single entity controls outcomes centrally; instead, distributed decision-making and feedback loops characterise the system. For instance, a change in immigration policy (macro-level) can influence staffing, which in turn affects service quality, internal operations, and morale at multiple institutions.

This adaptation occurs through co-evolution; FM teams and organisations evolve based on both internal practices and external pressures (Miller & Page, 2007). The COVID pandemic underscores such complexity, where FM teams have had to rapidly reconfigure operations, protocols, and staffing approaches in response to emerging constraints and safety requirements (Aşkun, 2023). Moreover, complexity thinking helps acknowledge and embrace the unpredictable "messiness" of FM contexts. Borrowed from healthcare research, another

human-centred CAS, the approach highlights that FM issues shouldn't be reduced to linear, compartmentalised problems but understood in their dynamic relational context (Khan et al., 2018). Thus, the research problem is inherently complex: staff shortages, shifting institutional demands, policy changes, and adaptive strategies create a dynamic, non-linear system. A qualitative approach, through in-depth interviews, allows deeper insight into how FM practitioners perceive, respond to, and navigate this complexity.

### 3.7.3 Refining the Research Problem Using Expert Opinions

To strengthen the formulation of the research problem, the researcher conducted preliminary discussions with experts in facilities management (FM), both within the university environment and in external industry settings. These experts were selected based on their extensive experience and leadership roles in the FM sector, ensuring that their insights would be directly relevant to the study's aims. The first set of discussions involved senior management personnel responsible for FM operations in the university setting, while the second set involved FM practitioners working in various private sector organisations.

The primary objectives of these expert consultations were:

To obtain informed perspectives on the nature and extent of labour shortages in FM, particularly in New Zealand's operational context.

To explore the perceived causes of labour shortages, as experienced by FM professionals in both educational and commercial facilities.

To identify strategies and best practices currently employed to address workforce challenges in FM.

To determine whether additional factors, beyond those identified through the literature review, should be considered when refining the scope of the research problem.

These expert insights confirmed the relevance and urgency of addressing FM labour shortages. Participants highlighted the interplay between recruitment challenges, skill mismatches, retention issues, and evolving technological requirements in FM operations. The findings from these discussions were instrumental in refining the overarching aim, objectives, and research questions of the study, ensuring they address both the theoretical gaps identified in the literature and the practical realities faced by FM professionals.

## 3.8 Restatement of the Overarching Aims, Objectives, and Questions

To address the main research problem stated in section 3.6.3, the following overarching research aims, objectives, and questions were designed.

### 3.8.1 Overarching Aim

The overarching aim of this research is to examine the causes, impacts, and potential strategies for addressing labour shortages in the Facilities Management (FM) industry in New Zealand.

The study seeks to identify systemic challenges, evaluate the effectiveness of previous interventions, and propose strategies that address both the current and future workforce demands in the sector.

### 3.8.2 Research Objectives

The following research objectives have been formulated to achieve the overarching aim:

To identify and analyse the main factors contributing to labour shortages in the FM industry in New Zealand.

To examine the impacts of labour shortages on operational efficiency, productivity, and service delivery within the FM sector.

To evaluate the challenges and barriers faced by the FM industry in overcoming labour shortages.

To assess the effectiveness of previously implemented strategies to address labour shortages in FM.

To propose sustainable and future-oriented strategies that address current labour shortages while meeting long-term workforce requirements.

### 3.8.3 Research Questions

This study is guided by the following research questions:

What are the main causes of labour shortages in the FM industry in New Zealand?

What are the effects of labour shortages on the performance and sustainability of the FM sector in New Zealand?

What strategies have previously been implemented to address labour shortages in FM in New Zealand?

How effective have these strategies been in mitigating labour shortages in FM?

What are the future workforce development needs of the FM industry in New Zealand?

Which strategy or combination of strategies is most effective in addressing current and future labour shortage challenges in the FM sector?

## 3.9 Methodological Framework

According to Tookey (1998), the nature of a specific research problem will determine its appropriate means of solution. Therefore, the methodological framework and methods chosen for this research must reflect the characteristics of the problem discussed in the previous sections. The primary purpose of research is to contribute new knowledge that advances both

theory and practice. This is often achieved by identifying, investigating, and formulating solutions to the research problem (Remenyi, 1998).

The research process, particularly in the context of addressing labour shortages in the Facilities Management (FM) sector, is inherently uncertain and complex. It requires integration between conceptual understanding and empirical investigation (Booth, Colomb, & Williams, 2003; Gill & Johnson, 2002). A well-defined methodological framework not only provides a logical foundation for the research but also anticipates potential challenges that may arise during data collection, analysis, and interpretation. By establishing a clear framework, the likelihood of research failure can be reduced. A methodological framework comprises a philosophical foundation that guides the research approach, along with the strategies and techniques applied to data collection and analysis (Easterby-Smith, Thorpe, & Jackson, 2012). Kagioglou, Cooper, Aouad, and Sexton (2000) describe research design as a hierarchical structure comprising philosophy, approaches, strategies, and methods/techniques. This hierarchy is illustrated in Figure 3.1, which has been adapted for the context of this study.

In this study, the research philosophy informs the choice of research approaches, which subsequently determines the most appropriate strategies and methods for data collection and analysis. Given the exploratory nature of this research, aimed at understanding the causes, impacts, and solutions to labour shortages in the FM industry, the methodological framework ensures alignment between philosophical positioning, methodological approach, and selected research techniques. The following sections will detail the philosophical stance adopted in this research and its implications for the overall design.

### 3.9.1 Philosophical Background

Research involves a compromise between multiple possible approaches, each shaped by an understanding of the underlying philosophical foundations of a topic (Gill, Johnson, & Clark, 2010). Philosophy examines available theories to enable researchers to build scientific knowledge from them (Grey, 2009; Sarantakos, 2005) and forms the foundation for research design, ensuring its quality and credibility (Easterby-Smith, Thorpe, & Lowe, 2002). As Collis and Hussey (2009) note, understanding the philosophical position of a study influences not only its design but also the way the research is ultimately written and presented. Two dominant research paradigms, positivism and interpretivism, are recognised within the Western research tradition (Bryman & Bell, 2007; Grey, 2009; Silverman, 1998). Positivism emphasises objectivity, measurement, and hypothesis testing, while interpretivism focuses on understanding complex social phenomena from the perspectives of those experiencing them. These paradigms are positioned at opposite ends of a philosophical spectrum, with other paradigms such as pragmatism and post-positivism occupying the middle ground (Crossan, 2003; Saunders et al., 2011). The selection of a paradigm is guided by the study's ontological, epistemological, axiological, and rhetorical assumptions (Creswell, 2007). This section briefly outlines these four assumptions as they relate to this study on labour shortages in the FM sector.

### 3.9.2 Ontology

Ontology concerns the nature of reality and answers the question: what really exists? (Creswell, 2007; Saunders et al., 2011; Tan, 2002). From an objective view, the factors driving labour shortages, such as immigration policies, demographic shifts, and skill mismatches, exist independently of individual perceptions. However, from a constructivist standpoint, the meaning of "labour shortage" and its impacts are shaped by the lived experiences of FM practitioners, managers, and policymakers. This research adopts a constructivist leaning, acknowledging that the phenomenon is both a measurable reality and a socially interpreted challenge.

### 3.9.3 Epistemology

Epistemology examines the relationship between the researcher and the object of study (Creswell, 1994b; Tan, 2002). In quantitative traditions, the researcher maintains a degree of detachment, whereas qualitative approaches involve close engagement with participants (Smith, 1983). Since this study focuses on the experiences and perspectives of FM industry stakeholders, a qualitative epistemological stance is most appropriate. This allows for in-depth exploration of the causes, effects, and strategies for addressing labour shortages through semi-structured interviews and thematic analysis.

### 3.9.4 Axiology

Axiology relates to the values a researcher brings into the study (Carroll, 2008). In quantitative studies, values are minimised, whereas qualitative research recognises the researcher's interpretative role in shaping the findings (Lazarus, 2005; Sarantakos, 1997). Given the qualitative nature of this research, it is acknowledged that the researcher's background and understanding of the FM sector will influence data interpretation. This reflexivity is considered an asset, as it ensures that findings are grounded in contextual understanding while maintaining methodological rigour (Creswell & Plano-Clark, 2007).

### 3.9.5 Rhetoric

Rhetoric concerns the language and style used in presenting research (Creswell, 1994a). Quantitative studies often employ formal, impersonal language (e.g., "statistical relationship," "variable comparison"), whereas qualitative studies use more personal, interpretative language (e.g., "understanding," "exploring meanings"). In this study, the reporting style adopted qualitative rhetorical features, emphasising narrative accounts, thematic descriptions, and the voices of FM stakeholders, while still integrating a formal academic tone.

## 3.10 Research Paradigms

Based on the philosophical assumptions discussed in Section 3.9 (ontology, epistemology, axiology, and rhetoric), research can be approached from several paradigmatic positions. Two of the most widely recognised paradigms in social science research are positivism and interpretivism (Grey, 2018; Ryan, 2018). While positivism emphasises objectivity,

measurement, and hypothesis testing, interpretivism focuses on understanding social phenomena through the meanings individuals ascribe to them. Between these two extremes, other paradigms such as constructivism, critical theory, and pragmatism also exist (Lincoln, Lynham, & Guba, 2018; Saunders, Lewis, & Thornhill, 2019). Given the exploration and qualitative nature of this study on labour shortages in the FM industry, the interpretivist paradigm is the most appropriate, as it enables an in-depth understanding of stakeholder experiences, perceptions, and contextual factors influencing the issue.

### 3.10.1 Interpretivism

Interpretivism is the paradigm most often employed in social sciences when the goal is to explore and understand human experiences, behaviours, and social contexts (Thanh & Thanh, 2015; Goldkuhl, 2012). It is rooted in a subjectivist ontology, assuming that reality is socially constructed through interactions and shared meanings. From an epistemological perspective, interpretivism recognises that knowledge is co-created between the researcher and participants, allowing for multiple realities and perspectives to emerge (Lincoln et al., 2018).

In the context of this research, interpretivism is essential because labour shortages in the FM sector are influenced not only by measurable factors (e.g., demographic changes, immigration policies, skill gaps) but also by stakeholders' perceptions, lived experiences, and the socio-economic environment. This paradigm allows the study to capture the nuanced and context-specific insights necessary for understanding the complexity of the issue and identifying practical strategies to address it. From a methodological standpoint, interpretivist research typically employs qualitative methods such as in-depth interviews, focus groups, and document analysis to gather rich, detailed data (Creswell & Poth, 2018). This study uses semi-structured interviews and thematic analysis to deeply explore the views of FM professionals, enabling the identification of themes and patterns related to causes, impacts, and potential solutions to labour shortages.

### 3.10.2 Establishment of an Appropriate Paradigm for this Study

As outlined in Section 3.9, research paradigms interpret the social world through differing philosophical assumptions, ontology, epistemology, axiology, and rhetoric, which in turn shape methodological choices. The paradigm selected for this study must provide a strong foundation for the chosen research methodology by establishing philosophical assumptions aligned with the study's purpose and design.

This research seeks to explore the underlying causes, impacts, and potential strategies to address labour shortages in New Zealand's Facilities Management (FM) sector. The aim is to capture the lived experiences, perspectives, and insights of stakeholders, including industry professionals, employers, and policymakers, regarding the complexity of the labour shortage problem. The research problem was derived from an extensive review of the literature as well as preliminary discussions with individuals working in the FM industry. It became evident that

the issue cannot be adequately addressed through testing existing theories or by relying solely on objective, observable reality. Instead, the phenomenon is embedded in socio-economic contexts and constructed through the individual and collective perceptions of those involved. This indicates the existence of multiple realities, shaped by varied professional roles, organisational cultures, and policy environments. Given this, positivism, with its emphasis on objectivity, measurement, and hypothesis testing, is not suitable for this study (Bryman, 2016; Creswell & Creswell, 2018). Instead, the philosophical stance aligns closely with interpretivism, which values depth of understanding and the co-construction of meaning between researcher and participants (Lincoln, Lynham, & Guba, 2018; Tracy, 2020).

While paradigms such as pragmatism can integrate both qualitative and quantitative approaches, the present research is purely qualitative. It does not seek to quantify stakeholder perspectives or statistically measure causal relationships; rather, it aims to interpret and explain them in context. Therefore, the interpretivist paradigm is the most appropriate for this study. The interpretivist stance allows for recognition of subjective realities shaped by stakeholders' unique experiences, in-depth exploration of complex and context-specific factors influencing labour shortages, and flexibility to adapt the research process as new themes and issues emerge during data collection. Accordingly, this study adopts an interpretive philosophical position, underpinned by a constructivist ontology (acknowledging multiple socially constructed realities), an interactionist epistemology (knowledge co-created through engagement with participants), and an axiological acceptance that the researcher's values inevitably influence the inquiry (Creswell & Poth, 2018; Saunders et al., 2019). This paradigm ensures that the findings are rich, contextually grounded, and relevant to both academic understanding and industry practice. This interpretivist position is also appropriate because labour shortages in FM are not experienced in a uniform or purely technical way. The problem is caused by organisational priorities, local labour market conditions, workforce expectations, and the different responsibilities attached to FM roles. What may be understood as a labour shortage in one setting may appear in another setting as a skills gap, a retention issue, or a difficulty in adapting to new operational demands. An interpretive approach, therefore, makes it possible to examine not only what challenges exist but also how they are understood and responded to by those working within the sector. In the New Zealand context, this is especially important because the FM profession is still developing, and the meanings attached to workforce shortages may differ across institutional and industry settings.

### 3.10.3 Research

A research approach provides the framework for choosing the most suitable research strategies, guiding decisions regarding data collection, data sources, and analysis techniques (Saunders, Lewis, & Thornhill, 2019). In qualitative research, the approach ensures that the design is flexible enough to adapt to emerging findings, while remaining rigorous in addressing the research objectives and questions. Scholars generally identify three main research approaches: qualitative, quantitative, and mixed methods (Creswell & Creswell, 2018; Johnson & Onwuegbuzie, 2004). This classification depends on the nature of the research problem, the

type of data required, the analytical process, and the philosophical stance adopted by the researcher. Given the exploratory and interpretive nature of the present study, which seeks to understand stakeholder perspectives on labour shortages in the New Zealand Facilities Management (FM) sector, a qualitative approach was selected as the sole methodological path.

### 3.10.4 Qualitative Approaches

From a philosophical perspective, qualitative research is typically grounded in interpretivism and constructivism, assuming that reality is socially constructed and that multiple realities may exist (Lincoln, Lynham, & Guba, 2018). Qualitative researchers become an integral part of the research process, co-constructing meaning with participants through interaction, dialogue, and interpretation (Tracy, 2020).

Qualitative research focuses on gaining a deep understanding of complex, context-bound phenomena rather than producing statistical generalisations (Patton, 2015). This makes it especially suitable for this study, which aims to explore:

The underlying causes of labour shortages in FM.

The lived experiences of stakeholders affected by these shortages.

The strategies and practices perceived as effective in addressing them.

Typical qualitative strategies include semi-structured interviews, focus groups, case studies, document analysis, and participant observation (Creswell & Poth, 2018). In this study, semi-structured interviews were the primary method, allowing participants to share their perspectives in depth while giving the researcher flexibility to probe for further insights.

### 3.10.5 Selection of a Research Approach

The decision to adopt a qualitative approach was driven by the nature of the research questions, which focus on understanding experiences, perspectives, and meanings rather than testing hypotheses or measuring variables. Labour shortages in FM are shaped by multiple interrelated factors, including policy, demographics, organisational practices, and technology adoption, that cannot be adequately explained through purely numerical data.

Furthermore, qualitative methods enable an exploratory and inductive process, where themes emerge from participants' narratives rather than being pre-determined (Braun & Clarke, 2021). This is consistent with the interpretivist paradigm underpinning this research, which values context-rich, participant-led accounts over detached observation. A qualitative approach is also appropriate because the study is concerned with the way labour shortages are understood in practice, rather than only how they might be measured in numerical terms. In FM, workforce problems are often experienced through operational disruption, pressure on existing staff, difficulties in recruitment, and changing expectations around skill and service delivery. These issues are closely tied to organisational context and professional judgement, which means they are not always captured well through survey-style responses alone. By using a qualitative

approach, the study can explore the details, variation, and context surrounding these experiences, while also allowing participants to raise issues that may not have been fully anticipated at the beginning of the research.

By choosing a qualitative design, this study can:

- Capture nuanced and diverse viewpoints from stakeholders across different roles in FM.
- Identify patterns and themes that might not be visible in quantitative datasets.
- Offer practical insights grounded in the lived realities of industry practitioners.

### 3.10.6 Challenges of the Current Research Approach

While qualitative research provides rich, in-depth insights, it is not without challenges. First, data collection and analysis can be time-intensive, especially when working with detailed interview transcripts that require thematic coding (Nowell, Norris, White, & Moules, 2017). The iterative nature of qualitative inquiry means that questions, sampling, and coding frameworks may evolve during the study, demanding flexibility from the researcher. Second, researcher subjectivity, while acknowledged as an inherent part of qualitative research, requires careful management to ensure credibility and trustworthiness (Lincoln et al., 2018). This was addressed in the present study by employing strategies such as member checking (verifying interpretations with participants), maintaining an audit trail of decisions, and using peer debriefing to challenge assumptions. Lastly, the context-specific nature of qualitative findings may limit generalisability in the statistical sense. However, the goal of this study is transferability rather than generalisation, providing insights that may be relevant to similar FM contexts in New Zealand and beyond.

## 3.11 Research Strategies

Research strategies refer to the overarching plans that guide how data are collected, analysed, and interpreted to address the research questions (Saunders, Lewis, & Thornhill, 2019). Common strategies include experiment, survey, case study, action research, grounded theory, ethnography, and archival research. The selection of an appropriate strategy depends on the research problem, philosophical stance, resource availability, time constraints, and the researcher's prior experience (Creswell & Creswell, 2018; Tashakkori & Creswell, 2008).

Yin (2018) emphasises that the choice of strategy should also consider the type of research question, the degree of control the researcher has over behavioural events, and whether the focus is on contemporary or historical phenomena. Qualitative-oriented strategies, such as case studies, grounded theory, and ethnography, are particularly suitable for studies aiming to explore complex social phenomena in depth and within their real-life context.

### 3.11.1 Selection of Research Strategies for the Current Study

The present study seeks to explore the perceptions, experiences, and strategies of key stakeholders in addressing labour shortages within the New Zealand Facilities Management (FM) sector. The research questions focus on "what" and "how", for example:

- What factors contribute to labour shortages in the FM sector?
- How do FM professionals perceive the effectiveness of current strategies to attract and retain workers?

Given this focus, the case study strategy was selected as the most suitable approach. Yin (2018) defines a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, particularly when the boundaries between phenomenon and context are not clear. This aligns with the exploratory nature of this research and its aim to capture rich, contextualised insights.

In this study, the "case" is defined as the New Zealand FM industry, with participants representing diverse roles (e.g., operations managers and service providers) to capture multiple perspectives. Data was collected primarily through semi-structured interviews, enabling in-depth exploration of participants' views while allowing flexibility to pursue emerging themes (Kallio et al., 2016). Other research strategies were considered but deemed unsuitable:

- Experiment – inappropriate due to the absence of variables requiring controlled manipulation.
- Survey – not selected as the primary method because the aim was depth and nuance rather than breadth and generalisation.
- Archival research – excluded due to the limited availability of relevant, comprehensive records on FM labour shortages.
- Ethnography – not feasible given time constraints and the lack of prolonged participant observation.
- Grounded theory – while sharing some characteristics with this study, the objective here was not to develop a new theory from scratch but to build on existing literature and sector insights.
- Action research – excluded as the study's purpose was to explore and understand rather than directly implement organisational change.

By adopting a qualitative case study strategy, this research aligns with its interpretive philosophical stance and enables the production of a rich, nuanced understanding of labour shortages in the FM sector.

### 3.12 Research Techniques or Methods

Research techniques, also referred to as research methods, encompass the specific procedures used to collect and analyse data to answer the research questions (Crotty, 1998; Flick, 2018). These techniques can be either quantitative or qualitative, depending on the nature of the data collected, the instruments employed, and the analytical procedures undertaken (Saunders, Lewis, & Thornhill, 2019). Quantitative techniques typically involve structured tools such as questionnaires with closed-ended questions, structured observation schedules, and statistical analysis procedures (Creswell & Creswell, 2018). While these approaches can yield measurable and comparable results, their rigidity often limits participants' ability to elaborate on their perspectives, potentially overlooking nuanced or context-specific insights (Bryman, 2016).

In contrast, qualitative techniques, which form the methodological foundation of the present study, are designed to gather rich, descriptive, and contextually grounded data (Patton, 2015). Such techniques frequently employ semi-structured or unstructured interviews, focus groups, document analysis, or participant observation, allowing for a more flexible and adaptive data collection process (Creswell & Poth, 2018). This flexibility enables researchers to explore emergent themes, probe unexpected topics, and co-construct meaning with participants. For this study on labour shortages in the New Zealand Facilities Management sector, semi-structured interviews were chosen as the primary data collection technique. This approach allowed participants to respond freely to open-ended questions, providing detailed accounts of their experiences, perceptions, and suggestions. The conversational yet guided nature of semi-structured interviews ensured that all core topics were addressed while still allowing space for unanticipated insights to emerge. Data generated through these interviews were textual in nature and analysed using thematic analysis (Braun & Clarke, 2021). This method facilitated the identification of recurring patterns, relationships, and unique perspectives within the dataset, aligning with the interpretivist paradigm and the exploratory aims of the research.

### 3.13 Research Design for the Current Study

The overall research design of this study follows the research onion framework proposed by Saunders et al. (2019), which structures the methodological choices from philosophical assumptions to data collection techniques. The philosophical position adopted in this study is interpretivism, as it supports an in-depth exploration of how participants understand and experience labour shortages in the Facilities Management sector. Given the context-specific and experience-based nature of the problem, an interpretivist position provides a suitable basis for examining how meanings, challenges, and responses are shaped within different FM settings.

Given the complex and context-specific nature of labour shortages in facilities management (FM), this study employs a qualitative approach using semi-structured interviews as the main data collection strategy. Qualitative methods are particularly appropriate for exploring nuanced perspectives, lived experiences, and context-dependent phenomena (Bryman, 2016; Silverman, 2020).

In terms of research strategy, this study uses in-depth semi-structured interviews in two sequential phases:

Phase 1: Interviews with FM senior management in campus environments, to capture insights from higher education facilities operations.

Phase 2: Interviews with external FM practitioners from commercial, public, and private sectors, to broaden the understanding of industry-wide challenges and practices.

This two-phase design allows for the development of a clear understanding of labour shortages in FM by first exploring the phenomenon within a defined institutional setting and then extending the inquiry to the broader industry context.

### 3.13.1 Data Collection

This study collected qualitative data through two phases of semi-structured interviews. This method enables flexibility in question phrasing while ensuring that all participants address core research topics (Kallio et al., 2016). Interviews were conducted either face-to-face or via secure online platforms, depending on participant preference and logistical considerations.

### 3.13.2 Phase 1 – Semi-structured Interviews with FM Senior Management on Campus

The aim of conducting interviews in Phase 1 is to gather rich, experiential, and context-specific data on the research questions related to labour shortages in facilities management (FM). Analysis of these responses helped determine how and why participants perceive, experience, and address the labour shortage problem within their operational environment. Punch (2005) states that interviews provide an in-depth understanding of what people think about a research issue, while Kumar (2005) highlights that interviews can yield relatively higher response rates compared to other methods. Qualitative interviews can be unstructured, semi-structured, or structured depending on the degree of standardisation of the questions (DiCicco-Bloom & Crabtree, 2006; Matthews & Ross, 2010).

Interview techniques, however, have limitations: they can be time-consuming, resource-intensive, subject to interviewer bias, and dependent on the quality of interaction between interviewer and participant (Saunders et al., 2019; Sekaran, 2005).

This research selected semi-structured face-to-face or online interviews because they provide a balance between flexibility and focus, allowing the interviewer to probe emerging issues while maintaining alignment with the study's objectives (Denscombe, 2003; Myers & Newman, 2007). The initial question framework was developed from the literature review and preliminary scoping of the FM labour market. Participants in Phase 1 were senior FM managers in New Zealand tertiary education campuses, chosen for their oversight of multi-facility operations and involvement in FM workforce planning, recruitment, and retention.

Interview procedures included:

Initial contact by email or phone to explain the research and confirm eligibility.

Sending the participant information sheet, consent form, and indicative question list at least one week before the interview.

Obtaining signed consent before proceeding.

Conducting interviews of approximately 45–60 minutes, at a time and format (in-person or online) most convenient for the participant.

Following Fowler's (2009) guidelines:

Locate and enlist the cooperation of selected respondents.

Motivate respondents to provide thoughtful and accurate answers.

Ask questions clearly, record responses accurately, and probe incomplete answers.

All interviews were audio-recorded with permission, and supplementary notes were taken when needed. Recordings were transcribed verbatim by the researcher using Express Scribe transcription software, ensuring the accuracy and reliability of the data.

### 3.13.3 Phase 2 – Semi-structured Interviews with External FM Practitioners

The second phase expanded the scope of investigation to include external FM practitioners from various sectors such as healthcare, commercial property, government facilities, and industrial operations. The objective is to compare Phase 1 findings and explore whether the themes identified are consistent across sectors or unique to campus-based FM.

Specifically, Phase 2 aimed to:

1. Compare sector-specific challenges and similarities regarding FM labour shortages.
2. Identify industry-wide factors influencing workforce supply and demand.
3. Explore feasible cross-sector solutions and long-term workforce strategies.

Semi-structured interviews were again selected for their ability to capture both consistency and variability across responses. The question set was adapted based on emerging findings from Phase 1, enabling deeper exploration of priority themes. Participant selection followed a purposive sampling approach, targeting senior FM decision-makers with extensive experience in workforce management. Professional associations (e.g., Facilities Management Association of New Zealand – FMANZ), LinkedIn, and industry networks were used to identify and invite participants. Procedural steps mirrored Phase 1:

Initial outreach via email or phone.

Provision of an information sheet, a consent form, and an indicative question guide one week before the interview.

Scheduling according to participant availability.

Interviews of 45–60 minutes, conducted online or face-to-face.

Audio recording with permission, supported by researcher notes.

Full transcription by the researcher for accuracy and subsequent thematic analysis.

This two-phase design allowed comparison across different participant and organisational contexts within a qualitative framework, enhancing the depth and credibility of the findings. Phase 1 provided an institutional campus-based perspective, while Phase 2 provided perspectives from external FM practitioners. Together, the two phases supported cross-context comparison of labour shortage experiences in New Zealand FM.

### 3.13.4 Sampling Approach

Understanding and selecting an appropriate sampling approach is a critical element in qualitative research, as it determines the richness and relevance of the data collected. Patton (2002) distinguishes between probability sampling, which employs randomisation to ensure representativeness, and non-probability sampling, which relies on purposive choices of participants based on their expertise, experience, or relevance to the research problem. In qualitative research, non-probability sampling is more commonly employed as the purpose is to obtain in-depth insights rather than statistical generalisation (Bryman, 2016; Babbie, 2012).

Given the aims of this study, non-probability purposive sampling was adopted. This approach enabled the researcher to deliberately select participants who hold senior management roles in facilities management and who possess significant insights into labour shortages, recruitment, and retention challenges in New Zealand. Purposive sampling allows researchers to identify information-rich cases that are most likely to provide a deep understanding of the phenomenon under study (Creswell & Poth, 2018; Etikan, Musa, & Alkassim, 2016).

This sampling approach was particularly appropriate for the present study because labour shortages in FM are not best understood through broad representation alone, but through detailed insights from people who are directly involved in workforce planning, service delivery, and operational decision-making. The study therefore prioritised participants who could provide informed perspectives on recruitment difficulties, retention pressures, capability gaps, and practical responses within FM settings. In this way, purposive sampling supported the interpretive aim of the research by focusing on depth, relevance, and contextual understanding rather than statistical coverage.

Additionally, snowball sampling was employed to supplement participant recruitment, particularly in Phase 1. This involved initial participants recommending other relevant contacts within the FM sector who could contribute valuable perspectives to the study. Snowball

sampling is particularly useful when researching professional groups where access may be restricted or when the population is relatively small and specialised (Noy, 2008; Biernacki & Waldorf, 1981).

For Phase 1, participants were drawn from senior FM management in New Zealand tertiary campuses. The rationale for selecting this group is that universities and polytechnics are among the largest employers of FM professionals in the country and thus are directly impacted by labour shortages. A combination of purposive and snowball sampling was used:

Initial participants were identified through professional networks and institutional contacts.

These participants then suggested other suitable managers within the sector who were subsequently invited to participate.

This iterative approach continued until recurring patterns were identified and sufficient information had been collected for the exploratory scope of the study.

For Phase 2, purposive sampling was again employed, but the scope extended beyond the education sector to include external FM practitioners working in healthcare, government facilities, commercial property, and industrial operations. Participants were identified primarily through the Facilities Management Association of New Zealand (FMANZ), LinkedIn professional groups, and snowball referrals from earlier interviewees. This broader participant pool allowed the study to validate and extend findings from Phase 1, ensuring that the results reflect both institutional and industry-wide perspectives.
In qualitative research, sample size is guided by the purpose of the study, the relevance of participants, and the depth of information collected rather than by statistical calculation. For Phase 1, approximately 3–4 interviews with senior FM managers were anticipated, followed by a similar number of external FM practitioners in Phase 2. Seven interviews were completed across the two phases. Repeated patterns were identified across these interviews and provided sufficient information to develop the main themes within the exploratory scope of the study. However, because participants represented different FM contexts, the study does not claim full saturation across the New Zealand FM sector.

**Table 3.1**

*Alignment between Research Questions, Interview Phases, and Analysis Focus*

| **Research Question** | **Phase 1: Campus FM Senior Management** | **Phase 2: External FM Practitioners** | **Main Analysis Focus** |
|---|---|---|---|
| What are the main causes of labour shortages in the FM | Explore internal organisational causes, recruitment pressures, capability gaps, and | Explore wider industry causes, labour market pressures, sector | Causes of labour shortages |

| Research Question | Phase 1: Campus FM Senior Management | Phase 2: External FM Practitioners | Main Analysis Focus |
|---|---|---|---|
| industry in New Zealand? | campus-specific workforce issues | differences, and shared workforce constraints | |
| What are the effects of labour shortages on the performance and sustainability of the FM sector in New Zealand? | Examine service delivery pressures, maintenance backlogs, operational disruption, and institutional impacts | Examine broader impacts on service quality, productivity, staffing pressure, and sustainability across sectors | Effects of labour shortages |
| What strategies have previously been implemented to address labour shortages in FM in New Zealand? | Identify internal responses, management practices, and workforce measures used in campus FM | Identify cross-sector strategies, organisational practices, and industry responses used outside campus settings | Existing strategies and practices |
| How effective have these strategies been in mitigating labour shortages in FM? | Assess perceived strengths and limitations of strategies within the campus context | Assesses perceived effectiveness and limitations across external FM organisations | Evaluation of strategy effectiveness |
| What are the future workforce development needs of the FM industry in New Zealand? | Identify future capability needs, succession concerns, and workforce development priorities in institutional FM | Identify sector-wide training, capability, and professional development needs across industry settings | Future workforce development needs |
| Which strategy or combination of strategies is most | Consider campus perspectives on the most suitable | Consider industry perspectives on integrated strategies | Integrated strategic direction |

| Research Question | Phase 1: Campus FM Senior Management | Phase 2: External FM Practitioners | Main Analysis Focus |
|---|---|---|---|
| effective in addressing current and future labour shortage challenges in the FM sector? | combination of responses | across different operational settings | |

To provide context for the interview findings while maintaining participant confidentiality, Table 3.2 presents an anonymised profile of the seven participants. Only broad professional and organisational information is provided to reduce the risk of identification.

**Table 3.2**

*Anonymised Participant Profile*

| Participant Code | Broad Role | Sector / Context | Years of FM Experience | Phase |
|---|---|---|---|---|
| P1 | Group Director | Tertiary Education / Campus Facilities Management | 13 years | 1 |
| P2 | Director of Estates | Tertiary Education / Campus Facilities Management | 10 years | 1 |
| P3 | Assistant Director – Policy, Planning & Performance | Tertiary Education / Campus Facilities Management | 11 years | 1 |
| P4 | Senior Facilities Manager | Tertiary Education / Campus Facilities Management | 6 years | 1 |
| P5 | Group Director | Tertiary Education / Campus Facilities Management | 3 years | 1 |
| P6 | Managing Director | External Facilities Management / FM Service Provider | 21 years | 2 |
| P7 | Business Owner | External / Private Sector | N/A | 2 |

***Note***. Organisation names are not included to protect participant confidentiality. Phase 1 represents participants from a tertiary education/campus FM context, while Phase 2 represents external FM practitioners.

## 3.14 Data Analysis

Data analysis in this study refers to the set of systematic activities used to describe the evidence, look for patterns, build explanations, and develop warranted interpretations from the interviews. Because the project is entirely qualitative, the analytical orientation is interpretivist and iterative. The goal is to identify recurrent practices, constraints, and participant views about labour shortages in Facilities Management (FM) in New Zealand, and to connect these findings to practical strategies for the sector. The study uses manual thematic analysis as the main method for analysing the data, with themes developed from repeated patterns across participants' responses. RTA allows a flexible, transparent, and rigorous pathway from raw talk to defensible themes while accommodating both deductive (research question-led) and inductive (data-led) coding.

This analytical approach is well-suited to the present study because the research is concerned with both expected and emerging aspects of labour shortages in FM. Some issues, such as recruitment difficulties, retention challenges, skill gaps, and migration pressures, were already identified in the literature and therefore informed the early analytical focus. At the same time, the study also needed to remain open to issues that might arise more strongly from participants' own accounts, including context-specific pressures, organisational responses, and differences between campus-based and external FM settings. Reflexive thematic analysis supports this balance by allowing the researcher to move between existing concepts and data-led interpretation in a flexible but systematic way.

### 3.14.1 Qualitative Data Analysis

The current study conducted two rounds of semi-structured interviews within the New Zealand FM sector to explore the causes, impacts, and responses to labour shortages. Interviewees were selected from key role-holders in the FM workforce system. Phase 1 participants were senior managers responsible for FM on a university campus (e.g., Director/Head of FM, Operations/Asset Manager, HR/People Partner for FM, Digital/Smart-building lead). Phase 2 participants were external FM practitioners across client-side organisations and service providers. Analysis of the interview transcripts was used to identify key themes that emerged across and within the two groups.

The study employed thematic analysis (Braun & Clarke, 2006) to systematically identify and interpret patterns of meaning within participants' accounts. Thematic analysis was conducted manually through coding, data organisation, and careful review of the interview data. Because the interviews were exploratory and semi-structured, the free-flowing text was treated as qualitative data. Following established guidance, the analysis combined deductive and inductive coding: deductive codes were informed by the literature on labour shortages and workforce management, while inductive codes emerged directly from participants' narratives. This hybrid approach ensured that both pre-existing concepts and novel insights were captured, providing a clear and rigorous analysis of the qualitative data.

### 3.14.2 Thematic Analysis Framework

The qualitative data for this research were derived from two rounds of semi-structured interviews with senior FM managers in university campuses and external FM practitioners in New Zealand. The primary aim of analysing these interviews was to generate in-depth insights into the causes, challenges, and potential strategies related to labour shortages in the FM industry. To systematically analyse the interviews, this study adopted the thematic analysis framework proposed by Braun and Clarke (2006). This approach was selected because of its flexibility, suitability for applied research, and its ability to capture both explicit and latent meanings within the data.

Thematic analysis involves six stages: (1) familiarisation with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report (Braun & Clarke, 2006). This structured yet flexible framework ensured that data was analysed rigorously, while still allowing themes to emerge inductively from the interviews.

### 3.14.3 Deductive and Inductive Coding

This study employed a combination of deductive and inductive coding to strengthen analytical rigour (Miles & Huberman, 1994). Deductive codes were informed by prior literature on labour shortages, workforce development, and FM practices, while inductive codes emerged directly from the participants' accounts. This hybrid approach enabled the research to balance theory-driven analysis with the lived experiences of FM professionals, ensuring that both established constructs and novel insights were captured.

Deductive coding: categories/codes were built from the research questions and prior literature (e.g., immigration policy; training capacity; pay/benefits; rostering; technology capability; career pathways; operational impacts; quality and safety; customer experience; burnout & turnover; prior strategies and constraints; future development needs).

Inductive coding: categories/codes were generated from the text to capture unanticipated issues and contextual mechanisms within campus and external settings.

Consistent with best practice, both approaches were used together. Early codes were piloted on a small subset of transcripts, then refined (merged/split/renamed) before applying the framework to the full corpus.

### 3.14.4 Qualitative Data Analysis Using Thematic Analysis

To manage and analyse the interview transcripts, the study used a manual thematic analysis process. This involved organising the interview data, creating codes, writing analytical notes, and developing thematic patterns from the data. The process supported transparency in the analysis and allowed the researcher to review coded data systematically. Codes were organised to reflect overarching themes, such as workforce shortages, retention challenges, and

management strategies, as well as sub-themes, such as recruitment barriers, upskilling, and reliance on migrant labour.

### 3.14.5 Rigour and Trustworthiness in Analysis

To ensure the trustworthiness of the analysis, several strategies were applied. First, data analysis was conducted iteratively, where transcripts were revisited multiple times to refine codes and themes. Second, comparison of perspectives across campus FM and external practitioners (campus FM vs. external practitioners) strengthened the credibility of findings by comparing perspectives from different contexts. Third, reflexive memos were maintained throughout the analysis to document analytic decisions, which improved transparency and dependability. Finally, direct quotations from participants were retained within the analysis to enhance confirmability and allow the reader to trace interpretations back to the raw data (Lincoln & Guba, 1985).

## 3.15 Credibility of the Research Findings

Ensuring the trustworthiness of qualitative research is essential for producing findings that are both rigorous and meaningful (Guba & Lincoln, 1994). Trustworthiness in this study is framed around the four established criteria for qualitative research: credibility, dependability, confirmability, and transferability (Shenton, 2004). Each of these criteria was carefully considered in the design and execution of the study to enhance the strength of the findings regarding labour shortages in the New Zealand FM sector.

### 3.15.1 Credibility

Credibility refers to confidence in the truth of the research findings (Lincoln & Guba, 1985). To strengthen credibility, the study engaged participants who hold key positions within the FM sector: senior campus FM managers in Phase 1, and external FM practitioners from client-side organisations and service providers in Phase 2. These individuals were selected based on their expertise and direct involvement in workforce management and service delivery, ensuring that the data collected was relevant and authoritative. Semi-structured interviews were used to allow participants to elaborate on their experiences while maintaining a focus on the research objectives. Interview questions were informed by the literature review and refined with guidance from academic supervisors to ensure alignment with the research aim. To further strengthen credibility, participants were provided with an information sheet and indicative questions in advance, allowing them to reflect before the interviews. All interviews were audio-recorded and transcribed verbatim to ensure accuracy. Member checking was applied where summaries of key findings were shared with participants to verify interpretations. Comparison across the two groups of participants (campus-based managers and external practitioners) also improved the credibility of the findings by capturing multiple perspectives on labour shortages.

Credibility was also supported by the two-phase design of the study itself. By first exploring labour shortages within a university FM context and then examining perspectives from external

FM practitioners, the research was able to compare how similar issues were understood across different settings. This made it possible to identify both common patterns and context-specific differences, rather than relying on a single organisational perspective. In this sense, credibility was strengthened not only through interview procedures but also through the structure of the research design, which allowed findings to be considered across more than one part of the FM sector

### 3.15.2 Dependability

Dependability is concerned with the consistency and repeatability of the research process (Miles & Huberman, 1994). To enhance dependability, the research followed a transparent and well-documented process for data collection and analysis. The use of semi-structured interviews ensured a degree of standardisation across participants while still allowing flexibility for probing new insights. A clear audit trail was maintained, including interview guides, consent forms, transcripts, coding frameworks, and analytical notes. This allows the analytical process to be reviewed by other researchers. Coding was conducted systematically through manual thematic analysis, following both inductive (emerging from data) and deductive (literature-informed) approaches, which enhanced the reliability of theme development.

### 3.15.3 Confirmability

Confirmability ensures that the research findings are shaped by the participants' experiences and not researcher bias (Lincoln & Guba, 1985). To establish confirmability, the study employed multiple strategies. First, direct quotations from interview transcripts were used to illustrate and support key themes, grounding interpretations in participants' own words. Reflexivity was also applied throughout the research process, with the researcher maintaining a reflective log to acknowledge assumptions and potential influences on data interpretation. Furthermore, a clear coding framework and analytical notes supported transparency in coding and theme development, allowing for systematic cross-checking of analytical decisions. Peer debriefing sessions with supervisors further ensured that interpretations remained grounded in the data.

### 3.15.4 Transferability

Transferability refers to the extent to which findings can be applied to other contexts (Shenton, 2004). While this study focused on the FM sector in New Zealand, careful sampling and thick description of context were employed to enhance transferability. Participants were selected from both higher education (campus FM) and the wider FM industry (external practitioners), capturing diverse organisational perspectives. The research provides detailed descriptions of the New Zealand FM labour market, participant roles, and institutional contexts, allowing readers to assess the relevance of findings to their own settings. Although qualitative research does not aim for statistical generalisation, the depth of insight gained from two distinct participant groups offers context-specific insights that may inform policy and practice in

comparable FM settings in New Zealand and provide valuable comparisons for international contexts.

Transferability in this study is also supported by the inclusion of participants from multiple FM settings. The combination of campus-based senior managers and external practitioners allows the findings to reflect both institutional and wider industry perspectives. While the study does not claim that these findings apply to all FM organisations in a statistical sense, the range of contexts included helps readers judge where the results may be relevant to similar settings. This is particularly important in the New Zealand FM sector, where organisational conditions can vary, but many workforce issues still share common features across different types of facilities and service environments.

### 3.16 Ethical Considerations

Research ethics refers to the researcher's responsibility to ensure appropriate behaviour toward participants, the research context, and the wider community (Saunders, Lewis, & Thornhill, 2009). Ethical integrity must be maintained throughout all phases of this study, including research design, data collection, data analysis, and reporting. The following subsections outline the ethical issues considered in the current research.

#### 3.16.1 Researcher's Experience or Expertise

The researcher possesses an academic and professional background relevant to facilities management and organisational research. This foundation supports the ability to formulate appropriate interview questions, maintain sensitivity during data collection, and analyse data rigorously. The researcher adhered to principles of good practice such as being a good listener, avoiding preconceived bias, and demonstrating adaptability during semi-structured interviews (Ireland & Hitt, 2005). Prior academic training and engagement with industry literature ensured that the research was conducted with both methodological and contextual competence.

#### 3.16.2 Incorporation of the three principles of the Treaty of Waitangi

As research conducted in New Zealand, the principles of the Treaty of Waitangi were embedded throughout the study: partnership, participation, and protection.

#### 3.16.3 The Principle of Partnership

This study addresses labour shortages in FM, an issue of national significance that impacts both organisations and workers. By identifying causes, impacts, and potential responses, the study contributes to mutual benefits: participants' insights are acknowledged, and findings may inform strategies that strengthen the FM workforce system.

#### 3.16.4 The Principle of Participation

Participants played an active role by sharing their experiences and professional knowledge through semi-structured interviews. All participants were provided with clear information

sheets and signed informed consent forms before participating. Participation was voluntary, and individuals had the right to withdraw at any stage or decline to answer specific questions. Where requested, participants will be offered a summary of the findings, enabling them to engage in the outcomes of the research.

### 3.16.5 The Principle of Protection

The research safeguarded participants' privacy and confidentiality. Identifying details were removed from transcripts and reporting; quotations are anonymised through pseudonyms. This ensured that contributions cannot be traced to specific individuals or organisations. Additionally, data are stored securely under password protection and supervisor oversight, accessible only to the research team.

### 3.16.6 Privacy and Confidentiality

This study ensured participants' anonymity and confidentiality throughout. Identities of individuals or their organisations are not disclosed in the thesis or related outputs. Direct quotes are reported using pseudonyms, and transcripts were stripped of identifiable details. Data was securely stored and used exclusively for academic purposes.

### 3.16.7 Social and Cultural Context of the Participants

The researcher has lived and studied in New Zealand and is sensitive to its cultural norms and diversity. Supervisors with significant experience in New Zealand research also guided the process to ensure respect for cultural considerations. The interview design avoided assumptions linked to ethnicity, race, or culture, focusing instead on professional roles within FM. Cultural diversity was respected throughout participant engagement.

### 3.16.8 Level of Discomfort or Embarrassment

The semi-structured interview design minimised the likelihood of discomfort. Participants retained full autonomy to skip questions or terminate the interview at any time. The topic of labour shortages was approached professionally and constructively, focusing on systemic and organisational perspectives rather than personal critique. Consequently, no physical, psychological, or social risks were expected.

### 3.16.9 The Researcher's Professional, Social, Financial, or Cultural Relationships

The researcher had no pre-existing professional, financial, or social relationships with the participants that could create conflicts of interest. The study was conducted solely for academic purposes, to contribute to scholarly knowledge and practical understanding of FM workforce challenges in New Zealand. The research was not commissioned by any FM organisation, ensuring independence and neutrality.

### 3.17 Research Scope and Limitations

This study adopted a qualitative case study approach combined with semi-structured interviews to explore labour shortages in New Zealand's FM sector. While this approach provides rich insights, it also has limitations.

First, the number of interview participants, though carefully selected to represent different stakeholder roles (e.g., senior managers, HR partners, external service providers), may not capture the full diversity of the FM workforce nationwide. The findings, therefore, provide in-depth perspectives but are not statistically generalisable.

Second, qualitative analysis relies on interpretation. Although systematic coding procedures were employed to enhance rigour, the process remains influenced by the researcher's interpretation. This was mitigated through reflexivity, supervisor guidance, and transparent documentation of the coding process.

Third, the study was conducted during a specific time frame within New Zealand's FM context. Labour market conditions are dynamic and influenced by external factors (e.g., immigration policies, economic cycles, global workforce trends). Thus, findings represent the situation at the time of data collection and may evolve in future. Another limitation is that the study relies on participants' ability to reflect on workforce issues from their own organisational and professional position. This means that some responses may place greater emphasis on immediate operational concerns, while broader policy or sector-level issues may be interpreted differently across participants. At the same time, this is also part of the value of the study, as it reflects the reality that labour shortages in FM are experienced differently depending on role, responsibility, and organisational setting. Recognising this variation is important when interpreting the findings and considering how they may apply to other FM contexts.

Despite these limitations, the study provides credible, contextually grounded insights into the causes, impacts, and responses to labour shortages in FM. The findings of this study are based on specific organisational and professional situations, but this does not make them less valuable. In fact, focusing on the context is a strength of this research. Labour shortages in FM depend on factors like how organisations are structured, the local labour market, and how FM is managed in different companies. Using a qualitative method helps to understand these complex issues better than general methods. The study gives detailed information from participants, which can be useful for other FM settings, even if the results cannot be generalised to all cases. This is important for the FM sector in New Zealand, where there is still not much qualitative research about the experiences of practitioners.

These findings can inform organisational strategies and policy discussions, even though their transferability should be assessed cautiously in contexts beyond the New Zealand FM sector.

### 3.18 Summary

This chapter has outlined and justified the overall research methodology adopted in the present study. It first established the philosophical assumptions underpinning the research paradigm,

positioning the study within an interpretivist framework to capture the complexity of labour shortages in the New Zealand FM sector. The chapter then explained the research approaches employed, including the selection of qualitative strategies and the use of semi-structured interviews conducted in two phases with both internal (campus-based) and external FM practitioners.

The data collection process and analysis techniques were detailed, highlighting the use of systematic thematic analysis to ensure rigour and transparency in interpreting participants' perspectives. Furthermore, the chapter discussed the credibility of the findings in terms of trustworthiness criteria, including credibility, dependability, confirmability, and transferability. Ethical considerations, including research expertise, adherence to the principles of the Treaty of Waitangi, protection of privacy and confidentiality, and cultural sensitivity, were also addressed. Finally, the scope and limitations of the research were acknowledged, particularly the constraints of sample size and the dynamic nature of labour market conditions.

The next chapter will present the results emerging from the qualitative interviews, structured around the main themes that address the research questions.

# CHAPTER FOUR

# RESULTS

## 4.1 Overview

This chapter presents the findings from seven interviews conducted with facilities management professionals in New Zealand. The purpose of this chapter is to report on the main issues raised by participants regarding labour shortages in the facilities management (FM) sector and to present these findings in a clear thematic structure. The interviews provided detailed insights into how labour shortages are understood by professionals working in or closely connected to the industry, as well as how these shortages are experienced in practice.

The analysis identified several recurring themes related to labour shortages, including their causes, impacts, and the strategies currently being used to respond to them. Through the interviews, participants often raised similar concerns, particularly around the workforce supply, skills, training, and the wider challenges of attracting and retaining suitable people in the sector. At the same time, the findings also showed that labour shortages are not experienced in one simple or uniform way. Rather, participants described the issue as a broad and ongoing workforce problem that affects different parts of the industry at different levels.

While there were areas of strong agreement across participants, some differences in perspective were also observed depending on organisational context, role, and experience. For example, some participants placed stronger emphasis on workforce entry and training pathways, while others focused more on issues such as immigration, retention, service delivery, or the growing complexity of FM roles. These differences did not necessarily contradict one another, but instead reflected the varied ways labour shortages are experienced across the sector.

Overall, the findings suggest that labour shortages in the New Zealand FM industry are shaped by a combination of interconnected factors rather than a single cause. The themes presented in this chapter, therefore, aim to capture both the common patterns and the more specific concerns raised by participants. The following sections discuss these findings in detail under the main themes that emerged from the data.

## 4.2 Development of Main Themes from the Interview Data

**Table 4.1**

*Development of Main Themes from the Interview Data*

| Recurring Issues Identified | Analytical Interpretation | Main Theme |
|---|---|---|
| Limited numbers of new entrants, difficulty finding suitable FM workers, unclear entry pathways, and too few job-ready candidates. | These issues show that the FM sector has a constrained workforce pipeline. The problem is not only the number of people available, but also whether new entrants have the knowledge and preparation needed for FM roles. | Limited workforce supply and weak entry pathways. |
| Low awareness of FM as a career, weak professional recognition, limited promotion of the profession, and people entering FM by accident rather than through a planned career pathway. | These findings suggest that weak visibility and professional recognition reduce the attractiveness of FM as a career. When people do not clearly understand FM or see it as a recognised profession, they are less likely to choose it intentionally. | Low awareness and weak professional recognition of FM. |
| Limited FM-specific education, few formal qualifications, weak training pathways, and limited links between education and industry needs. | These findings suggest that the lack of structured FM education and training reduces the supply of job-ready workers and makes career development less clear. Stronger qualifications, workplace learning, and industry-education links are needed to support workforce development. | Lack of specialised FM education and training. |

| | | |
|---|---|---|
| Mismatch between available workforce skills and modern FM role requirements, including digital, analytical, technical, compliance, communication, and strategic skills. | These findings suggest that labour shortages are not only about the number of workers available, but also about whether workers have the capabilities required for increasingly complex FM roles. Technology, smart buildings, sustainability, and compliance requirements are increasing the demand for broader and higher-level skills. | Skills mismatch and changing FM role requirements. |
| Dependence on migrant labour, skilled workers leaving New Zealand, high living costs, limited career progression, difficulty recognising overseas experience, and challenges retaining FM workers. | These findings suggest that migration and retention pressures affect workforce stability in FM. New Zealand competes with overseas markets for skilled workers, while migrant workers may also face practical and career-related barriers that make long-term retention more difficult. | Migration, retention, and workforce stability issues. |
| Increased workload and stress, delayed maintenance, lower productivity, higher operating costs, reduced service quality, weaker service continuity, and increased operational risk. | These findings show that labour shortages affect both employees and FM service performance. When fewer suitable workers are available, existing staff carry more work and organisations face greater difficulty maintaining service quality, maintenance standards, and operational continuity. | Operational impact of labour shortages. |

| | | |
|---|---|---|
| Use of migrant labour, outsourcing, internal promotion, flexible staffing, mentoring, and on-the-job training to manage immediate workforce shortages. | These strategies help organisations manage short-term staffing pressures, but participants generally viewed them as temporary responses. They do not fully address deeper problems such as limited training pathways, retention difficulties, and the lack of long-term workforce planning. | Short-term coping strategies. |
| Need for clearer FM career pathways, stronger professional recognition, formal qualifications, apprenticeships, workplace learning, industry-education partnerships, and stronger support from industry bodies and government. | These findings suggest that long-term workforce development requires coordinated action rather than isolated organisational responses. Stronger education pathways, professional recognition, industry involvement, and policy support are needed to build a more sustainable FM workforce. | Need for long-term workforce development. |

Overall, Table 4.1 shows that labour shortages in New Zealand's FM sector are not caused by one single issue. The findings show that the problem relates to several related factors, including low awareness of FM as a career, limited education and training pathways, mismatched skills, weak professional recognition, migration and retention issues, and the increasing complexity of FM work. The participants also indicated that current responses, such as outsourcing, migrant labour, internal promotion, mentoring, and on-the-job training, may help in the short term. However, these responses are not enough to solve the wider workforce problem. The findings suggest that the FM sector needs a more planned and long-term approach to workforce development.

### 4.3 Repeated Patterns Across the Interview Data

During the manual analysis of the seven semi-structured interviews, repeated patterns were identified across the dataset. The earlier interviews identified several important issues, including limited workforce supply, weak FM career awareness, limited education and training, skills mismatch, migration and retention issues, and the increasing complexity of FM roles.

These same issues continued to appear in the later interviews. The sixth and seventh interviews mainly repeated or confirmed themes that had already been identified, although participants sometimes provided different examples based on their own organisational and professional contexts. For the exploratory scope of this study, this repetition provided sufficient support for identifying the main themes. However, because the study involved only seven participants from different FM contexts, the findings should not be interpreted as evidence of full saturation across the whole New Zealand FM sector.

Based on the findings presented in Table 4.1, the recurring ideas were grouped into broader themes to illustrate their consistency across the seven interviews.

**Table 4.2**

*Repeated Patterns Across the Seven Interviews*

| **Repeated Pattern / Theme** | **Evidence Across the Seven Interviews** | **Pattern Comment** |
|---|---|---|
| Limited workforce supply and weak entry pathways | Participants repeatedly discussed the lack of new entrants, unclear FM career pathways, and difficulty finding suitable people for FM roles. | This theme appeared repeatedly across the interviews and showed a consistent pattern across participants. |
| Low awareness and weak professional recognition of FM | Several participants stated that FM is not well promoted as a career and that many people enter the sector by accident rather than through a planned career pathway. | The repeated responses showed that low awareness and weak recognition are consistent issues in the sector. |
| Lack of specialised FM education and training | Participants repeatedly discussed the absence of clear FM education pathways, formal qualifications, workplace learning, and structured training routes. | This theme was strongly repeated across the interviews and showed a consistent pattern in the data. |

| | | |
|---|---|---|
| Skills mismatch and changing FM role requirements | Participants explained that modern FM requires technical, managerial, compliance, digital, and communication skills, but the available workforce does not always match these needs. | Later interviews confirmed the same issue, especially in relation to technology, compliance, and higher-level FM capability. |
| Migration, retention, and workforce stability issues | Participants discussed migrant labour, workers leaving New Zealand, high living costs, limited progression, turnover, and difficulty retaining skilled FM workers. | The theme was repeated in different ways across the interviews and did not appear as an isolated issue. |
| Operational impact of labour shortages | Participants linked labour shortages to increased workload, stress, delayed maintenance, reduced service quality, reactive maintenance, and operational risk. | This theme appeared repeatedly and became one of the clearest findings. |
| Short-term coping strategies | Participants mentioned outsourcing, internal promotion, mentoring, on-the-job training, flexible staffing, migrant labour, and technology use. | These strategies were repeated across the interviews, but participants generally viewed them as short-term rather than complete solutions. |
| Need for long-term workforce development | Participants suggested stronger career pathways, education-industry links, FM qualifications, apprenticeships, professional recognition, retention support, and policy coordination. | By the later interviews, this theme was mainly confirmed rather than newly introduced. |

By the sixth and seventh interviews, the responses mostly repeated and confirmed the themes that had already been identified in the earlier interviews. Although some participants gave different examples based on their own work context, these examples did not create completely new themes. Instead, they strengthened the existing themes. Therefore, the seven interviews provided sufficient repeated patterns to support the main themes within the exploratory scope of this study. However, these repeated patterns should not be interpreted as evidence of full saturation across the wider New Zealand FM sector.

### 4.4 Causes of Labour Shortages

Based on the findings of this research, participants did not describe labour shortages as only a matter of headcount or the simple number of workers available. Instead, they presented the issue as a broader workforce pipeline problem that affects how people enter, develop within, and remain in the FM industry over time. Across the seven interviews, the main causes most identified were limited workforce supply, the ageing workforce, immigration and policy constraints. However, these causes were not discussed as isolated factors. Rather, participants linked them to a wider set of structural weaknesses within the industry, including the low visibility of FM as a career, weak and often unclear entry pathways, the lack of structured education and training opportunities, and the ongoing difficulty of retaining skilled and experienced people. Taken together, these findings suggest that labour shortages in FM are not simply the result of there being too few workers in the market but reflect a deeper problem in how the industry attracts, prepares, and sustains its workforce.

#### 4.4.1 Limited Workforce Supply and Weak Entry Pathways

Participants consistently identified limited workforce supply as a central contributor to labour shortages within the facilities management (FM) sector. However, this limitation was not described as a simple absence of available workers. Rather, the data suggest that workforce scarcity is shaped by a combination of low industry visibility, weak entry pathways, and gaps in role-specific capability. Through interviews, participants framed the issue as a constrained pipeline, where both the quantity and preparedness of incoming workers are insufficient to meet industry demands.

A dominant pattern emerging from the data relates to the low visibility and recognition of FM as a career pathway. Multiple participants emphasised that the sector lacks exposure, particularly among younger individuals, resulting in limited interest at the entry level. For instance, P1 noted that “FM is not well recognised as a career in New Zealand, limiting young people’s interest,” highlighting how a lack of awareness directly suppresses inflow into the profession. This was reinforced by P2, who explained that “FM is not promoted as a career option, particularly at the high school level, so people do not see it as a viable long-term profession and often enter the industry by accident.” The notion of individuals “entering the industry by accident” is particularly revealing, as it suggests the absence of intentional career pathways and structured recruitment pipelines. Instead of attracting candidates through deliberate career planning, the sector appears to rely on incidental or indirect entry routes.

This pattern indicates that workforce limitations are not solely demographic or economic in nature but are also socially constructed through poor institutional visibility and weak signalling mechanisms. In other words, potential entrants are not actively choosing to avoid FM; rather, they are often unaware of its existence as a viable professional pathway. This lack of visibility contributes to a self-reinforcing cycle: limited awareness reduces entry, which in turn restricts the sector's ability to build a stronger professional identity and attract future talent.

Beyond awareness, participants also pointed to deficiencies in role-specific knowledge and preparedness among those entering or attempting to enter the industry. P6 explicitly linked workforce shortages to capability gaps, stating that "the lack of knowledge and understanding of facilities management has a direct correlation to finding people to be able to do the role." This suggests that even when individuals are available in the labour market, they may not possess the required competencies to perform effectively within FM roles. The issue, therefore, extends beyond recruitment into the domain of workforce readiness.

This distinction is important. While labour shortages are often framed in terms of insufficient supply, the data here indicates that the problem is equally rooted in a mismatch between industry expectations and workforce capability. Employers are not merely seeking additional workers; they require individuals with a specific combination of technical, managerial, and compliance-related skills. Where such capabilities are lacking, organisations are forced to either invest in training or operate with suboptimal staffing structures. This reinforces the perception of shortage, even in contexts where general labour availability may not be critically low.

At the same time, some participants described the issue in more direct terms, pointing to an absolute shortage of qualified personnel within the sector. P7, for example, stated that "there is a shortage of an FM or facilities manager," framing the problem as a straightforward lack of available professionals. This perspective was further extended through the observation that "if they don't have those people available yet, then you have to look beyond our borders." The need to recruit internationally reflects both the limited domestic supply and the challenges associated with developing local talent pipelines on time.

However, this reliance on external labour also highlights an underlying structural weakness. If organisations must consistently "look beyond [their] borders" to fill roles, it suggests that domestic workforce development mechanisms are insufficiently well developed. In this sense, international recruitment functions as a compensatory strategy rather than a sustainable solution. It addresses immediate staffing gaps but does not resolve the underlying issues of awareness, training, and career pathway development within the local context.

Taken together, these findings suggest that the limited workforce supply in the FM sector is not a singular or uniform issue. Instead, it reflects the interaction of multiple constraints operating at different stages of the workforce pipeline. At the entry level, low awareness restricts the number of individuals considering FM as a career. At the transition point between education and employment, insufficient training and unclear pathways limit the development

of job-ready candidates. Finally, at the organisational level, high skill requirements and role complexity further narrow the pool of suitable applicants.

This layered understanding challenges more simplistic interpretations of labour shortages as purely quantitative deficits. While participants do acknowledge a lack of available workers, their accounts consistently point toward qualitative limitations in workforce composition as an equally significant factor. In this sense, the shortage is not only about how many workers are available, but also about who those workers are and whether they possess the capabilities required by the industry.

Moreover, the coexistence of these perspectives, awareness-driven constraints, capability gaps, and absolute shortages suggests that the issue is both systemic and self-reinforcing. Limited awareness reduces entry into the sector, which in turn constrains the development of training programmes and professional pathways. This lack of structured development perpetuates skill shortages, reinforcing employer perceptions of limited supply. Over time, this cycle contributes to a persistent and deeply embedded workforce challenge that cannot be addressed through isolated interventions.

In summary, participants 'accounts indicate that limited workforce supply in the FM sector is a multifaceted phenomenon shaped by deficiencies in visibility, capability, and structural workforce development. While often described in terms of numerical shortage, the issue is more accurately understood as a combination of constrained inflow and inadequate workforce readiness. This distinction is critical, as it shifts the focus from short-term recruitment solutions toward longer-term strategies aimed at strengthening the overall workforce pipeline.

### 4.4.2 Skills Mismatch and Capability Gaps

Another factor in the labour shortages issue in FM, as mentioned by participants, is regarding a skills mismatch and capability gaps that are happening externally and internally. This new finding suggests that labour shortages are not only a problem of insufficient numbers, but also a problem of insufficient capability. Participants suggested that even when workers are available, they may not have the specific qualifications, knowledge, judgement, or blended skill set required for FM roles. Therefore, this issue separates workforce supply from workforce suitability.

Many participants said that labour shortages are not simply about having too few applicants but also about a gap between what jobs require and what workers can do. The FM industry needs people with a range of skills, so employees must be able to do different things. Because FM jobs need a specific mix of abilities, it is harder to find the right candidates. This means that shortages in FM are about both the number of workers and the quality of their skills. Some participants pointed out that the main issue is not just how many people apply, but whether they truly understand FM and can do the job well. This shows that the shortage is about both the number of workers and finding people with the right knowledge and skills for FM work.

FM involves many responsibilities and is considered demanding because it requires people with a combination of different skills. It is not simply technical work or just management. Instead, it combines technical skills, knowledge of compliance, health and safety, people management, and digital skills. Because FM jobs need so many abilities, employers find it hard to hire people who have them all. For example, one participant said it was difficult to find a facilities manager who could handle technical compliance, health and safety, and people management at the same time. The job also needs an understanding of business, organisational culture, health and safety laws, compliance, building services, and environmental practices. This makes FM jobs hard to fill, not just because there are not enough workers, but because the roles require a complex set of skills that are rare in the current workforce. Employers want people who can work in technical, management, and compliance areas, and who also have digital skills.

Participants also talked about how technology is changing FM roles. P3 said that "technology requires FM workers to have higher technical and data management skills." Other participants shared similar views. P4 said that "technology requires FM staff to have digital and analytical skills," and P2 said that "the profession increasingly needs higher-level analytical, planning, and systems-thinking skills." These comments show that the skills needed in FM keep changing as technology develops. As a result, FM roles are getting more complex, not just because of technology, but also due to sustainability, compliance, and performance demands. This means the labour shortage is not only about having too few people but also about the job itself becoming harder to fill. P4 also said there is "a mismatch between modern FM skill requirements and the available workforce, particularly in digital and compliance areas," and P2 noted that more complex buildings increase the need for higher-level analytical, planning, and systems-thinking skills. These points suggest that skill gaps may be growing as FM jobs move past traditional tasks and require more digital, analytical, and compliance expertise.

FM needs workers with a broad but specific set of skills. When these skills are missing, employers meet challenges. Because there are not enough suitable candidates, employers sometimes hire or promote people who do not have all the required skills. This can lower the quality of recruitment. One participant said that employers often pick people who are not fully able to do the job because there are not enough good candidates. If organisations cannot find workers with the right skills, they must train their own staff or work with less qualified teams. This shows that skill gaps in FM not only reduce the number of good candidates but also make it harder to hire the right people.

The mismatch in the industry is not simply an outside problem. It can also be caused by factors like a lack of education and training options. Participants suggested that the skills gap exists partly because there are not enough clear ways for people to gain FM-specific skills before starting in the field. So, the mismatch is also a workforce development issue. Several participants raised this concern. P1 said that "there is a lack of FM-specific university and vocational courses in New Zealand." P3 said that "few specialised FM programmes limit the number of qualified graduates entering the field." P4 added that "limited access to formal education reduces the supply of skilled professionals entering the industry." P6 said, "we train

our own people because there was no other training available." These comments suggest that the gap between job requirements and available skills is partly due to the limited number of formal FM training options, which means fewer workers enter the sector with proper preparation.

To summarise, labour shortages in the FM sector have many causes. It is not only about having too few workers, but additionally about the challenge of finding people with the right skills and knowledge for complex FM jobs. The main issue is the gap between job needs and what workers can offer. If this is not addressed, the FM sector may face lower recruitment quality and a weaker workforce in the future.

### 4.4.3 Ageing Workforce

Another important factor identified in this research is the ageing workforce in the FM industry. Many participants explained that a large part of the current workforce is already at a later stage of their careers, and many experienced workers are now approaching retirement. This shows that ageing is not only a demographic issue, but also a structural workforce problem that is making labour shortages more serious in the sector. The statements from P6 and P1 show that many staff are getting older and will soon retire. This means the FM industry is becoming increasingly dependent on workers who are close to leaving the workforce, which creates growing pressure on future labour supply.

However, the issue is not only that older workers are retiring. Participants also pointed out that younger workers are not entering the FM industry fast enough to replace those who are leaving. Some participants described a clear gap between older workers going out of the sector and younger workers coming in. This suggests that the problem is also connected to weak entry pathways into FM. In other words, the industry is not only losing people through retirement but is also struggling to bring in enough new workers to maintain workforce continuity. The ageing workforce issue is therefore closely related to the wider problem of low awareness and weak attraction to the FM profession.

This problem is also connected to how people understand FM as a career. If people do not know enough about the FM industry, what kind of work it involves, or what opportunities it offers, they are less likely to choose it as a profession. As a result, retirements are not being matched by enough new entrants. The industry is losing experienced workers, but the replacement pipeline is still weak. This creates a situation where workforce loss is happening more quickly than workforce renewal, which adds more pressure to labour shortages over time.

Participants also explained that when older workers leave, the industry loses more than just the number of workers. It also loses important experience, practical knowledge, and continuity that have been built over many years. This means the loss is not only about quantity, but also about quality. Experienced workers often have a strong understanding of the real challenges of FM, the day-to-day work, and the wider expectations of the role. They know how to respond to practical issues, how to manage responsibilities, and how to handle the complexity of the work. This kind of knowledge is difficult to replace quickly.

It is also harder to replace these experienced workers because new entrants often do not yet have the same level of practical understanding. Even when younger workers join the industry, they usually still need time, support, and training before they can perform at the same level as the more experienced staff who are leaving. The loss created by retirement therefore cannot be addressed simply by bringing in new people. There also needs to be a process of knowledge transfer and capability development, so that the experience of older workers does not disappear without being passed on.

In this way, the ageing workforce creates a double problem for the FM industry. On one side, it reduces the number of available workers as more people move towards retirement. On the other hand, it also weakens the knowledge base of the industry because experienced staff acquire valuable skills and understanding with them when they leave. This makes the labour shortage issue more serious, because the problem is not only replacing numbers, but also replacing capability, continuity, and professional experience.

In summary, the ageing workforce is making labour shortages in FM worse, not only because more people are retiring, but also because there are not enough new workers coming in to replace them. This creates a significant gap, as experienced staff leave the sector while younger replacements remain limited. At the same time, the workers who leave also take important knowledge and experience with them, which is a major loss for the industry. Overall, these findings show that the FM sector is struggling not only to maintain its workforce numbers but also to preserve the knowledge and capability needed for its future development.

### 4.4.4 Immigration and Policy Constraints

Participants in this research said that immigration rules are not only a barrier for bringing in workers but also show that the FM sector depends on workers from outside because there are not enough local workers. Immigration acts as a control for the number of workers coming in. Many participants explained that immigration policies affect how many workers are available in FM, especially when there are not enough skilled people locally, and companies try to hire from other countries. But this process is not easy. As P7 said, the immigration system is very controlled, and the visa process takes a lot of time and can be costly. These comments show that it is difficult to get skilled workers from overseas, and there are many rules and challenges in this process.

These immigration barriers also show that the FM industry relies on migrant workers because there are not enough local workers to meet the needs of the sector. This is not just a short-term problem, but a sign of a bigger gap in the workforce. P1 said that immigration policy affects the supply of FM workers, and P7 said that if there are not enough people locally, companies must look for workers from other countries. These points show that hiring from overseas is used to cover the shortage of local workers. This means the industry depends on migrant workers because the local workforce is too small or does not have the right skills. When it is hard to bring in migrant workers, it becomes even more difficult to fill jobs, because hiring from overseas is also limited. At the same time, the local workforce has not solved this problem,

because not many people are interested in FM jobs, and some local professionals leave for better jobs in other countries.

This issue is even more serious when we look at both bringing workers into New Zealand and losing workers to other countries. Participants talked about the problem of not only getting workers from overseas but also losing skilled workers who leave New Zealand for better jobs. P2 said that professionals can move to other countries for higher salaries. P3 said that global competition makes it hard to keep experienced FM workers, and P6 said that many skilled workers are leaving. These points show that immigration is about both coming in and going out. New Zealand has problems attracting workers and keeping them. This means the problem is not just about local hiring, but also about global competition for FM professionals.

Participants said that government policies to solve this problem are still limited. Allowing more international recruitment can help fill jobs when there are not enough local workers, but this is only a short-term solution because visas for migrant workers are often temporary. Because of this, hiring from overseas may not be the best long-term answer, and it is often a reaction to shortages instead of a planned solution. The success of hiring migrant workers also depends on how each organisation plans its workforce. If companies plan well and support migrant recruitment, it can help. However, participants also said that there is not enough support from the government. As P7 said, there is not much incentive from the government. This shows that current policies are not enough to solve the labour shortage sustainably.

Another problem is that depending too much on international workers can slow down the development of the local workforce. Some participants said that if companies use migration as the main way to fill jobs, they may not invest enough in training local workers or creating career paths. This over-reliance on migrant workers can make the local workforce development weaker, because there is less focus on helping local people enter the FM sector. As a result, local workers may be ignored, and the industry may not build a strong local workforce. This makes the sector weak in the long term, because it still depends on workers from outside and does not fix the main problems inside the industry.

In summary, these findings show that immigration is not just a barrier to getting workers, but also a sign of bigger problems in the FM sector. Immigration rules make it harder to hire workers, but they also show that the industry depends on workers from outside and that local workforce development is weak. This problem is linked to other issues, like not enough people joining the sector and not enough training. So, immigration is not only a policy issue but also shows that the FM sector has not built a strong and sustainable local workforce for the future.

### 4.4.5 Weak Professional Identity and Low Industry Recognition

Another factor raised by participants in relation to labour shortages was the weak professional identity and low recognition of the FM industry itself. Based on the findings of this research, the issue is not only that people do not choose FM as a career option, but also that many people do not clearly understand what FM is, what facility managers do, or why the profession is important. FM therefore appears to face a recognition problem as much as an attraction

problem. Its weak identity seems to reduce career visibility, public understanding, and even institutional recognition.

Many participants said that FM does not have a strong professional identity in New Zealand. The sector is therefore not recognised in the same way as other, more established industries or professions. The problem is not only about popularity, but also about how FM is defined, understood, and recognised by others. Some participants described FM as having an identity crisis and a perception problem. These comments suggest that FM is not only an overlooked career, but also an industry that is not clearly positioned or recognised. In this way, the issue is not just about visibility, but also about recognition and legitimacy. Poor recognition was also linked to confusion about the role itself. Many participants explained that the term facilities management is not well understood, and that many people do not know what the role involves. This makes FM less attractive and weakens its professional legitimacy. Some participants said that not many people understand what FM means or what the job includes, while others explained that FM is not a well-known industry and that people do not see it as a desirable career. These points suggest that FM is still under-promoted and not clearly defined in the eyes of potential entrants, wider society, and even some employers.

Participants also said that FM does not receive the same public recognition as professions such as law or accountancy. This is important because recognition influences how a field is valued, how people make career decisions, and whether the profession is taken seriously by others. Some participants explained that people generally know what an accountant or a lawyer does, but most people do not understand what facilities management is. This suggests that FM has low visibility and a weaker status, which can make it less attractive as a long-term career option. The issue also goes beyond public perception and extends into formal systems. Some participants said that there is no category for facilities management in official systems such as ACC, and that the government may not fully understand FM. This indicates that FM has a weak identity not only in society but also in institutions, where it is not always clearly represented in formal classifications or policies.

At the same time, participants did not suggest that FM lacks value. Rather, they explained that FM is very important, but that its value is often not visible enough. Low recognition does not mean that FM is unimportant. Instead, it means that the essential role of FM is often not clearly seen by others. Some participants described FM as a critical industry, but one that remains hidden, even though it manages large and important facilities. Others explained that if FM were missing, many things would stop functioning very quickly. These comments show that FM is valuable and necessary work, but it is still not recognised to the extent that it should be. This weak professional identity also affects entry into the profession. Some participants said that many people join FM by accident rather than through a planned career choice. When a profession is not clearly defined, promoted, or recognised, people are less likely to choose it deliberately and more likely to enter from other fields. Some participants said that entry into FM is mainly by accident and that there is no formal career path. Overall, these findings suggest that weak professional identity and low industry recognition contribute to labour shortages

because people do not clearly understand FM, the status of the profession remains weak, and fewer people see it as a clear and intentional career option.

### 4.5 Impacts of Labour Shortages

Labour shortages have a major impact on the FM industry because they create practical and ongoing effects on daily operations. Based on the findings of this research, participants consistently described labour shortages as affecting much more than staffing numbers alone. Instead, the effects were seen across several areas, especially staff workload, service delivery, and financial performance. The findings also suggest that these impacts are closely connected, as pressure in one area often creates strain in another. Overall, this theme shows that labour shortages are not only a workforce issue, but also an operational and organisational issue affecting how work is carried out and how services are maintained.

#### 4.5.1 Increased Workload and Burnout

Labour shortages often result in increased workload for the existing staff because the total amount of work remains the same, even when there are fewer employees. The remaining staff must share all the tasks, which puts extra pressure on them. Therefore, when there are not enough workers, it not only means that some tasks are left incomplete, but also that the current employees must take on more responsibility. As mentioned by P4, teams are understaffed, which leads to delayed maintenance, increased workload, and higher stress levels. P1 also said that everyone is doing more than what they were hired to do. These examples show that labour shortages do not reduce the demand for services or expectations from staff. Instead, the same work is divided among fewer people, which makes their jobs more difficult.

The findings also indicate that labour shortages cause employees to take on new and different tasks and do more work. Participants explained that staff are often required to do duties outside their usual job roles. This shows that shortages not only increase the workload but also change what is expected from employees. P3 said that staff are stretched thin, and P1 also mentioned that everyone is doing more than what they were hired to do. These examples show that job roles are changing, which can reduce efficiency. When employees must handle extra tasks outside their normal responsibilities, especially when they are already busy, it becomes more difficult for them to perform their jobs well.

Participants also linked the heavier workload to bigger problems with employee wellbeing and staff retention. They did not consider this as a short-term problem, but as ongoing pressure that can lead to stress, tiredness, and burnout. P3 said that labour shortages increase workload stress, reduce retention, and place pressure on service delivery across industries. P4 also mentioned higher stress levels from understaffing. These comments show that labour shortages affect more than just the daily work. Over time, they can harm the well-being of employees. If this pressure continues, it becomes difficult to manage, and both individual staff and the whole workforce can be at risk.

These effects are not only personal but also affect the whole organisation. Stress, tiredness, and burnout are not just human resource problems, especially because FM work often needs teamwork, following procedures, making decisions, and handling safety matters. Participants said that the increased workload affects not only staff well-being, but also the overall performance of the organisation. They mentioned reduced retention and pressure on service delivery as bigger organisational issues and connected higher stress directly to understaffing. Sustained pressure may cause employees to leave their jobs, which can make the shortages even worse. As a result, organisations may find it difficult to keep operations running smoothly and to retain their workers.

In summary, these findings show that heavier workloads and burnout are not only about giving staff more tasks. They also result from dividing the same amount of work among fewer people, expanding job roles, and increasing pressure over time. Labour shortages make work more difficult not only by increasing the workload for each person, but also by changing job responsibilities and creating ongoing pressure that is difficult to manage.

### 4.5.2 Decline in Service Quality

This research also found that labour shortages lead to a decline in service quality in the FM industry. When there are not enough staff available, service delivery becomes slower, and both the quality and quantity of work are affected. Labour shortages therefore affect both how much work can be completed and the quality of that work. Participants in this research mentioned that labour shortages limit the quality and quantity of service delivery and reduce output quality. These findings show that when staffing levels are too low, it becomes difficult for FM teams to maintain the expected standards of performance in their daily operations.

The findings also show that labour shortages not only affect service quality in a general sense but also reduce the consistency and reliability of the delivery service. This is especially important in the FM industry because many services need to be delivered regularly on time and according to set schedules. Participants stated that labour shortages reduce service consistency and increase operational risk, and that this affects service quality and asset performance. This suggests that shortages make service delivery less stable and more difficult to maintain over time. When there are not enough workers, FM teams may continue operating, but the services provided are more likely to become uneven, delayed, or less reliable. As a result, the effect of shortages is not only seen in lower output, but also in the weakening of routine and dependable service performance.

Another important issue raised by participants is the shift from planned and preventive work to more reactive responses. The data clearly show that labour shortages push FM teams away from organised and preventive maintenance and force them to respond only when problems happen. One participant explained that responses become reactive rather than planned maintenance, and that this affects service quality and asset performance. This is an important finding because it shows that labour shortages not only reduce service standards but also change how work is organised and prioritised. Instead of managing services and assets in a planned, regular, and preventive way, FM teams are pushed into responding to urgent issues

as they arise. Over time, labour shortages can move the industry away from proactive management and towards short-term problem-solving.

This reactive way of working is difficult to sustain. It often creates inefficiency, because time and labour are focused on urgent tasks rather than on work that could prevent problems from happening in the first place. Over time, this can also increase long-term risk because delayed maintenance and less preventive action may affect asset conditions, system performance, and service reliability. In this way, labour shortages not only affect immediate service delivery but can also weaken the wider quality of FM operations in the long run.

The findings further show that these effects are visible in the day-to-day work of FM teams. Participants described practical consequences such as delayed maintenance, slower response times, lower attention to detail, and growing backlogs. P5 said that things take longer to get done now, while P4 noted that teams are understaffed, which leads to delayed maintenance. These comments show that the impact of labour shortages can be clearly seen in the speed, responsiveness, and smoothness of daily FM work. This means that the decline in service quality is not only a general or abstract problem but something that affects the everyday functioning of the industry.

Overall, the decrease in service quality is not only about work taking longer to complete. It also reflects a wider shift in how FM services are delivered when labour is limited. The findings suggest that labour shortages weaken FM service delivery by slowing down processes, reducing consistency, and moving the sector away from proactive and stable management towards more delayed and reactive work. This makes service delivery more difficult to maintain at the expected level and creates wider risks for operational performance and asset management.

### 4.5.3 Financial Pressure on Organisations

Participants mentioned that labour shortages increase operational costs and create financial pressure for organisations. This is because it becomes more expensive to maintain operations when there are not enough staff available. As P4 stated, “labour shortages increase operational costs” and “labour costs have increased significantly.” These statements indicate that labour shortages not only affect service delivery and workload but also create immediate financial pressure for organisations that are trying to continue their activities at the expected level. In this sense, the shortage problem is not only about people, but also about the growing cost of trying to keep work going when labour is limited.

The findings indicate that this financial pressure comes from several different sources. Costs may increase due to overtime payments for existing staff, the use of contractors or temporary workers, and additional recruitment expenses. For example, P7 explained that hiring workers from overseas can be one way to respond to shortages but also mentioned that “overseas recruitment is time-consuming and could be expensive.” This example shows that when there are not enough local workers, organisations often must choose more expensive and time-

consuming ways to fill the gap. Therefore, labour shortages not only create staffing problems but also force organisations to spend more money just to maintain their normal operations.

This also suggests that financial pressure is closely linked to the coping strategies organisations use. When labour is limited, organisations may feel they have little choice but to rely on the options that are available at that moment, even if those options are more costly. In this way, the shortage itself pushes organisations into responses that may increase expenditure. This means that the financial effect of labour shortages is not only a direct result of having fewer workers, but also a result of the expensive measures that organisations must use to compensate for that shortage.

The financial impact is also not only about higher costs in a simple sense. Labour shortages often cause organisations to use staffing solutions that are available immediately, but these solutions may not be effective for the long term. As mentioned earlier, this is related to the increase in labour costs and the extra expenses involved in recruiting internationally or using outside support. These short-term solutions can help to fill gaps in the present, but they are often expensive and may not be sustainable over time. This means that labour shortages not only increase spending but also reduce the options available to organisations. Instead of being able to choose stable long-term strategies, they may become more dependent on costly short-term responses.

Participants also suggested that financial pressure should not be understood only as a short-term problem. While rising costs are one visible effect, there is also a deeper issue of inefficiency and sustainability. Current responses may solve immediate labour gaps, but they do not always consider the future cost of continuing these approaches over time. If labour shortages continue, then the extra spending involved in these responses may also continue and eventually become part of normal operations rather than something temporary. This creates concern because it means organisations may need to keep spending more simply to maintain basic continuity.

In addition, the findings imply that some of these costs may not be fully visible at the beginning. Quick decisions made in response to shortages can create hidden or delayed costs that appear later. For example, expensive temporary solutions may seem necessary in the short term, but over time, they may reduce efficiency, increase dependence on outside labour, or lead to repeated costs that become difficult to control. In this way, financial pressure is not only about immediate spending, but also about the longer-term sustainability of the organisation's way of operating. This raises an important question about whether these responses can continue if labour shortages remain unresolved.

The impact of financial pressure is also not the same for all organisations. Larger organisations are often in a better position to manage rising costs because they may have more resources, greater flexibility, or stronger financial reserves. In contrast, smaller firms may experience much greater difficulty when labour-related costs continue to increase. This means that labour shortages can affect the sector in an uneven way. Large companies may have more financial stability and be better able to absorb higher costs, while smaller organisations are more

vulnerable and may struggle to recover if those costs continue overtime. Therefore, labour shortages can increase financial pressure across the industry, but they can also make inequality between organisations more visible because the burden is not felt in the same way by everyone.

This uneven effect is important because it shows that labour shortages may influence not only workforce conditions, but also the wider structure of the sector. If some organisations are much better able to absorb rising costs than others, then shortages may contribute to uneven resilience across industry. Smaller organisations may be placed under greater strain, while larger ones may be better able to continue operating despite cost increases. In this sense, financial pressure is not only an organisational issue, but also something that may affect how stable and balanced the wider FM sector remains over time.

Overall, the findings show that labour shortages create financial pressure by increasing labour costs and forcing organisations to use less efficient and sometimes unsustainable working methods. This financial pressure is not only about short-term costs, but also about increasing inefficiency and challenges for long-term sustainability. Participants 'accounts suggest that organisations may be pushed into expensive short-term responses simply to maintain continuity, even when those responses are not ideal for the future. These problems also help explain why organisations often rely on coping strategies that preserve operations for now, but do not solve the deeper causes of labour shortages, which will be discussed in the next section.

### 4.6 Current Coping Strategies

In the wake of labour shortages faced by the FM industry in New Zealand, organisations find coping strategies to keep their business up and running. Based on the research, participants described several strategies currently used to manage labour shortages. These strategies were mostly done to keep operations going rather than solving the root causes of the shortage. The main responses from participants were outsourcing, redistribution of tasks among existing staff, and increased use of technology. While these responses offered short-term support, participants often questioned their long-term sustainability. They do not directly solve the underlying issue but rather focus only on operational continuity.

#### 4.6.1 Outsourcing and Contracting

Labour shortages have pushed many organisations to use outsourcing and contracting as a short-term solution to deal with immediate gaps in labour. Based on the findings of this research, outsourcing appeared to be one of the most visible and practical strategies used when organisations did not have enough internal staff to maintain their operations. However, participants did not describe outsourcing as a complete solution. Instead, they presented it as something necessary to maintain continuity, while also raising concerns about dependency, service consistency, and long-term sustainability.

Participants in this study mentioned that outsourcing and contracting are important methods used to manage shortages in the internal workforce. In many cases, these methods are used when there is an urgent need to fill labour gaps and keep services running. For example, P2

said, “We rely a lot on external contractors now,” and P5 said, “Outsourcing has become necessary.” These statements show that when organisations cannot find enough workers internally, they often turn to outsourcing as a practical and immediate response. At the same time, participants also explained that outsourcing is mainly used to maintain services and operations, rather than to address the deeper causes of labour shortages. For example, P4 said that the main strategies include hiring migrant workers, outsourcing services, and promoting staff internally. This shows that outsourcing is mostly used to keep organisations functioning during periods of labour shortage, but it does not directly contribute to building the internal workforce for the future.

The findings also indicate that organisations are not only relying on local contractors but are also looking for external labour from a wider area. In some cases, this includes hiring migrant workers or bringing labour from outside New Zealand. P4 mentioned hiring migrant workers, outsourcing services, and promoting staff internally, while P7 said that it is sometimes necessary to look beyond borders. These examples suggest that outsourcing is part of a broader pattern in which organisations look outside the local labour market when they cannot find enough workers domestically. This means that outsourcing is not always limited to domestic contractors but can also be connected to wider forms of external labour reliance.

However, participants also suggested that repeated use of outsourcing can create a growing dependence on external labour. The way participants used words such as “rely” and “necessary” suggests that outsourcing is becoming more than just a temporary support strategy. Instead, it may develop into normal practice within some organisations. While this may help to maintain service continuity in the short term, it does not solve the deeper causes of labour shortages. It may also create additional challenges in relation to service consistency, internal control, and long-term workforce sustainability.

Overall, the findings show that outsourcing and contracting are common coping strategies used to maintain operations during labour shortages, sometimes including the use of international labour when local options are limited. However, these strategies appear to function mainly as short-term responses to immediate workforce gaps. Although they can help organisations continue operating, they may also contribute to long-term reliance on external workers without resolving the underlying reasons for labour shortages in the FM industry.

### 4.6.2 Internal Workforce Redistribution

One of the strategies used by the FM industry to address labour shortages is to assign additional responsibilities to existing employees. In this approach, organisations make internal adjustments to ensure that essential tasks are completed despite insufficient staffing levels. As a result, the workload is distributed among current employees to maintain operations. Participants in this study described this method, as P6 stated, “we have had to shift responsibilities internally,” and P4 mentioned “promoting staff internally.” These examples indicate that, in situations where there are gaps in staffing, organisations tend to reallocate work among their current workforce rather than immediately recruiting new employees.

However, the redistribution of work involves more than simply assigning a few additional tasks to employees. Frequently, staff members are required to perform duties that fall outside their original job roles, which can create ambiguity regarding job boundaries. Participants highlighted this challenge, with P1 stating, “everyone is doing more than what they were hired to do,” and P3 noting, “people are taking on extra roles.” These statements demonstrate that redistribution often results in employees working beyond their official job descriptions, as organisations attempt to address labour shortages by increasing the responsibilities of their existing workforce rather than employing new staff.

Nevertheless, redistribution can provide certain benefits. It enables organisations to continue their operations in the short term, even when some positions remain vacant. Statements such as “promoting staff internally” and “shift responsibilities internally” illustrate that reallocating work assists in maintaining essential functions during periods of insufficient staffing. This may explain why many organisations continue to rely on this strategy, despite its potential disadvantages.

However, it is important to note that redistribution does not increase the number of employees within the organisation. Although this approach helps to maintain operations, it does not address the underlying issue of workforce shortages. Instead, it places additional pressure on existing staff members. As participants indicated, “people are taking on extra roles” and “everyone is doing more than what they were hired to do.” These comments suggest that redistribution merely transfers the workload to current employees, rather than enhancing the organisation’s overall capacity to meet its operational requirements.

Because redistribution does not involve hiring additional staff, it can result in increased long-term pressure on employees. Taking on extra responsibilities may negatively affect their well-being and make it more difficult to maintain a healthy workforce over time. Redistribution is closely associated with increased workload and the risk of burnout, as employees are required to perform both their original duties and additional tasks. For this reason, participants expressed mixed opinions regarding this approach. While it is effective in maintaining operations, it also increases stress levels among employees, raising concerns about the sustainability of this strategy without causing harm to the workforce.

Due to these factors, the effectiveness of redistribution is mixed. Some participants considered it a necessary and useful strategy for maintaining operations during periods of staff shortages. Others believed that it could place excessive demands on employees and may not be sustainable in the long term. Therefore, redistribution is most effective when employees possess sufficient capacity, experience, and resilience. If the workforce is already under significant pressure, this approach may not be successful and could potentially lead to further challenges over time.

In summary, the findings of this research indicate that internal workforce redistribution is a common strategy used to maintain operations during periods of labour shortages. However, this approach relies on increasing the workload of existing staff rather than addressing the fundamental issue of insufficient workforce capacity. While redistribution can be a practical

solution, it is also a fragile one. Some participants viewed it as effective, whereas others highlighted the additional pressure and increased risk of burnout associated with this strategy.

### 4.6.3 Use of Technology and Automation

Labour shortages have also created the need for greater use of technology and automation in the FM industry. Based on the findings of this research, technology and automation were described by participants as one of the strategies used to improve efficiency when labour is limited. In this context, technology and automation refer to the use of digital systems, artificial intelligence, and mechanised processes to make work more efficient and reduce reliance on routine manual labour. Technology can be understood as a longer-term efficiency strategy, although its effectiveness is still limited by the nature of FM work and the kinds of skills required to operate these systems.

Some participants in the study explained that technology and automation can help organisations respond to labour shortages by streamlining work processes. P6 referred to this by explaining that AI can help to streamline and mechanise the process. This suggests that technology is seen as a practical way to improve efficiency when there are not enough workers available. It can make certain tasks easier, reduce the amount of routine manual work, and help organisations continue operating under labour pressure. Because of this, technology and automation were viewed by some participants as useful tools for supporting operations in the face of labour shortages.

At the same time, the findings also show that technology has its own limitations. Technology does not remove the need for workers completely but instead changes the kinds of skills that workers need in the FM industry. As digital systems become more common, there is a greater demand for technical, digital, analytical, and data-related capabilities. Participants clearly referred to this change. P3 said that technology requires FM workers to have higher technical and data management skills, while P4 said that FM staff need digital and analytical skills. These comments show that technology does not simply reduce the need for labour but also changes labour requirements and may even create a different type of shortage. The industry still needs workers, but now it increasingly needs people with stronger digital, analytical, and data-related skills.

Some participants also suggested that technology and automation are valuable not only for everyday operations but also for more strategic purposes. One participant explained that technology should not be seen only to save labour, but also as something that can support better planning and decision-making. P5 said that these technologies are not only for improving operational efficiency but also help with strategic decision-making. This indicates that technology may have value beyond reducing manual work. It can also improve the use of information and support more informed decisions in the FM industry. This is important because it shows that technology can contribute to both operational efficiency and longer-term planning within facilities management.

However, not all participants viewed technology in the same way. While many participants described it as useful, some were also more cautious. Some participants supported the use of technology because it can reduce certain aspects of labour burden, while others pointed out that technology cannot fully replace human judgement, coordination, or supervision. This suggests that even with greater automation, human labour remains very important in the FM industry. Technology can support and improve FM work, but it cannot fully replace people, especially in tasks that require decision-making, coordination, experience, and professional judgement.

Overall, the findings of this research show that technology and automation can be useful for improving efficiency and supporting decision-making when labour shortages exist in the FM industry. However, they cannot fully replace human workers, and the capabilities required in FM practice. This means that, while technology may help organisations cope with some effects of labour shortages, it does not solve the wider challenge of building a more sustainable workforce in industry.

## 4.7 Barriers to Workforce Development

Although there have been strategies used to cope with the current labour shortages, the problem persists not only because of immediate supply issues, but also because of deeper barriers to workforce development within the sector. These barriers affect the industry's ability to attract, train, develop, and retain workers over time. Based on the findings of this research, the most common barriers identified by participants were weak training pathways, low attractiveness and weak visibility of FM, and limited career progression opportunities.

### 4.7.1 Lack of Training and Development Pathways

The results of this research show that not having structured training pathways is a big problem for workforce development in the FM industry. Many participants said that there is not enough formal FM education and training, and this is not just a small gap but a bigger problem because there are no clear ways for people to build their skills. Participants talked about how there are only a few opportunities in New Zealand for FM-specific learning. For example, P1 said that there are not enough FM-specific university and vocational courses in New Zealand, and P3 also said that only a few specialised FM programmes are available, so not many qualified graduates can enter the field. These examples show that the FM sector does not have strong or clear pathways to help new people get ready for professional FM jobs.

Because these training pathways are weak, there are not enough qualified people coming into the FM field. Participants said that if there is not enough formal education, fewer people join the industry with the right skills, so there are not many job-ready candidates. P4 said that limited access to formal FM education reduces the number of skilled professionals, and P3 also said that only a few specialised FM programmes are available, so not many qualified graduates can enter the field. These points show that weak training pathways not only affect education but also make the workforce pipeline weaker because fewer people enter the sector with the skills needed for FM work. This problem is not only about the education system, but it also affects the long-term supply of workers in the industry.

When there is not enough external training, organisations must train their own workers. Participants said that because there are not many FM training opportunities, employers must do the training themselves. For example, P6 said that they train their own people because there is no other training available, and there are very few educational places to go. This shows that when there are no external training providers, organisations must develop skills inside the company instead of getting support from a bigger system. But this is not always effective, because training inside the company can be different in each place and depends on what resources and priorities the organisation has. This problem is important because formal education is needed not only for new workers, but also for helping current workers improve their skills. FM work requires knowledge in many areas like business, health and safety, compliance, building systems, and environmental practices. These needs are also changing as the industry grows, so it is important to keep developing the workforce.

At the same time, the findings show that there are some efforts to improve FM education and training. Some participants said that a few initiatives do exist, but these are not easy to access, not well known, or not promoted enough. This means the problem is not only that there is nothing available, but also that what is available does not reach enough people. Even when some opportunities are there, they are not enough to solve the bigger problem or help develop the skills needed in the FM sector.

In summary, the lack of structured training and development pathways is still a big barrier for workforce development in FM. This problem makes it hard to prepare new workers, makes it difficult to keep improving skills, and puts more pressure on organisations to do their own training. Even though there are some efforts to improve FM education, these are not available or visible enough yet. Therefore, the problem is not just about not having enough training but about having a weak and broken system for developing FM skills in the future.

### 4.7.2 Low Industry Attractiveness

The findings show that the low attractiveness in the FM industry is not mainly because of the work itself. Instead, it is mostly caused by weak visibility, unclear professional identity, and poor communication about the value of a career in FM. Participants explained that this is mainly a perception problem, where many people do not see FM as a good or desirable career choice. For example, P1 said that people do not see FM as a desirable career, and P4 also mentioned that it is not a well-known industry. These examples show that FM has difficulty attracting people, not because the work itself lacks value, but because the industry is not visible enough for people to recognise it as a possible career option. The issue is therefore less about the actual content of FM work and more about how the profession is presented and understood. This problem is also related to the wider issues of identity and visibility that were discussed earlier in this chapter. Participants said that FM is not well recognised and is not promoted enough, which makes it less attractive to potential entrants. P7 said that there is a perception issue, and P6 said that many people do not understand what FM means or what the job includes. These comments suggest that the low attractiveness of FM is not caused by the nature of the work itself, but by a weak public understanding of what the profession is and what kind of value it offers. In other words, the problem is mainly about how FM is seen and understood by

the public rather than about the profession itself. If people do not know what FM is, they are less likely to be interested in it, and they are also less likely to see it as a serious or worthwhile career option.

The findings also show that low attractiveness is closely connected to a broader communication problem. Participants suggested that FM not only has low visibility but also does not communicate its identity and value clearly enough to others. P6 said that FM has an identity crisis and is not good at marketing itself. These comments suggest that the profession has problems not only because people do not know about it, but also because the industry itself is not explaining clearly what FM is, why it matters, and what kind of future it can offer. This is important because, in any profession, people are more likely to join when they understand the role, see its value, and can imagine a future in it. If this communication is weak, then even a valuable profession may still struggle to attract new people.

This communication problem is especially important for new entrants into the workforce. If people do not see FM as a good and long-term profession, they are less likely to choose it intentionally. Participants made this point very clearly. P4 said that many people do not know that FM is a professional career with long-term opportunities, and P2 said that FM is not promoted as a career option, especially in high schools, so people often join by accident. These comments show that low attractiveness directly affects workforce entry. FM is not clearly presented as a structured, recognised, and long-term profession, so potential entrants may not even consider it when thinking about future careers. As a result, fewer people are likely to choose FM on purpose, and the industry continues to rely on accidental or indirect entry.

This also suggests that the issue of attractiveness begins quite early. If FM is not visible during school years or early career decision-making stages, then students and young people may already begin moving towards other professions that appear more familiar, more recognised, and more clearly explained. In this way, low attractiveness can affect the workforce pipeline even before people reach higher education or employment. By the time individuals are choosing study pathways or early job options, FM may already be missing from their list of possible careers simply because they have not heard enough about it. This makes weak visibility and attractiveness a serious barrier to workforce development over time.

At the same time, participants also suggested that the problem is not only attractiveness in a simple sense but also about poor communication of the opportunities that exist within FM. They explained that FM has real value and long-term prospects, but these are not being communicated well enough to the public. Public awareness therefore remains low, and people do not see FM as a field with strong career development opportunities. This means that low attractiveness happens not because FM has no value, but because its value, importance, and opportunities are not being made visible in a strong and clear way. The industry may offer meaningful work and long-term career potential, but if these are not communicated properly, then the profession may continue to appear unclear or less appealing from the outside.

The findings, therefore, suggest that low industry attractiveness is closely connected to other workforce problems identified in this research. It is linked to weak professional identity, low

public awareness, accidental entry, and weak career visibility. When these issues come together, they reduce the likelihood that people will view FM as a career worth choosing and developing in. This means that low attractiveness is not only a surface-level issue of image, but a deeper workforce development issue that affects how the profession grows and renews itself over time.

In summary, the findings show that low attractiveness in the FM industry is a major barrier to workforce development. FM is still not well recognised, not promoted enough, and not clearly understood as a professional and long-term career. Participants also suggested that this problem is strongly linked to weak marketing and poor communication from the industry to the public. Because of this, fewer people are encouraged to choose FM as a career, and the entry of new workers into the sector becomes weaker over time.

### 4.7.3 Limited Career Progression Opportunities

Earlier in this chapter, workforce development was discussed mostly in relation to barriers to entering the FM profession. However, the findings in this section show that there are also important problems after people have already entered the industry. Participants explained that even when people join FM, they may not remain in the sector for a long time if there is no clear or meaningful career progression. One of the main barriers identified in the interviews is that there are not enough clear opportunities for moving forward in the profession. If employees cannot see a future in FM, they may decide to leave rather than build a long-term career in it. This was shown in P2's statement that labour shortages happen because FM does not have a formal career path, and people leave the industry or go overseas for better opportunities. P2 also explained that these problems come from limited career progression, low pay, and professionals leaving the country after they gain experience. P3 also said that limited advancement is a major challenge for migrant workers and contributes to high turnover, while P4 said that migrant workers often do not have good career progression. These examples show that workforce development is not only limited by entry barriers, but also by unclear and limited progression after entry. This problem affects both local and migrant workers, and it can make people less likely to stay in FM for the long term.

The findings also show that limited progression opportunities make it harder to retain workers in the FM industry. When career paths are weak or unclear, workers may decide to leave the sector, move into different industries, or go overseas to look for better jobs. Career progression is therefore not only an individual matter of personal growth, but also an important issue for workforce stability. Participants explained that limited progression contributes directly to the loss of skilled workers. P2 said that professionals leave for better-paying countries such as Australia or the UK and said that limited career progression causes ongoing gaps in the workforce. P3 similarly explained that these challenges lead to high turnover and loss of skilled workers. These statements suggest that limited progression not only affects how workers feel about their jobs but also creates direct workforce problems for the sector. When there are no strong progression structures, the FM industry becomes less able to hold on to experienced people, and labour shortages may become more serious over time.

This also means that the sector may lose people just at the point when they are becoming more capable and more valuable. Workers may enter the industry, gain knowledge and experience, and then leave because they do not see a clear next step for themselves. In this way, weak progression can reduce the long-term benefit of workforce development efforts. Even if the sector succeeds in attracting and preparing new workers, it may still fail to keep them if there is no visible route for advancement. This creates a continuing cycle in which the industry is not only trying to recruit people, but also repeatedly losing the same capability it has already developed.

Unclear progression is also a problem for people who are still thinking about whether to join FM in the first place. If the profession does not have strong career ladders, it becomes harder to attract new workers because they cannot see what their future in the industry might look like. As a result, FM may appear less attractive to people who are deciding on a career path. Participants also connected this issue to the wider lack of promotion for FM. P2 said that FM is not promoted as a good long-term profession and that people often join by accident, while P4 said that stronger career pathways are needed. These comments show that unclear progression is not only a retention issue, but also an attraction issue. If the profession does not offer clear and visible development routes, then it becomes harder for new people to imagine themselves in it, and less likely that they will choose it deliberately.

This is important because, in many professions, people are attracted not only by the job itself but also by the future that the job appears to offer. If FM is seen as a role without a clear pathway, then even people who may be interested in the work could still choose another profession where the long-term direction is more obvious. In this way, weak progression can reduce both current workforce stability and future workforce entry. It limits the profession's ability to hold on to existing workers, while also making it more difficult to attract the next generation.

Participants also suggested that weak progression is not just a problem within individual organisations, but part of a bigger issue in the wider FM profession in New Zealand. Limited progression suggests that there are not enough formal pathways, clearly defined roles, or long-term career structures when compared with more established professions. P2 again referred to the lack of a formal career path, while P6 and P7 said that FM is still a relatively young profession in New Zealand and has developed slowly. They also explained that networks and word of mouth are still important in how people enter and move within the field. These examples show that limited progression is connected to the wider underdevelopment of FM as a profession. This is important because it not only encourages current workers to leave but also makes it harder for potential entrants to view FM as a strong and reliable long-term career.

The findings, therefore, suggest that progression should not be seen only as an internal organisational matter. It is also part of the wider professional structure of the FM sector. If the profession itself remains underdeveloped, with weak pathways and limited career visibility, then progression will continue to remain unclear for many workers. In this way, the issue is not only about workers wanting promotion, but also about whether the profession can provide a clear sense of growth, direction, and long-term opportunity.

Overall, the findings show that limited career progression remains a major barrier to workforce development in FM. When advancement routes are unclear, it becomes harder to retain workers, and people may not want to stay in the profession for the long term. This creates instability in the workforce and weakens development after entry. Joining FM does not always lead to a clear or promising future, and this reduces both retention and attraction over time. At the same time, participants also pointed towards future strategies that may help strengthen progression and make the workforce more stable in the long term.

### 4.8 Future Strategies and Recommendations

Based on the findings of this research, participants proposed future strategies and recommendations that could be implemented for FM to reduce the labour shortage gaps. The recommendations given by participants were generally long-term and systemic rather than short-term or isolated. Their strategies focused more on awareness, training, coordination, policy change, retention, and professional recognition.

#### 4.8.1 Improving Industry Awareness

Participants explained that improving industry awareness is not only about promotion but is also an important way to address labour shortages in the FM industry. Based on the findings of this research, many participants linked labour shortages to the fact that FM is still not very visible or well understood as a profession. Participants therefore suggested that increasing awareness should be one of the main future strategies, especially at the beginning of the workforce pipeline. For example, P2 said that the industry needs more promotion, while P7 said that people need to know FM is a good career. These comments suggest that labour shortages are likely to continue if FM remains insufficiently visible and if people do not understand it as a proper career option. In this sense, awareness is not only about publicity, but also about helping people recognise FM as a profession that exists, has value, and offers long-term career opportunities.

The findings also show that awareness matters because people cannot choose a profession they do not know enough about. If individuals are not aware of FM, do not understand what the work involves, or do not see it as a recognised career pathway, then they are less likely to enter the sector intentionally. Participants suggested that awareness affects whether people even consider FM in the first place, which means it is directly linked to future workforce supply. In this way, awareness becomes more than just an image issue. It has become part of the workforce's development itself. If more people know about FM earlier and more clearly, they may be more likely to choose relevant education or work pathways and see FM as a real career choice, rather than something people join by chance or accident.

Another important point raised by participants is that awareness-building needs to begin early. The interviews showed that early engagement is especially important because young people often make decisions about study and career directions before they leave school. Participants therefore suggested that awareness should start before this stage, so that FM can be introduced while occupational choices are still being formed. This means that awareness is not only about

general promotion, but also about giving students an early understanding of FM as a viable profession. For example, P4 said that awareness should start in schools, and P6 said that students should learn about FM before they leave high school. These comments suggest that schools are an important place to introduce FM to future workers and to strengthen the entry pipeline at an earlier stage.

This point is important because, if students do not hear about FM early enough, they are more likely to choose other professions that are already more visible and more familiar to them. In this sense, low awareness can narrow the future workforce pipeline before people even reach the stage of higher education or employment. Participants, therefore, appeared to see school-level awareness as an important part of long-term workforce strategy. Increasing awareness in schools may help more young people understand what FM is, what kind of work it includes, and how it can offer long-term career opportunities. This could then help more people enter the profession intentionally rather than accidentally.

The findings also show that awareness is connected to the success of other workforce strategies. Awareness was not described as a separate issue, but as something that supports other forms of workforce development. It is the first step in addressing larger barriers, because people are only likely to use other pathways if they know those pathways exist. For example, there may be training, education, or career development opportunities available, but these may remain underused if people do not know about FM or do not see the value of joining the profession. In this way, awareness can be understood as a foundation for other strategies. Without stronger visibility and recognition, even good training systems and clearer progression routes may not have the impact they are intended to have.

This also means that awareness has both direct and indirect importance. Directly, it may help encourage more people to consider FM as a profession. Indirectly, it may improve the effectiveness of other strategies by helping people recognise the education, training, and progression pathways connected to the industry. If FM remains poorly visible and weakly recognised, then even strong workforce development initiatives may struggle to reach the people they are intended to support. Participants, therefore, appeared to understand awareness not just as promotion, but as an important condition for wider workforce improvement.

Overall, the findings show that improving industry awareness should be understood as a long-term strategy rather than only a short-term recruitment response. The aim is not simply to attract more people quickly, but to make FM more visible, more understood, and more credible as a profession from the beginning. Awareness is also important because it supports other future strategies, including education, training, and career development. Therefore, improving awareness is not only about promoting industry but also about creating a stronger foundation for the future FM workforce.

### 4.8.2 Investment in Training and Education

Training and education were identified by participants as an important part of the future response to labour shortages in the FM industry. Based on the findings of this research, training

and education were not only discussed to increase the number of workers entering the sector, but also to build stronger systems for developing capability. Training and education were therefore presented as structural solutions that can help improve workforce quality as well as long-term labour supply.

Participants in the study often mentioned that stronger training and education systems are important if labour shortages in FM are to be addressed more effectively. They explained that it is not enough to simply bring more people into the sector. It is also necessary to improve their skills in a more structured and deliberate way. Training was seen as an important factor for improving both the quality of the workforce and the performance of organisations. Many participants referred to the need for better training opportunities. For example, P1 said that better training programmes are needed, while P7 referred to the need for training or apprenticeship schemes. These comments suggest that labour shortages are unlikely to be resolved in a sustainable way without stronger systems for capability development.

The findings also show that training and education are important not only for increasing workforce numbers but also for improving the quality of future workers. Participants emphasised the need for new entrants who are better prepared and who have the right skills for FM roles. This is especially important because the earlier findings also pointed to a skills mismatch, where employers are struggling to find workers with the capabilities needed in the industry. Therefore, training and education were seen as necessary for making sure that the future workforce is not only larger, but also more ready and more qualified for FM practice. Stronger training systems may therefore help with both the shortage of workers and the shortage of suitable skills.

Participants also suggested that stronger connections are needed between education providers and the FM industry to make training more effective. P3 stated that education partnerships would help, which suggests that learning should be more closely aligned with the actual needs of the sector. Training programmes are more likely to be effective when they are designed around the real requirements of FM work rather than remaining too general. If there is not enough connection between education and industry, training may not prepare workers with the kinds of skills that organisations need.

Another important point raised by participants was the need for apprenticeship-style systems and other structured entry routes into the FM profession. These were presented as practical and clearer pathways for people entering the sector. P7 mentioned the need for training or apprenticeship schemes, while P4 said that industry-aligned qualifications, apprenticeships, and flexible learning pathways are needed. These comments suggest that participants were looking for more organised and practice-based ways for people to develop FM capability, instead of relying too much on informal learning or trial-and-error development inside organisations. Apprenticeship-type models appear important in this context because they can connect training, workplace experience, and career development in a more structured way.

Overall, the findings show that greater investment in training and education is important for improving workforce capability, reducing skills mismatch, and building a more stable and

qualified labour supply in the FM industry. Participants also suggested that education providers should work more closely with industry so that training better matches organisational needs. Among the different approaches mentioned, apprenticeship-style systems stood out as a clear and structured example of how future FM workforce development could be strengthened.

### 4.8.3 Policy Reform and System Coordination

Based on the findings of this research, participants were not simply asking individual employers to do more by themselves. Instead, they pointed to the need for stronger coordination across the wider system, including industry bodies, education providers, and government. The future response to labour shortages was therefore described as something that must go beyond isolated organisational action. Participants suggested that labour shortages in FM are unlikely to be solved by employers alone, because the causes of the problem are spread across several areas, such as education, policy, visibility, and workforce development. This means that even if individual organisations try to improve their own workforce situation, the overall shortage may continue if the wider system remains weak. For this reason, participants proposed broader and more structured coordination as a more strategic response than the fragmented efforts currently seen in the sector. This suggests that improving coordination within the wider FM system is necessary if labour shortages are to be addressed in a more sustainable and long-term way.

The findings also show that participants were looking for a response that is more organised and collective rather than one that depends too heavily on employers solving the issue on their own. This is important because many of the problems identified earlier in this research, such as weak training pathways, low industry visibility, unclear progression, and limited workforce development support, are not problems that sit within one organisation only. Rather, they are broader structural issues that affect the industry. Participants therefore appeared to recognise that future strategies would need to involve cooperation between different actors if meaningful progress is to be made. In this way, system coordination was not presented as an additional option, but as a necessary condition for more effective workforce development in the future.

Policy reform was also one of the main recommendations raised by participants, especially in relation to immigration and workforce development. Some participants believed that more supportive and better-aligned policy settings are needed if the sector is to strengthen its workforce capacity in the future. They also referred to the role that institutional bodies should play in helping shape these reforms. P7 stated that “the government should provide some incentive to support training/apprenticeship development,” while P6 suggested that “maybe FMANZ needs to work with government departments that attract overseas workers because we’ve got a gap here. We need people. We need skilled people.” These comments suggest that workforce development will require more active policy support, particularly in areas such as immigration, training incentives, and the recognition of FM labour needs within wider workforce planning structures.

These findings also imply that the shortage issue is not only about industry effort, but also about whether policy settings are aligned closely enough with the actual needs of the sector.

For example, if immigration settings are too slow, too restrictive, or not responsive to FM labour needs, then organisations may continue struggling to fill important roles. In the same way, if there is not enough policy support for training and apprenticeship development, then the sector may continue facing weak local workforce preparation. This shows that policy settings can influence both short-term labour access and longer-term workforce development. Therefore, participants were not only asking for more support in general but were pointing more specifically towards the need for policy reform that reflects the real workforce challenges facing FM in New Zealand.

Participants also pointed to the need for coordinated stakeholder action rather than relying on any single actor or one intervention alone. The future strategies they described were more collaborative in nature and involved a range of stakeholders, including employers, FMANZ, schools, universities, and government. P2 referred to this directly by stating that "a multi-pronged approach involving industry bodies, government, PPPs (public-private partnerships), and partnerships is needed." Similarly, P1 implied that when these actors do not work together, even existing efforts struggle to have enough impact, stating that "FMANZ has attempted to address awareness but lacks enough leverage at the government level." These accounts suggest that participants were not imagining one organisation or one strategy as enough on its own. Rather, they saw labour shortages as requiring coordinated stakeholder action across different levels of the system.

This is an important finding because it shows that participants viewed the labour shortage issue as something broader than a simple recruitment problem. They appeared to understand that stronger awareness, better training pathways, improved policy settings, and clearer workforce planning are all connected. If one part of the system remains weak, it may reduce the effectiveness of the others. For example, even if the industry tries to promote FM more strongly, the effect may still be limited if education pathways remain weak or if there is not enough policy support. In the same way, even if some organisations invest in workforce development, the wider impact may remain small if industry-level coordination is weak. This means that participants were pointing towards the need for a more connected and collective approach, where different institutions and stakeholders work together instead of acting separately.

Industry bodies, education providers, employers, and government were all positioned by participants as having an important role in strengthening the future FM workforce. Employers may help through recruitment, internal support, and staff development. Education providers may help through stronger and more relevant training pathways. Industry bodies may help through advocacy, promotion, and sector coordination. The government may help through policy support, incentives, and recognition of the FM workforce's needs. The findings therefore suggest that no single part of the system is enough by itself. Instead, future improvement depends more on whether these different actors can work in a coordinated and aligned way.

Overall, the findings suggest that future workforce strategies in FM require broader policy support and stronger coordination across institutional actors, because isolated organisational responses are unlikely to resolve labour shortages sustainably. Participants did not frame the

solution as simply asking employers to work harder, but instead highlighted the importance of aligning industry, education, and policy efforts so that workforce development can be addressed in a more coordinated and effective manner. This also suggests that long-term improvement in the FM workforce will depend not only on individual initiatives but on whether the wider system becomes more connected, supportive, and responsive to the needs of the sector.

### 4.8.4 Retention, Professionalization, and Long-Term Workforce Development

Participants 'recommendations suggest that addressing labour shortages is not only about bringing new people into the FM industry, but also about keeping and developing those who are already working in it. Recruitment alone is not enough to close the labour gap. Workers also need reasons to remain in the sector and to see a future for themselves within it. Long-term workforce development must include not only entry and training, but also retention and progression. Based on the interviews, participants 'statements indicate that future workforce strategies need to go beyond recruitment alone and place greater emphasis on workforce stability, career growth, and the long-term development of people already in the sector. Retention, therefore, becomes a strategic priority because without it, any gains made through recruitment may continue to be lost through turnover and workforce exit.

This finding is important because it shows that participants were thinking about workforce development in a broader and more long-term way. They were not only concerned with how to bring more people into FM, but also with how to make sure those people remain, grow, and continue contributing to the sector over time. In this sense, retention was not framed as a secondary issue, but as one of the core conditions for building a more stable workforce. If people continue leaving the profession after entering it, then the sector may keep repeating the same shortage cycle. New entrants may come in, but the benefits of that entry may be lost again if the industry cannot give workers enough reasons to stay.

This is closely linked to the earlier finding that unclear progression is one of the structural barriers to workforce development in FM. If progression remains weak, then it becomes difficult for workers to imagine how their careers can develop over time. For this reason, clearer progression needs to become part of the solution. Stronger progression pathways can help stabilise the workforce because workers are more likely to remain in the industry when they can see that FM offers a serious and viable long-term professional future. Career progress not only benefits employees at the individual level but also helps strengthen the profession itself by making FM feel more established, more credible, and more rewarding over time.

In this way, clearer development routes can support both retention and capability accumulation, because workers are encouraged to stay long enough for knowledge, experience, and professional growth to build within the sector. This is especially important in FM, where practical understanding, familiarity with systems, and professional judgement often develop over time. If workers leave too early, then the sector loses not only people but also the chance to build stronger capability within its existing workforce. Participants therefore appeared to

recognise that retention and progression are closely connected, and that long-term workforce development becomes difficult when one of these remains weak.

The findings also point to a wider need for professionalisation, including stronger standards, identity, and frameworks for the industry. Participants repeatedly referred to issues of visibility, recognition, structured development, and accidental entry into FM, all of which suggest that the profession still lacks a clear and confident identity. Earlier in the interviews, participants made repeated calls for stronger awareness, better training, and clearer pathways, while also raising concerns about poor recognition and weak professional identity. This issue is captured clearly in P6's statement that "we suffer from an identity crisis" and that "we're poor at marketing ourselves." These accounts suggest that retention is not only about keeping people in jobs, but also about whether FM is experienced and understood as a profession worth staying in.

Professionalisation also has an important role in workforce retention. If FM is not clearly recognised as a professional field, then workers may be less likely to see it as a long-term career in which they can grow and build status over time. In contrast, if the profession becomes stronger in terms of standards, pathways, recognition, and identity, then it may become easier for workers to remain committed to it. Therefore, participants 'recommendations point towards a broader need to strengthen the professional identity of FM, where awareness, recognition, training, and progression are developed together so that the sector becomes a clearer and more credible profession over time.

Participants 'ideas also imply the need for stronger investment in capability building, rather than focusing only on immediate staffing needs. What they described was not simply the need to fill vacancies, but the need to invest in the kinds of development that help people remain, improve, and contribute more effectively over time. This includes investment in skills development, mentorship, training, and more structured forms of support. These kinds of support mechanisms are important because they help workers not only enter the profession but also continue developing after entry. Building capability should continue throughout a worker's career rather than occur only at the beginning. As suggested throughout the findings, these investments need to begin early and continue over time, because capability building should be treated as a long-term sector issue rather than a short-term organisational fix. This shifts the focus from simply replacing workers to building and retaining capability within the industry. Participants 'accounts suggest that future solutions require stronger investment in mechanisms that allow knowledge, skills, and experience to accumulate in the sector rather than being repeatedly lost through turnover and weak development structures. Workforce development should therefore focus not only on bringing in new people, but also on supporting them to remain, progress, and contribute meaningfully over the long term.

The findings also suggest that retention, professionalisation, and capability development are closely connected rather than separate issues. If progression pathways are weak, people may leave. If professional recognition is weak, people may not see FM as a profession worth staying in. If capability development is weak, workers may not feel supported enough to continue growing in the sector. The different elements of long-term workforce development therefore

appear to reinforce each other. Stronger professionalisation may improve retention. Better retention may help build stronger capability. Stronger capability may improve the status and credibility of the profession. Participants, therefore, seemed to understand that these issues need to be addressed together rather than separately.

Overall, the findings suggest that participants did not view future solutions as isolated fixes. Instead, they pointed towards a more integrated approach in which awareness, education, policy support, retention, progression, professionalisation, and capability development all work together to strengthen the long-term sustainability of the FM workforce. These strategies were not presented as separate actions, but as closely interconnected parts of a broader workforce development response. Participants therefore imply that long-term change in FM will require coordinated action as well as continued investment, so that workforce development becomes more structured, visible, and sustainable over time.

### 4.9 Comparison of Phase 1 and Phase 2 Findings

The two phases provided different but complementary perspectives on labour shortages in the New Zealand FM sector.

Phase 1 focused on senior FM management in a campus-based institutional setting, where the analytical focus included internal recruitment pressures, capability gaps, service delivery, operational continuity, and future succession needs.

Phase 2 broadened the study to external FM practitioners across different organisational settings, including client-side and service-provider contexts, and considered wider labour market pressures, sector differences, workforce capability, and professional development needs.

Across the seven interviews, there was strong agreement on several recurring issues, including limited workforce supply, weak FM career awareness, skills mismatch, limited education and training pathways, migration and retention pressures, and the increasing complexity of FM roles.

However, the emphasis varied depending on organisational context, role, and experience. Some participants focused more on workforce entry and training pathways, while others gave greater attention to immigration, retention, service delivery, and the changing capability requirements of FM work.

The comparison therefore suggests that labour shortages are experienced differently depending on the organisational setting, but the underlying workforce problems are closely connected. The campus-based phase highlighted the importance of maintaining internal capability, service continuity, and future succession, while the external phase provided a broader view of industry-wide workforce pressures and development needs.

These findings support the view that labour shortages in FM cannot be addressed through one organisational response alone and require both internal workforce planning and wider sector-level action. Because of the small exploratory sample, these differences should be understood as contextual observations rather than as evidence of fixed differences between all in-house and external FM organisations.

## 4.10 Chapter Summary

This chapter presented the findings from seven semi-structured interviews conducted with facilities management professionals in New Zealand. Based on the analysis, five broad thematic areas were identified, namely the causes of labour shortages, the impacts of labour shortages, the current coping strategies used by organisations, the barriers to workforce development, and the future strategies and recommendations suggested by participants. Overall, the findings show that labour shortages in the FM industry are not only about the number of workers available, but also about wider issues affecting workforce supply, capability, development, and retention.

The findings show that labour shortages are shaped by several connected factors, including limited workforce supply, skills mismatch, the ageing workforce, immigration and policy constraints, and weak professional identity. Participants also explained that these shortages affect the industry in practical ways, especially through increased workload, service delivery problems, and financial pressure on organisations. In response, organisations have used coping strategies such as outsourcing, internal redistribution of work, and technology, although these were mostly described as short-term responses rather than long-term solutions.

At the same time, the findings also show that the FM sector is facing deeper barriers to workforce development, particularly in relation to weak training pathways, low industry attractiveness, and limited career progression opportunities. To address these problems, participants suggested future strategies focused on improving awareness of FM, investing in training and education, strengthening policy support and coordination, and supporting retention, professionalisation, and long-term workforce development. The next chapter discusses these findings in relation to existing literature and the wider research context.

# CHAPTER FIVE

# DISCUSSION

## 5.1 Introduction

This chapter discusses the findings of this research based on the main aim, which is to to examine the causes, impacts, and potential strategies for addressing labour shortages in the facilities management (FM) sector in New Zealand. The chapter does not only repeat the findings, but also explains what they mean, why they happened, and how they can be understood in the New Zealand context.

This study used a qualitative method, mainly through semi-structured interviews with FM professionals. This method was chosen to understand the real experiences of people working in the industry, rather than relying only on reports or statistics. Through these interviews, the research identified how labour shortages are experienced in practice, including the challenges, problems, and current organisational responses.

The findings are divided into several main themes. The first theme focuses on the causes of labour shortages. The results show that the problem is not only about not having enough workers, but also about deeper issues such as weak entry pathways, low awareness of FM as a career, skills mismatch, an ageing workforce, and dependence on immigration. The second theme looks at the impacts of labour shortages, including increased workload, staff stress, lower service quality, and more reactive ways of working. The third theme discusses coping strategies used by organisations, which are mostly short-term and do not fully solve the problem. The fourth theme examines structural barriers, such as unclear career pathways, limited training systems, and weak connections between industry and policy. The final theme focuses on future strategies, where participants highlighted the need for better coordination and long-term solutions from industry, education, and government.

The discussion is organised around these themes. Each theme starts with an overview of the findings, then compares them with the existing literature, and then explains their meaning in the New Zealand context. After that, the implications are discussed, including what the findings mean for industry and policy. Each theme ends with a short summary before moving to the next theme.

The discussion also includes the researcher's interpretation of the findings. The purpose is not only to compare the results with previous literature, but also to explain their deeper meaning in the New Zealand FM context. This study argues that labour shortages in FM are more than a simple lack of workers. They are connected to deeper issues such as weak workforce pathways, low professional recognition, limited training options, and lack of long-term planning. Therefore, the discussion presents the researcher's analytical view, based on the interview findings and supported by the literature.

In summary, this chapter shows that labour shortages in FM are not only a staffing issue, but a bigger system problem about how the workforce is developed, supported, and kept over time.

## 5.2 Causes of Labour Shortages

### 5.2.1 Overview of Findings

The findings of this research show that labour shortages in the FM sector are not only about not having enough workers. The bigger issue is that the workforce pipeline is weak. Participants explained that the problem is more than recruitment. The industry finds it difficult to attract, prepare, and keep suitable workers. One main reason is that FM is not well known as a career, especially among young people. Many people do not clearly understand FM as a professional career. As a result, people often enter the sector by accident rather than through clear or planned pathways. There are also limited formal education and training options for FM, so fewer people come into the industry with the right knowledge and skills.

At the same time, the supply of workers is limited in both number and skills. Participants explained that there are not enough people entering the sector, and some people who do enter may not have the right skills for FM roles. This creates a skills mismatch. The industry needs workers with technical, compliance, managerial, and digital skills, but these skills are not always easy to find in the current workforce. FM roles are also becoming more complex because of greater focus on compliance, sustainability, and technology. These changing requirements make it harder for organisations to find suitable workers. As a result, organisations face problems not only in filling vacancies, but also in maintaining service quality and effective operations.

The ageing workforce also puts more pressure on the FM sector. Many experienced workers are close to retirement, but there are not enough younger workers entering the industry to replace them. This creates a future risk because both worker numbers and industry knowledge may be reduced. The sector also depends on immigration to fill some skill gaps, but this is not always reliable because of policy and process issues. At the same time, there is strong global competition for skilled FM workers, which makes it difficult for New Zealand to attract and retain experienced people.

Finally, these problems are made worse by the weak professional identity of FM. Participants explained that FM is not always clearly recognised or understood as a professional field. This makes the sector less attractive and means that many people do not choose FM as a career intentionally. Overall, the findings show that labour shortages in FM are not only about recruitment. They are part of a wider workforce pipeline problem, where the sector struggles to bring in new people, develop their skills, and retain them within the profession.5.2 Comparison with Existing Literature

#### 5.2.2.1 Pipeline and Visibility

The findings of this study indicate that labour shortages in the facilities management (FM) industry are strongly linked to weak entry pathways and low industry visibility. This aligns

with existing literature, which highlights limited exposure to FM and underdeveloped recruitment pipelines as key barriers to attracting new people into the profession. For example, the International Facility Management Association reports that many students are not introduced to FM until late in their studies, which can reduce awareness and interest in FM careers. The study also emphasises that the absence of structured recruitment pathways, especially from early education stages, limits the number of graduates entering the field. It suggests that stronger collaboration between industry and educational institutions is needed to build a more sustainable talent pipeline (Hightower & Highsmith, 2013). Similarly, industry reports indicate that only a small proportion of organisations use formal apprenticeship or training schemes, while workforce retirements continue to exceed new entrants. This widens the skills gap within the sector (Mordor Intelligence, 2026).

However, while these studies support the importance of pipeline and visibility issues, they also show that labour shortages cannot be explained by these factors alone. For instance, the Ministry of Business, Innovation and Employment (MBIE, 2023) identifies additional barriers such as misunderstanding about career pathways, weak investment in skill development, and limited opportunities for upskilling. This indicates that the problem extends beyond initial entry into the profession. Likewise, industry commentary highlights over-reliance on overseas-trained workers and a lack of employer investment in developing local talent, suggesting that structural weaknesses in workforce development also contribute to the shortage (Kareroa-Yorke, 2023).

In contrast, some perspectives place less emphasis on workforce pipelines and instead explain labour shortages through retention challenges and wider labour market conditions. For example, reports from the NZ Herald (2022) highlight high levels of staff poaching within the construction and built environment sector, suggesting that shortages may be driven more by competition for existing workers than by a lack of new entrants. Similarly, other sources attribute labour shortages mainly to demographic factors, immigration policy constraints, and the impacts of COVID-19, without clearly recognising the role of pipeline development or professional visibility (Kiwi Outsourcing, 2026).

Overall, the literature supports the findings of this research that weak pipeline and low visibility are important causes of labour shortages in FM. However, this study further suggests that the problem is deeper than awareness alone. In the New Zealand FM context, low visibility means that many people do not clearly understand FM as a possible career before they enter the workforce. Low visibility therefore makes it difficult for the sector to build a strong and planned entry pathway. This shows that labour shortages are not only caused by a lack of applicants, but also by the limited way FM is presented, promoted, and connected to education and career pathways.

#### 5.2.2.2 Skills Mismatch

Besides pipeline and visibility, this research also finds that skills mismatch is an important reason for labour shortages in the New Zealand FM industry. Participants explained that the problem is not only about not having enough workers, but also about not finding people with

the right skills for more complex FM roles. This matches other studies, which show that labour shortages often happen when employer needs are different from what workers can offer. For example, research on New Zealand construction found that shortages are made worse by limited technical skills, the long time needed to train workers, and the limited resources available in a small country. These problems are stronger in specialised roles (Chang-Richards et al., 2017). OECD reports also identify skills mismatch as a major issue in New Zealand, with higher levels of mismatch and under-skilling than the OECD average (OECD, 2017). This suggests that mismatch makes it harder to use the workforce effectively and is connected to education, labour mobility, and training systems (OECD, 2017). These studies support the finding that labour shortages in FM are partly caused by skills gaps, especially as the industry now needs technical, compliance, management, and digital skills that are not easy to find (Mordor Intelligence, 2025; Markwide Research, 2025).

It is also important to distinguish between different types of skill shortages within FM. Some shortages relate to technical building services and trade-based capability, such as electrical, mechanical, HVAC, plumbing, and maintenance work. Other shortages relate to more strategic and digital FM capability, including data analysis, integrated workplace management systems, sustainability, compliance, asset planning, and service coordination. These areas require different forms of training and workforce development. Technical trade shortages may depend more on vocational pathways, apprenticeships, and practical experience, while strategic and digital FM roles may require broader professional, managerial, technological, and analytical capability. Treating these shortages as one general problem may therefore hide important differences in how the workforce should be developed.

However, not all literature sees skills mismatch as the main reason for shortages. Some studies suggest that there are not enough skilled workers, especially in areas such as energy management, sustainability, and technology. They recommend stronger workforce development and upskilling but also mention outsourcing and other ways organisations respond to the problem. This means the issue is not only about mismatch, but also about changing demand and limited supply (Mordor Intelligence, 2025; Markwide Research, 2025). This is like the findings of this research, where participants explained that skill gaps are connected to weak training and workforce development, not just a separate problem.

However, some studies place less focus on skills mismatch as the main cause of labour shortages. For example, some researchers argue that the problem is more about whether the workforce can grow fast enough to meet new demand, so the focus is on supply rather than skills alone (Bell et al., 2024). Other studies explain that mismatch can also mean that qualifications and jobs do not align well, not only that there are not enough skilled people (Yeo & Maani, 2015). This suggests that labour shortages can also result from wider labour market and educational problems, not only from FM-specific skills.

Therefore, this study interprets skills mismatch as one important part of the problem, but not the whole problem. In the New Zealand FM context, the deeper issue is that the sector needs more workers and better-prepared workers at the same time. This shows that skills mismatch works together with weak training, limited workforce supply, and wider organisational issues.

#### 5.2.2.3 Ageing Workforce

Another important factor found in this research is the ageing workforce. This makes labour shortages worse in the FM sector because many experienced workers are close to retirement, while there are not enough younger workers entering industry to replace them. This issue is also reflected in literature. For example, some studies explain that ageing is a major challenge in FM, and organisations need to attract younger staff while also making sure knowledge is passed from experienced workers to newer workers (IFMA, 2025; Ministry of Social Development, 2003). This matches what participants described in this study, where the loss of experienced workers was not only seen as a loss of worker numbers, but also as a loss of knowledge, experience, and practical understanding. Other research in New Zealand also shows that the workforce is ageing and that overall workforce growth is limited, which increases the pressure to renew skills (NZ Work Research Institute, 2015; Ministry of Social Development, 2003). This reflects the same concern found in this research.

However, some studies suggest that ageing is not the only main reason for labour shortages. They agree that ageing adds pressure, but they also argue that the way organisations respond to an ageing workforce is important. Problems such as poor workforce planning, not using older workers effectively, and not preparing for workforce change can make the effects of ageing worse (NZ Work Research Institute, 2015; Ministry of Social Development, 2003). Industry reports also suggest that ageing is connected with other challenges, such as limited training, digital change, and weak organisational capability (IFMA, 2023; NZ Work Research Institute, 2015). This is similar to the findings of this research, where ageing was not identified as a separate issue, but as part of a wider problem involving weak entry pathways and limited workforce development.

On the other hand, some studies place less emphasis on the ageing workforce and focus more on other structural problems. For example, research on FM in New Zealand gives more attention to weak professional identity, unclear career paths, and limited formal education as key challenges for the sector (Crutzen et al., 2016a; Crutzen et al., 2016b). These views suggest that labour shortages are not only about the age of the workforce, but also about how the profession is organised, recognised, and supported.

Therefore, this study interprets the ageing workforce as an important pressure, but not as the main cause by itself. In the New Zealand FM context, ageing becomes more serious because there are not enough younger workers entering through clear pathways. The sector is therefore at risk of losing both people and knowledge at the same time. The deeper issue is not only that workers are getting older, but that the sector does not yet have a strong system to replace experience, transfer knowledge, and prepare for the next generation of FM professionals.

#### 5.2.2.4 Immigration

Another factor influencing labour shortages in the FM sector is immigration. Participants explained that the industry often depends on migrant workers to fill roles where local skills are limited, especially in technical and trade-related areas. This point is supported by the literature,

which shows that parts of New Zealand's built environment sector have relied on migrant labour to manage workforce shortages (Schiff, 2022; Ghorbani, 2023). During the COVID-19 period, this reliance became more visible because demand for workers remained high, while the number of migrant workers decreased due to border closures and travel restrictions. This made labour shortages more difficult for many sectors (Schiff, 2022). Government reports also show that migrant workers are often used when industry demand grows faster than the local workforce can respond, especially because training local workers takes time (The Treasury, 2024; Ministry of Business, Innovation and Employment, 2023). This suggests that immigration can help the sector respond quickly when skill gaps cannot be filled locally.

At the same time, the literature also shows that immigration is not a simple or permanent answer. Some studies explain that reliance on temporary migrant workers can be affected by visa rules, employer sponsorship, and policy changes, which can make workforce planning uncertain (Stringer et al., 2022; Ministry of Business, Innovation and Employment, 2016). Industry reports also suggest that migration should not replace local workforce development, but should work together with stronger education, training, and upskilling (Infrastructure New Zealand, 2021; Ministry of Business, Innovation and Employment, 2023). This matches the responses in this research, where participants explained that migrant workers can help organisations manage shortages in the short term, but they do not solve the deeper capability problem.

However, some literature places less focus on immigration and gives more attention to wider organisational and structural issues in FM. For example, research in New Zealand suggests that weak professional identity, unclear career paths, and limited education pathways are major challenges for workforce supply (Crutzen et al., 2016). Other industry discussions also argue that labour shortages should be understood as a workforce development issue, not only as an immigration issue (Infrastructure New Zealand, 2021). Immigration is therefore important, but it should not be treated as the main cause or the only solution.

Overall, immigration can be understood as both a support and a warning sign for FM in New Zealand. It supports the industry by filling urgent skill gaps, but it also shows that the local workforce system is not strong enough to meet demand by itself. The deeper question is not only whether migrant workers are needed, but why the industry depends on them so strongly. This suggests that immigration should be part of a wider workforce strategy, together with stronger local training, clearer career pathways, and better long-term planning.

### 5.2.3 Interpretation of Findings

The results suggest that labour shortages in FM are not only caused by a lack of workers. A deeper issue is how people are attracted, prepared, supported, and retained in the profession. The main concerns are a weak entry pipeline, low professional recognition, and limited coordination across the wider system. Many participants explained that people often enter FM by accident rather than through planned career routes. This shows that FM does not yet have a clear system for bringing new people into the field. At the same time, the profession is not

always well understood or valued, which makes it less attractive as a career choice. These issues make it harder for industry to bring in suitable workers and prepare them for future roles.

The New Zealand context makes this challenge more serious. New Zealand has a smaller labour market than many larger countries, so replacing workers can be difficult when people leave or retire. FM is also still developing as a recognised profession, and it is often seen as operational or maintenance-based rather than strategic. This weakens its visibility and status. Immigration also plays an important role because the industry relies on migrant workers to fill some skill gaps. However, immigration processes can change and may not always match the timing or needs of employers. This creates uncertainty, especially when local supply is not strong enough to meet demand.

A deeper interpretation is that FM in New Zealand is not yet building its own workforce in a stable way. The issue is not only that organisations cannot find workers now. The bigger concern is that there are not enough clear routes for people to enter the profession, develop their skills, and remain in FM. As a result, organisations often respond only after shortages have already become serious. For example, they may rely on migrant workers, promote staff who are not fully prepared, or give extra duties to existing employees. These actions may help in the short term, but they do not remove the main causes.

Taken together, labour shortages in FM can be understood as a wider system issue. Education providers, employers, industry bodies, and government do not appear to be connected strongly enough in workforce planning. As a result, efforts to improve training, career routes, and labour supply are not always joined up. This allows the same issue to continue even when individual organisations try to manage it. In this sense, labour shortages in FM are not only a staffing concern, but a sign that workforce development needs better coordination and more consistent support.

### 5.2.4 Implications

These results have important implications for the FM industry, policy, and academic understanding. For industry, the main message is that shortages should not be managed only through quick recruitment. Organisations need to pay more attention to building a stronger entry pipeline. This includes making FM more visible as a career, especially for students and young people who may not know about the profession. If FM is introduced earlier and explained more clearly, more people may choose it intentionally rather than enter by accident.

FM organisations also need to invest more in training and staff development. The issue is not only the number of workers available, but whether people have the right skills for modern FM roles. Current FM work requires technical, managerial, compliance, communication, and digital abilities. Because of this, workers need proper training, mentoring, and clearer progression routes. Without this investment, the industry may continue to depend on people who are not fully prepared, or on external hiring, which does not solve the deeper capability gap.

From a policy perspective, immigration, education, and skills planning need to be more connected. Immigration can help fill urgent gaps, but it should not be treated as the main answer. It needs to work alongside stronger local education and training options. More support is also needed for FM qualifications, vocational routes, and partnerships between education providers and industry. This would help build local capability and reduce long-term dependence on migrant labour.

The results also indicate that FM needs stronger recognition in workforce planning. If the profession continues to be seen only as maintenance or support work, it may not receive enough attention from education providers, policymakers, or people choosing careers. Better recognition of FM as a professional and strategic field could improve its status, attract more entrants, and support clearer career development.

From an academic perspective, this research shows that FM labour shortages should not be understood only as a simple supply-and-demand issue. They are connected to how the workforce is attracted, trained, recognised, and retained. This gives a broader way to understand the issue as a system-level challenge. By showing the links between weak entry pipelines, professional identity, skills mismatch, immigration reliance, and system misalignment, this study helps explain why shortages continue and why recruitment alone is not enough.

### 5.2.5 Summary of Theme

Overall, this theme shows that labour shortages in the FM sector are not only caused by a lack of available workers. They are connected to wider structural issues, including weak entry pipelines, limited professional recognition, skills mismatch, an ageing workforce, and reliance on immigration. These issues make it difficult for FM to attract new people, develop their skills, and retain them in the profession.

The discussion also shows that these causes are linked. Low visibility makes it harder to attract new entrants, limited training affects skill development, and weak professional identity reduces the attractiveness of FM as a long-term career. Because of this, labour shortages should be understood as a broader workforce development issue, not only as a recruitment problem. This leads to the operational pressures and impacts discussed in the next theme.

## 5.3 Impacts of Labour Shortages

### 5.3.1 Overview of Findings

The findings from this research show that labour shortages in the FM sector are not only about having fewer staff. They also create wider operational pressure for organisations. Participants explained that shortages affect how daily work is planned, managed, and delivered. One main impact is that existing staff have to take on extra responsibilities, including tasks outside their normal roles. This creates role overload because the same amount of work, or sometimes more work, has to be managed by fewer people.

Participants also described signs of tiredness, stress, and burnout among FM professionals. When staff are expected to meet high service demands with limited support, their wellbeing can be affected. This also influences how well tasks are completed. Several participants explained that service quality can decline because workers do not always have enough time, energy, or resources to respond quickly and maintain normal standards. This is especially clear in preventive maintenance, which may be delayed when workload becomes too heavy.

The results also show that staffing shortages can push FM teams towards more reactive maintenance. When workers are under pressure, planned work may be delayed, and problems are often fixed only after they happen. This shift from preventive to reactive maintenance can increase operational risk and may create higher costs in the longer term. Participants also explained that shortages can increase labour and operational costs because organisations may need to use overtime, external contractors, or other temporary solutions to keep services running. At the same time, it can become harder to maintain compliance and service standards when employees are already managing many responsibilities.

These pressures also affect organisational efficiency and performance. Participants explained that when resources are limited, it becomes more difficult to plan, organise, and deliver FM services effectively. Staff may have less time for long-term planning because they are focused on urgent daily problems. As a result, FM can shift away from a strategic role and become more reactive, where organisations mainly respond to problems instead of managing assets and services in a planned and proactive way.

In summary, this section shows that labour shortages create a chain of impacts across FM work. Pressure on staffing affects workload, staff wellbeing, service quality, maintenance planning, costs, compliance, and long-term organisational performance. This means the issue is not only about the number of workers available. It also changes how FM work is carried out inside organisations.

### 5.3.2 Comparison with Existing Literature

#### 5.3.2.1 Workload and Burnout

The results of this study align with existing literature, which shows that labour shortages can increase workload and burnout among remaining staff. Participants explained that when there are fewer workers, the same amount of work is often passed on to existing employees. This creates role overload and constant pressure. This is consistent with studies on work intensification and understaffing, which connect reduced staffing levels with higher stress, fatigue, and lower well-being. For example, industry evidence shows that FM professionals often manage several responsibilities at the same time, with many reporting heavy workloads and regular overtime (MRI Software, 2025). This supports the idea that shortages not only increase the amount of work but also create competing demands that may be difficult for workers to manage.

Broader New Zealand research also suggests that burnout is strongly connected to workforce pressure and can lead to reduced performance, poor decision-making, and higher turnover (Massey University, 2024). This is similar to the interview responses, where participants described workload pressure as a serious issue affecting both staff and service delivery. However, this study adds that workload pressure in FM is not only about doing more tasks. It also involves role expansion and continuous responsibility for daily operations. Because FM work includes safety, compliance, coordination, and judgement, burnout in this context should not be seen only as a wellbeing issue. It can also cause an operational risk that affects service quality and organisational performance.

#### 5.3.2.2 Service Quality, Preventive Maintenance, and Reactive Maintenance

The results also align with literature showing that labour shortages can reduce service quality and make planned operations harder to maintain. Participants explained that preventive maintenance is often delayed or given less priority because staff are already managing heavy workloads. As a result, FM teams may depend more on reactive maintenance, where problems are fixed after they happen rather than prevented earlier.

This is supported by industry reports, which show that labour shortages in FM can lead to role stretching, overtime, and greater reliance on subcontracting, which may reduce service quality and consistency (Mordor Intelligence, 2025). In some cases, workers are required to manage several roles at the same time, limiting their ability to complete planned maintenance properly. Similarly, research in the built environment sector shows that workforce shortages reduce operational capacity and make it more difficult to plan and deliver work in an organised way (Chang-Richards et al., 2017).

These points support this study's finding that shortages affect not only staffing levels, but also the balance between preventive and reactive work. Earlier research on New Zealand FM also shows that the industry has historically been more focused on maintenance than strategic management (FMANZ, 2016). This is important because staff shortages may make this reaction pattern stronger. In this study, the issue is not only that maintenance work becomes delayed, but that FM loses some of its ability to work in a planned, preventive, and strategic way.

#### 5.3.2.3 Cost, Compliance, and Efficiency

In terms of cost, compliance, and efficiency, the results are also supported by existing literature. Participants explained that shortages increase costs because organisations may need to use overtime, external contractors, or other temporary ways to keep services running. This is consistent with research showing that workforce gaps can lead to higher labour costs, lower productivity, and reduced organisational efficiency (Matemani & Ndunguru, 2019; Mordor Intelligence, 2025).

The literature also shows that when workload demands are higher than available resources, organisations may use less efficient work practices. This can increase costs and reduce the

quality of output (Matemani & Ndunguru, 2019). This matches the interview responses, where participants explained that limited staffing creates pressure on both daily operations and service standards. In FM, this is important because the work is often connected to safety, compliance, building performance, and service continuity.

Shortages also create pressure on compliance and safety. When staff are overloaded, it can become harder to maintain proper checks, follow procedures, and respond to issues on time. Existing literature supports this by showing that poor working conditions and an imbalance between demands and resources can affect judgement, concentration, and performance, which may increase organisational risk (Matemani and Ndunguru, 2019).

A deeper point from this research is that cost pressure is not only an outcome of labour shortages. It can also help keep the problem going. For example, when organisations spend more on overtime, outsourcing, or temporary support, they may have less capacity to invest in training, workforce development, and long-term planning. This means short-term responses may help organisations continue operating, but they do not fully solve the workforce issue behind the shortage.

#### 5.3.2.4 Strategic Damage

Another important impact is the damage labour shortages can create for the strategic role of FM. Participants explained that shortages push organisations into a reactive way of working, where urgent operational issues take priority over long-term planning and improvement. This is supported by industry evidence showing that shortages can increase reliance on subcontractors, reduce internal capability, and lead to short-term decision-making (Mordor Intelligence, 2025).

When organisations are always dealing with urgent problems, their ability to plan, improve, and manage performance becomes limited. Research also suggests that workforce instability and high turnover can weaken organisational continuity and reduce the ability to implement long-term strategies (Ayodele et al., 2022). This supports the view that shortages do not only affect daily operations but also reduce the ability of FM to contribute to wider organisational goals.

A deeper interpretation is that workforce pressure can move FM away from its strategic function. Instead of supporting long-term asset planning, service improvement, and organisational performance, FM becomes more focused on solving immediate problems. In this way, labour shortages reduce the value of FM by making it more reactive and less able to support future planning.

### 5.3.3 Interpretation of Findings

The findings from this research show that labour shortages in the FM sector are not just about having fewer staff. The demand for FM services does not reduce when there are fewer workers. Buildings still need maintenance, compliance must be followed, and daily operations must continue. The same amount of work, or sometimes more, is therefore given to fewer employees.

This creates heavier workloads and requires staff to manage several tasks at the same time. Some workers also take on duties outside their normal roles, which leads to role overload. This shows that the issue creates pressure not only on staffing numbers, but also on how work is shared and managed.

Labour shortages also affect the balance between planned and urgent work. Preventive maintenance and organised activities need time, staff, and resources. When there are not enough workers, FM teams often focus first on urgent daily issues. As a result, planned work may be delayed, and services become more reactive. In this situation, reactive FM is not always a choice. It happens because there is not enough workforce capacity to manage everything in a planned way. This can lead to lower service quality, slower response times, and higher operational risk.

A deeper interpretation is that labour shortages change the role of FM inside organisations. Strategic FM needs enough time, skilled staff, and space for planning and improvement. However, when workers are busy with daily problems, there is less time for long-term planning. Participants explained that immediate operational demands often become more important than future improvement. This means FM can move away from a strategic role and become mainly focused on solving immediate problems. In this way, labour shortages are not only a workforce issue. They are also an organisational risk because they reduce the ability of FM to support long-term goals, efficiency, and sustainability.

Taken together, the impacts of labour shortages are connected to each other. Workload pressure can lead to stress and burnout. Burnout can affect service quality. Reduced staffing can delay preventive maintenance and increase reactive work. Reactive work can then increase cost, risk, and pressure on staff again. This creates a repeating cycle of pressure inside FM organisations.

### 5.3.4 Implications

The findings of this research have important implications for industry, policy, and academic understanding. The impacts of labour shortages on FM are not separate issues. They affect how services are delivered, how staff are supported, and how organisations maintain performance.

From an industry perspective, workforce planning should not focus only on filling vacancies. FM organisations also need to manage workload and role overload because these are not only staff wellbeing issues, but also service risks. When employees are overloaded for a long period, service quality, response time, and operational reliability can be affected. Staffing levels therefore need to match the services that FM teams are expected to deliver.

Organisations also need to protect preventive maintenance and compliance-related work, even when staffing is limited. If planned work is reduced too much, there may be higher risks and costs later. In the same way, safety and compliance tasks cannot be treated as optional because they are central to FM responsibilities. While overtime, task redistribution, and external contractors may help in the short term, relying on them too often can increase fatigue, reduce efficiency, and weaken internal capability.

From a policy perspective, labour shortages in FM should not be seen only as an internal organisational problem. FM supports building safety, service continuity, and asset performance, so workforce gaps can affect more than one organisation. This means stronger support may be needed for training pathways, retention, and wider sector capability. If FM continues to have weak recognition in the workforce and industry policy, shortages may continue to be managed reactively rather than through proper planning.

From an academic perspective, this research suggests that the impacts of labour shortages should be understood as connected rather than separate. Burnout, service decline, cost pressure, compliance risk, and reactive maintenance can influence each other. For example, workload pressure can reduce service quality, delayed maintenance can increase cost, and reactive work can create more strain for staff. This gives a broader understanding of labour shortages, where the issue is not only about workforce numbers, but also about how FM systems operate under pressure. Future research could explore how labour shortages change the balance between strategic and operational FM, and how this affects organisational capability over time.

### 5.3.5 Summary of Theme

Overall, this theme shows that labour shortages in the FM sector affect more than staffing numbers. They create pressure on staff wellbeing, service quality, maintenance planning, compliance, cost, and long-term organisational performance. These impacts are connected to each other. For example, heavier workload can increase stress, reduce service quality, delay preventive maintenance, and push organisations towards more reactive ways of working.

These impacts also help explain why organisations often turn to short-term coping strategies. When staff and resources are limited, organisations may use outsourcing, task redistribution, contractors, or technology to keep services running. These responses are discussed in the next theme.

## 5.4 Coping Strategies

### 5.4.1 Overview of Findings

The findings from this research show that FM organisations use different coping strategies to manage labour shortages. These strategies mainly help organisations keep daily services running when there are not enough workers. However, they do not fully solve the main causes of the shortage. Most responses are short-term and practical, because organisations still need to maintain buildings, respond to service needs, and meet safety and compliance responsibilities.

One common strategy identified by participants was outsourcing. When internal staff are limited, organisations often use outside contractors or service providers to fill the gap. This helps them continue operations, especially when urgent work needs to be completed. However, outsourcing does not always build internal workforce capability. It may solve an immediate problem, but it does not necessarily help the organisation develop its own staff or reduce future dependence on external support.

Another coping strategy is giving more work to existing staff. Participants explained that when vacancies cannot be filled, current employees often take on extra duties or cover tasks outside their normal roles. This helps organisations manage the workload in the short term, but it can also increase pressure on staff. Over time, this may lead to tiredness, lower morale, and more difficulty keeping workers in the sector.

Technology and automation were also mentioned as ways to reduce pressure and improve efficiency. Some organisations use digital systems to support coordination, planning, reporting, and maintenance management. However, the findings show that technology does not work equally well for all organisations. Some have the skills, systems, and resources to use it effectively, while others face difficulties because of limited digital capability or lack of investment. Therefore, technology can support FM work, but it cannot fully replace the need for skilled people.

Overall, the findings show that coping strategies are useful for keeping services running during labour shortages. However, they mainly deal with immediate pressure rather than the deeper workforce problem. They help organisations continue operating, but they do not fully address weak workforce pipelines, limited training pathways, skills gaps, or long-term workforce development.

### 5.4.2 Comparison with Existing Literature

#### 5.4.2.1 Outsourcing and Contractors

This research found that outsourcing and the use of contractors are common ways for FM organisations to manage labour shortages. Participants explained that when there are not enough internal staff, organisations often use external providers to keep services running. This finding is supported by the literature, which shows that outsourcing is a common practice in FM, including in New Zealand. Organisations may use outsourcing to maintain service continuity, increase flexibility, and manage labour costs (Burdon & Bhalla, 2005).

However, the literature also shows that outsourcing should not be treated as a complete solution to labour shortages. Although it can help organisations respond quickly, it can also create some risks. Over-reliance on outsourcing may reduce organisational control over service quality, weaken consistency, and make it harder to build internal skills and capability (Burdon & Bhalla, 2005; Heng, 2010).

This is important in FM because the work often requires site knowledge, compliance understanding, coordination, and continuity in decision-making. When too much responsibility is transferred to external providers, organisations may keep services running in the short term, but they may also become more dependent on outside labour. This supports the findings of this research, where outsourcing was mainly used to manage immediate pressure, not to solve the deeper workforce problem.

Overall, outsourcing can be useful during labour shortages, but it has limits. It can fill urgent gaps, but it does not automatically strengthen the organisation’s own workforce. For this

reason, outsourcing should be seen as a short-term support strategy, not as a replacement for training, workforce planning, and internal capability development.

#### 5.4.2.2 Work Redistribution and Overload

The findings of this research also show that organisations manage labour shortages by giving extra work to existing staff. Participants explained that when vacancies cannot be filled, current employees are often expected to take on more responsibilities and cover tasks outside their normal roles. This finding is supported by the literature, which shows that labour shortages do not only leave positions empty. They can also change how work is organised inside the workplace. Instead of reducing service expectations, organisations often share extra tasks among the remaining staff, which increases workload pressure and makes coordination more difficult (Mordor Intelligence, 2025; MRI Software, 2025).

Existing studies on FM and related sectors also report similar patterns, including heavier workloads, more overtime, and more fragmented work when labour is limited (MRI Software, 2025; Boxall & Macky, 2014). This supports the findings of this research, where participants explained that staff are not only working longer hours, but are also managing a wider range of tasks. In FM, this is important because workers may need to deal with operational, technical, compliance, and service-related responsibilities at the same time.

A deeper issue is that work redistribution may help organisations continue operating, but it can also create new problems. If staff are repeatedly expected to absorb extra work, they may experience tiredness, stress, lower morale, and reduced work-life balance. Broader New Zealand literature also connects sustained workload pressure with emotional strain and lower wellbeing (Boxall & Macky, 2014). Therefore, work redistribution should be understood as a short-term coping response. It may help organisations manage immediate gaps, but it can also weaken retention and service sustainability if used too often.

#### 5.4.2.3 Technology and Automation

This research also found that some organisations use technology and automation to manage labour shortages. Participants described technology as a way to improve efficiency, reduce pressure from routine tasks, and support coordination when staff numbers are limited. This finding is supported by the literature, which shows that digital systems, automation tools, and smart building technologies are becoming more common in FM practice (Heng, 2010; Motamedi et al., 2017; MRI Software, 2025).

In principle, technology can help organisations work more efficiently. It can support reporting, monitoring, maintenance planning, communication, and decision-making. However, the literature also shows that technology cannot fully replace human capability in FM. Digital tools may support work, but they cannot replace professional judgement, site knowledge, communication, risk management, and compliance understanding (Motamedi et al., 2017; MRI Software, 2025; Heng, 2010).

This is similar to the findings of this research, where participants explained that technology is not used equally across all organisations. Some organisations may have the skills, systems, and resources to use technology well, while others may struggle because of limited digital capability, weak systems, or lack of investment. This means technology can reduce some pressure, but it cannot solve labour shortages by itself.

Overall, technology should be understood as a support tool, not a full answer to workforce shortages. It can help FM teams manage work more effectively, but the sector still needs skilled people who can make decisions, manage compliance, coordinate services, and respond to unexpected problems. For this reason, technology should be used together with training and workforce development, not as a replacement for them.

#### 5.4.2.4 Reactive vs Proactive Response

Another important finding is that many organisational responses to labour shortages are reactive rather than proactive. Participants explained that organisations often use coping strategies after workforce pressure has already become serious. This means responses such as outsourcing, task redistribution, and technology use are mainly used to keep services running, not always as part of a long-term workforce plan.

This finding partly differs from workforce planning literature, which usually argues that organisations should identify future staffing needs early and build workforce capability before shortages become critical (Carroll, 2026). From this view, strategies such as training, succession planning, and long-term workforce development are more sustainable than repeated short-term responses.

However, literature on FM in New Zealand also suggests that reactive practice is common in the sector. This is often connected to financial pressure, limited long-term investment, and the historical view of FM as more operational than strategic (FMANZ, 2016; FMANZ, 2023). This supports the findings of this research, where coping strategies were often necessary in practice, but were limited in solving the deeper causes of labour shortages.

This study argues that reactive responses are understandable, but not enough. Organisations use them because they need to maintain services under pressure. However, if the sector continues to rely mainly on short-term responses, the deeper problems of workforce supply, training, retention, and capability development remain. This means coping strategies should be linked with longer-term planning, not used as the main solution.

Taken together, the literature and the findings of this research show that coping strategies are useful for maintaining FM services during labour shortages. However, they mainly respond to immediate operational pressure. They do not fully address deeper problems such as weak workforce supply, limited training, retention issues, and lack of long-term capability development. In the New Zealand FM context, this indicates that labour shortages are being managed through short-term responses rather than being fully solved.

### 5.4.3 Interpretation of Findings

Coping strategies in the FM sector appear mainly because daily work must continue even when staffing is limited. When there are not enough workers, the work itself does not stop. Buildings still need to operate, services still need to be delivered, and safety, compliance, and maintenance responsibilities still need to be managed. This operational pressure often leads organisations to choose the quickest and most practical responses available. Strategies such as outsourcing, giving extra work to existing staff, and using technology are therefore not always chosen because they are the best long-term solutions. They are often used because organisations need to keep services running.

A deeper interpretation is that these strategies show a gap between workforce capacity and operational demand. Organisations are expected to maintain service continuity even when their internal workforce is limited. In response, they shift work to contractors, stretch existing staff, or use technology to reduce pressure. These responses help organisations continue operating, but they do not remove the shortage itself. Instead, they move the pressure to other parts of the system, such as external providers, current employees, or digital systems.

The findings also suggest that each coping strategy has limits. Outsourcing can provide short-term labour support, but it does not build the organisation's own workforce pipeline or internal capability. Giving extra work to current staff may help daily operations continue, but it can increase tiredness, stress, and role overload. Technology can improve efficiency and coordination, but it cannot replace skilled FM professionals who understand compliance, site conditions, risk, and decision-making. For this reason, coping strategies can reduce some pressure, but they cannot fully solve the labour shortage problem.

This pattern shows that coping strategies mainly deal with the symptoms of labour shortages rather than the root causes. The earlier themes showed that the main causes are linked to weak workforce pipelines, skills mismatch, limited training pathways, low industry visibility, and wider structural barriers. These issues are bigger than one organisation. Therefore, individual organisations often respond to the parts they can control, such as daily operations and service delivery, rather than the wider workforce system.

Taken together, these responses show that the FM sector is operating under strain. They help organisations continue services in the present, but they do not fully prepare the sector for the future. If these short-term responses become the normal way of working, FM may remain in a cycle where shortages create pressure, pressure leads to temporary fixes, and temporary fixes delay stronger workforce planning.

### 5.4.4 Implications

This theme has important implications for FM organisations, policy, and future research. Coping strategies help organisations continue their services during labour shortages, but they are not enough for long-term workforce stability. The sector therefore needs to look beyond daily survival and focus more on building a stronger workforce capability.

For industry, the key message is that organisations should be careful about relying too much on outsourcing, extra workload, and technology. These responses may be useful when there is immediate pressure, but they can create problems if they become the normal way of working. Too much outsourcing can reduce internal knowledge and capability. Giving more duties to existing staff can increase tiredness, stress, and turnover. Technology can support FM work, but it cannot replace the judgement and experience of skilled people.

FM organisations need to balance short-term service needs with long-term workforce planning. This includes better training, mentoring, workload management, and clearer career pathways. If organisations only focus on keeping services running today, they may continue to face the same shortage problem in the future. Workforce resilience should mean more than surviving a shortage. It should also mean developing, supporting, and retaining workers.

From a policy perspective, the findings show that individual organisations cannot solve this issue alone. Stronger support is needed for FM education, vocational training, upskilling, and clearer links between industry and workforce development systems. Immigration may help fill urgent gaps, but it should not be the only answer. A stronger local workforce also needs to be developed so the sector is not always dependent on short-term labour solutions.

The findings also suggest that FM should receive more attention in workforce planning. FM supports building safety, maintenance, compliance, and service continuity. If the workforce is unstable, the effects can go beyond one organisation. For this reason, education policy, workforce policy, and immigration policy need to be better connected.

From an academic perspective, this research shows that coping strategies should not be viewed only as practical solutions. They also show the deeper weakness in workforce development. Future research could look more closely at the long-term effects of outsourcing, redistribution, and technology use in FM. This could help explain whether these responses support the sector or slowly make it more reactive and less strategic.

In summary, coping strategies are useful, but they do not solve the main causes of labour shortages. They help organisations manage immediate pressure, but stronger action is needed to improve workforce supply, training, retention, and long-term planning. Without this, FM organisations may continue to manage shortages in the short term while the deeper problem remains.

### 5.4.5 Summary of Theme

This theme shows that coping strategies play an important role in helping FM organisations continue their work during labour shortages. When staffing is limited, organisations still need to maintain buildings, respond to service requests, manage contractors, meet safety and compliance duties, and keep daily operations running. These ongoing service demands make outsourcing, work redistribution, temporary contractors, and technology practical ways to manage immediate pressure. These responses help organisations avoid service disruption and support continuity when internal workforce capacity is not enough.

However, these responses also have clear limitations. Outsourcing may help fill urgent gaps, but it does not always build internal knowledge, skills, or long-term capability. Giving extra work to existing staff may keep services moving, but it can increase stress, tiredness, role overload, and retention problems. Technology can improve reporting, planning, communication, and efficiency, but it cannot replace the judgement, experience, and site knowledge of skilled FM workers. This means coping strategies are useful in practice, but they should not be treated as complete solutions to labour shortages.

The main point about this theme is that coping strategies mostly help organisations manage the effects of labour shortages, not the deeper causes. They can protect service continuity in the short term, but they do not fully address weak workforce pipelines, limited training pathways, skills gaps, low professional visibility, or poor long-term workforce planning. In this research, these strategies are therefore understood as a sign that FM organisations are operating under ongoing workforce pressure. They show that the sector is finding ways to continue functioning, but not yet solving the conditions that create shortages in the first place.

This theme also connects directly to the next section. The repeated use of short-term coping strategies suggests that wider structural barriers remain in the FM sector. If the sector had stronger education pathways, clearer career progression, better training systems, and stronger coordination between industry, education, and policy, organisations may not need to depend so heavily on temporary responses. For this reason, the next theme discusses the structural barriers that limit sustainable workforce development in the New Zealand FM sector.

## 5.5 Structural Barriers to Sustainable Workforce Development

### 5.5.1 Overview of Findings

The findings of this research show that workforce development in the FM sector is limited by barriers that sit beyond one organisation. Labour shortages are not only caused by employers failing to recruit enough workers. They are also connected to wider weaknesses in the systems that should bring people into the profession, develop their skills, support their career growth, and keep them in the sector. The problem therefore extends beyond a shortage of workers at one point in time and also concerns whether the FM sector has a strong enough structure to prepare and maintain its workforce for the future.

Participants explained that many organisations face recruitment and retention problems, but these problems are shaped by wider conditions. For example, the sector does not have enough clear education pathways, career routes, or training systems that are strongly connected to FM practice. This makes it difficult for people to enter FM in a planned way. It also makes it harder for those already working in the sector to build the skills needed for more complex roles. The workforce problem extends beyond individual organisations and also concerns how the whole sector supports workforce development.

One major barrier identified in this research is the lack of clear and connected training and education pathways. Participants suggested that people often enter FM through experience,

related industries, or accidental career movement, rather than through a direct FM pathway. This creates a problem because FM roles now require a wide mix of skills. Workers need technical knowledge, communication skills, compliance awareness, management ability, digital understanding, and the capacity to coordinate different services. Without formal and visible pathways, the sector may struggle to prepare enough people with these skills.

The findings also show that limited education and training pathways affect both entry and development. It is not only difficult to attract new people into FM; it is also difficult to support them once they enter. If there are not enough structured development options, workers may depend mostly on workplace experience or informal learning. While experience is valuable, it may not be enough for the full demands of modern FM work. This is important because FM is no longer only about maintenance or daily operations. It also includes risk management, sustainability, asset planning, service quality, health and safety, and digital systems.

Another barrier is unclear career progression. Participants indicated that FM does not always provide a clear picture of how workers can move from entry-level roles into more senior or strategic positions. When people cannot see a clear career pathway, they may not view FM as a long-term profession. This affects attraction, because young people or new entrants may choose other sectors that appear to offer clearer growth. It also affects retention, because existing workers may leave if they feel there is limited opportunity to progress, gain recognition, or develop professionally.

This research also found that workforce development is limited by insufficient investment in training and skills development. Some participants suggested that organisations often focus on filling immediate gaps rather than building capability for the future. This is understandable when organisations are under pressure, but it does not solve the deeper issue. Workforce development requires ongoing investment in upskilling, mentoring, professional development, and leadership preparation. If these areas are not supported, the sector may continue to depend on short-term responses instead of building a stronger workforce base.

Another important finding is the mismatch between education providers and industry needs. Participants explained that what is taught through education or training does not always match the reality of FM work. This creates a gap between formal learning and workplace expectations. People may complete general qualifications or related training, but still not be fully prepared for FM roles. This shows that the problem is not only the absence of education, but also the lack of alignment between education content and practical industry needs.

The small size of the New Zealand FM sector is another structural barrier. Compared with larger countries, New Zealand has a smaller labour market and a smaller FM professional community. This can make it harder to create specialist programmes, attract policy attention, and justify large investment in workforce development. A smaller sector may also have fewer visible role models, fewer formal career routes, and less public understanding of FM as a profession. This makes it more difficult to build a strong workforce pipeline.

These barriers help explain why labour shortages continue even when organisations try to cope. If the wider system does not provide clear entry routes, training support, career development, and sector recognition, then organisations are left to manage the problem on their own. This creates uneven workforce development. Some organisations may train their people well, while others may not have the resources or systems to do so. As a result, the sector remains vulnerable.

Taken together, the findings show that structural barriers are a major reason labour shortages remain difficult to address. The issue is not only about bringing more people into FM. It is also about creating a system that allows people to enter, develop, progress, and stay. Without stronger education pathways, clearer career structures, better investment in training, closer links between industry and education, and stronger professional recognition, labour shortages are likely to continue affecting the FM sector in New Zealand.

### 5.5.2 Comparison with Existing Literature

#### 5.5.2.1 Training Pathways

The findings of this research show that workforce development in FM is affected by weak and unclear training pathways. This is supported by existing literature, which also suggests that labour shortages are not only caused by immediate worker shortages, but by deeper problems in how the sector prepares and supports its workforce. Sustainable workforce development depends on more than recruitment. It also requires systems that help people gain the right skills, understand the profession, and grow into more capable roles.

One strong area of agreement between this research and literature is the need for better training pathways. Participants explained that FM training routes are limited, not always visible, and not strongly connected to career progression. This makes it difficult for the sector to develop skills in a planned and consistent way. Industry literature also shows that FM requires a broad mix of competencies, including technical knowledge, management ability, compliance awareness, communication, and digital capability (FMANZ, 2020). These skills are important because FM work is now connected to building performance, service delivery, safety, sustainability, and technology.

However, although industry frameworks describe these competencies, the literature suggests that training systems do not always prepare workers in a structured way (Crutzen et al., 2016). This creates a gap between what the profession needs and what the workforce is ready to provide. In the New Zealand context, previous studies have shown that many people working in FM do not enter through formal FM education pathways. Instead, they may come from trades, operations, administration, property, or other related areas (Crutzen et al., 2016). This can provide useful practical experience, but it may not give workers the full understanding needed for complex FM roles.

This finding is important because it shows that the workforce problem is not only about numbers. The sector also needs workers who are prepared for the type of work FM now

requires. Short courses, workplace learning, and experience can help, but may not be enough if they are not part of a clear development pathway. This research therefore supports the view that training pathways need to be more visible, more structured, and more connected to the real demands of FM work (NZ Initiative, 2018; ARA, 2023).

The wider vocational education structure also affects the visibility of FM training. During the Workforce Development Council period relevant to this study, Waihanga Ara Rau was responsible for qualification development across construction and infrastructure industries, with much of its qualification activity focused on trade, technical, and site-based pathways (Te Pūkenga – New Zealand Institute of Skills and Technology, 2021). Dedicated FM qualifications were generally provided through tertiary institutions and other education providers rather than through a clearly defined vocational FM pathway. This separation may have contributed to a fragmented workforce development system for FM, particularly for non-trade rules requiring technical, managerial, digital, and compliance capability. Stronger coordination between qualification developers, education providers, employers, and professional bodies could therefore help create clearer and more visible FM training pathways.

The researcher interprets this as a sign that FM in New Zealand still depends too much on informal workforce development. People may learn through experience, but the sector does not yet have a strong enough pathway that clearly shows how people enter, develop, and progress. This makes the workforce less stable because capability depends on individual organisations rather than a wider sector system.

#### 5.5.2.2 Education–Industry Disconnect

The findings also match existing literature on the gap between education providers and industry needs. Participants explained that formal learning does not always prepare workers for the reality of FM roles. This becomes more important as FM work becomes more complex and includes strategic planning, compliance, service coordination, digital systems, and stakeholder management. If education does not reflect these real workplace needs, the sector may continue to experience skill gaps even when people have qualifications.

Existing literature supports this concern by showing that FM education does not always match the practical and professional needs of industry. Some studies suggest that FM education needs to include not only technical knowledge, but also business understanding, leadership, operational planning, and integrated service management (Heng, 2010). This is closely related to the findings of this research, where participants described FM as a broad role that needs many different skills at the same time.

Another issue is that FM education pathways may begin too late or at a level too advanced. Some literature suggests that FM learning is often introduced through postgraduate study, specialised training, or professional development, rather than being visible earlier in education or career planning (Massey University, 2024). This means the sector may not be reaching enough people at the early stage of career choice. If people only discover FM later, the workforce pipeline becomes narrower.

The literature also supports the finding that there is a weaker process for turning education into job-ready and future-ready capability (Lai et al., 2019). This does not mean education providers are not important. Rather, it shows that education and industry need to work more closely together. FM training should reflect what organisations actually need, and employers should also help explain the skills required in practice.

This study interprets the education-industry disconnect as one of the central barriers to building a stronger FM workforce. If education and industry are not strongly connected, the sector may continue to produce workers who are partly prepared but not fully ready for the complexity of FM roles. In the New Zealand context, this gap is serious because the labour market is already small. The sector cannot afford to have weak pathways and weak alignment at the same time.

#### 5.5.2.3 Career Progression and Investment

Another important area of agreement between the findings and literature is the issue of career progression and investment in workforce development. Participants explained that FM does not always offer clear career growth. Some workers may not know how they can move from operational roles into coordination, management, strategic planning, or leadership positions. When career pathways are unclear, people may not see FM as a strong long-term profession.

This is also reflected in literature on FM in New Zealand, which shows that career pathways are often unclear, professional recognition is limited, and long-term development is not always strongly supported by organisations or the wider sector (Crutzen et al., 2016). Existing research suggests that when progression pathways are weak, workers may leave for sectors that offer clearer advancement, better recognition, or stronger development opportunities (Public Service Commission, 2021). This supports the findings of the present study, where participants linked weak progression and limited investment with difficulty retaining skilled workers.

The findings also show that investment in training is not always strong enough. This matters because workforce development cannot happen only through recruitment. Organisations also need to invest in their current staff. Training, mentoring, professional development, and leadership preparation can help workers grow and stay in the profession. Without this support, the sector may continue to lose people or depend on workers who are not fully prepared for more complex roles.

Some literature points to support from industry bodies, such as professional development opportunities, guidance, and networking through FMANZ and other organisations (FMANZ, 2026; Heng, 2010). These forms of support are useful, but they may not be enough to solve the larger workforce problem. They may help individuals who are already connected to the profession, but they do not automatically create a strong system for all workers across the sector.

In this research, the deeper issue is that career progression and investment are linked together. If workers cannot see a future in FM, they may not stay. If organisations do not invest in workers, those workers may not develop the skills needed for future roles. This creates a cycle

where the sector struggles to keep experienced people and struggles to prepare new ones. Therefore, career progression should not be treated as a separate issue. It is a core part of keeping skilled people in the profession.

#### 5.5.2.4 Small Market Constraints

The findings of this research also agree with literature on the effect of small market size on workforce development. Participants explained that the FM sector in New Zealand is relatively small compared with larger international markets. This creates limits in training, visibility, professional recognition, and investment. A smaller sector may find it harder to create specialist education programmes, attract policy attention, and build strong workforce systems at scale.

Industry reports also suggest that a smaller market can limit the development of specialist capability, reduce investment in innovation and training, and concentrate skilled workers in larger urban areas (FMANZ, 2020). This is important in New Zealand because workforce shortages may not affect all regions equally. Larger cities may have more opportunities and more skilled workers, while smaller regions may face greater difficulty attracting and keeping FM professionals. This can make the workforce development uneven across the country.

Compared with larger FM markets overseas, New Zealand may also have more difficulty building a strong educational infrastructure for FM. If there is not enough demand for specialised programmes, education providers may be less likely to develop them. If the profession is not strongly recognised, policymakers may also give it less attention. This means the workforce problem is shaped not only by employer decisions, but also by the scale and position of FM within the national labour market.

At the same time, the literature suggests that these barriers are connected. Weak training pathways, education-industry gaps, unclear career progression, and small market size can reinforce each other. For example, if the market is small, there may be fewer specialist programmes. If education pathways are weak, fewer people enter the sector with strong preparation. If progression is unclear, workers may leave. If retention is weak, organisations stay under pressure and may not invest enough in long-term development.

This pattern is also reflected in the findings of this research. The barriers do not operate separately. They form a connected problem that affects the ability of the sector to build and retain a strong workforce. This strengthens the argument that labour shortages in FM are not caused by one missing element. They are caused by a wider system that is not yet strong enough to support sustainable workforce growth.

In summary, the literature supports the findings of this research that workforce development barriers in FM are structural. They include weak training pathways, gaps between education and industry, unclear career progression, insufficient investment, limited professional recognition, and the constraints of a small market. These issues make it difficult for the sector to build the skilled workforce it needs. This suggests that solving labour shortages requires

more than recruitment. It requires long-term systems for education, development, progression, and sector support.

### 5.5.3 Interpretation of Findings

The findings of this research suggest that the FM sector is not consistently renewing its workforce. In other words, the sector does not currently have strong enough mechanisms to attract, train, develop, and retain the people it needs. Participants did not describe labour shortages as only a temporary lack of available workers. Instead, their responses point to a deeper weakness in how workforce capability is built across the sector. When training pathways are limited, career progression is unclear, and retention is weak, the industry cannot replace and strengthen its workforce steadily. Labour shortages therefore continue not only because workers leave or retire, but also because the wider system is not preparing enough capable people to meet changing industry demands.

A useful way to understand this is that the sector is struggling to renew its workforce. The issue is not simply that the sector needs more workers at one point in time. The deeper problem is that it cannot regularly generate and maintain workforce capability. Strong workforce development requires more than recruitment. It also depends on clear entry pathways, structured skill development, opportunities for progression, recognition of capability, and working conditions that encourage people to remain in the profession. When these parts are weak, the workforce becomes fragile. As a result, the sector struggles not only with current labour shortages, but also with preparing itself for future workforce needs.

A deeper issue behind this is the weak connection between education, industry, and policy. The findings indicate that workforce development in FM is fragmented rather than well-coordinated. Education providers, industry bodies, employers, and policy systems do not appear to operate with enough shared direction. This lack of shared direction creates gaps between what is taught, what employers need in practice, and what long-term support exists for capability development. This creates a situation where workforce development is spread across different parts of the system, but without enough connection between them. As a result, building capability becomes uneven and less effective than it needs to be.

The phase comparison also suggests that organisational context affects how labour shortages are experienced. In the campus-based institutional setting, workforce pressure was closely connected to maintaining internal capability, service continuity, and longer-term succession needs. External FM practitioners described many of the same workforce problems, but across a wider range of organisational and service settings, where recruitment, retention, client requirements, and access to suitable capability could create additional pressure. These differences do not indicate completely separate workforce problems. Instead, they show that the same underlying shortage can affect organisations differently depending on how FM services are organised and delivered. This means that workforce responses should consider both internal organisational capability and wider sector labour-market conditions.

This fragmentation is especially important because FM work now requires a broad and changing mix of technical, operational, strategic, compliance, communication, and digital skills. A sector with these demands cannot depend mainly on accidental entry, weak progression pathways, or informal workplace learning. However, the findings suggest that this still happens in many cases. In practice, the system appears to rely too much on individual experience, employer-level adaptation, and short-term responses rather than a clear sector-wide process of capability building. This weakens the sector's ability to build depth, continuity, and confidence in its workforce.

Because the wider system is weak, organisations are pushed towards short-term responses rather than long-term solutions. The previous theme showed that organisations often respond through outsourcing, work redistribution, and technology use. These strategies help maintain operations, but they do not solve the structural barriers underneath. This theme helps explain why coping strategies have become so common. Organisations rely on immediate solutions not because these are the best options for long-term workforce development, but because stronger alternatives are not sufficiently available through the wider system.

This helps explain why labour shortages in FM can become self-reinforcing. Weak entry pathways reduce the number of new people entering the sector. Limited training reduces capability. Unclear career progression weakens retention. Poor retention then creates more pressure on organisations. That pressure leads to short-term coping strategies, which may keep services running but do little to strengthen the workforce foundation. As a result, the same problems continue, and the shortage is repeated rather than properly resolved.

Another important interpretation is that workforce development in FM should be seen as a core part of sector capability, not only as a human resource issue. If the sector cannot develop and retain capable workers, then its ability to deliver safe, compliant, efficient, and strategic FM services is also weakened. This means workforce development is closely linked to service quality, building performance, safety, and organisational value. Therefore, the barriers identified in this theme are not small side issues. They sit near the centre of how the profession grows, performs, and remains effective.

This research also suggests that recruitment alone cannot solve the problem. Recruitment may bring people into vacant roles, but it does not automatically create a strong profession. If training pathways remain weak, if education and industry remain disconnected, and if career progression is still unclear, labour shortages will continue even when organisations improve hiring. For this reason, the findings suggest that the FM sector needs a stronger structure for entry, development, progression, and retention.

In summary, labour shortages in FM should be understood as a sign of deeper system weakness. The problem is not only that there are too few workers available now. It is that the sector does not yet have a strong enough structure to renew its workforce for the future. Stronger coordination between education, industry, policy, and professional bodies is needed if the sector wants to move from short-term shortage management to a more stable and capable workforce.

### 5.5.4 Implications

The results of this theme have important implications for FM organisations, policymakers, and future research. They show that labour shortages should not be treated only as a problem of empty positions. The deeper concern is whether the FM field in New Zealand has enough structure to prepare people, help them grow, and keep them working in the profession. If this structure remains weak, the same shortage problem may continue even when employers improve recruitment. A key implication from this theme is that recruitment may fill a position, but it does not automatically build a strong and stable workforce.

For FM organisations, one implication is that workforce planning needs to move beyond hiring when vacancies appear. Recruitment is important, but it is not enough by itself. Employers also need to build the skills of people who are already in the workplace. This includes regular training, mentoring, supervision, and opportunities for staff to take on higher responsibilities in a supported way. Without this kind of internal development, organisations may continue to depend on quick fixes when staffing pressure increases. This links directly to the earlier discussion on weak training pathways, because the sector cannot rely only on people learning by accident or through informal experience.

Career progression is also important. Workers need to understand what their future in FM could look like. For example, they should be able to see how an operational role can lead to coordination, management, asset planning, compliance, or strategic responsibilities. If this pathway is not visible, workers may not feel motivated to stay in the field. In the researcher's view, this is a serious issue because a profession cannot become strong if people do not see a clear reason to build their future within it. Clearer career pathways would help FM become more attractive, especially for younger workers and people entering from related industries.

The results also mean that training should be treated as a core part of FM practice, not as an extra activity. FM roles now involve many responsibilities, including building operations, health and safety, sustainability, digital systems, contractor coordination, and service performance. These expanding responsibilities require workers to continue learning as expectations change. If organisations do not invest in this area, they may still be able to manage daily work, but they may struggle to build the capability needed for future demands. This research argues that training should be seen as an investment in service quality and organisational resilience, not only as a cost.

For policymakers and education providers, the study points to the need for better alignment between FM learning and workplace reality. Training programmes should reflect the actual skills required in FM jobs, not only general built environment knowledge. This includes practical knowledge of compliance, communication, maintenance planning, asset management, technology, and service coordination. Better connection between education and industry could help produce workers who are more job-ready and more confident when entering the field. This is important because the education–industry disconnect identified in this theme may continue to create workers who have qualifications but are not fully prepared for FM practice.

Another implication is that FM needs stronger professional recognition. If FM continues to be seen mainly as maintenance or background support, it may remain less visible in education, career advice, and workforce planning. This weak visibility can make it harder to attract young people and new entrants. Greater recognition could help show FM as a real professional pathway within the built environment, not only as a support service. Professional recognition is therefore not only about improving the image of FM. It is also about creating the conditions for better education pathways, stronger qualifications, and clearer career development.

Policy also needs to look beyond immediate labour supply. Immigration can help fill gaps when the local supply is limited, but it cannot be the only long-term answer. A more balanced approach would include local training, clearer entry routes, stronger retention support, and better links between employers, education providers, industry bodies, and government. This is especially important in New Zealand because the FM market is smaller than in many larger countries. Small market constraints mean that the sector may need more coordinated support to build training capacity and attract enough people into the profession.

Occupational classification is another structural issue. Facilities Manager is recognised within ANZSCO as a Skill Level 2 occupation, but this does not provide FM with the same visibility as a separate Skill Level 1 professional occupation (Australian Bureau of Statistics, 2024). During the period considered in this study, ANZSCO classifications were important in determining how occupations and skill levels were treated within skilled migration pathways such as the Accredited Employer Work Visa (AEWV). For higher-level FM roles involving strategic planning, digital systems, sustainability, compliance, and leadership, the broad occupational classification may not fully reflect the increasing complexity of the profession. This reinforces the wider finding that workforce policy needs to recognise the changing capability requirements of FM more clearly and improve alignment between occupational classification, immigration settings, education, and industry needs.

A related issue is the visibility of Facilities Management within skilled residence pathways. During the period considered in this study, Facilities Manager was not specifically listed as a Green List occupation, although several related construction and infrastructure occupations were included (Immigration New Zealand, 2025). This may reduce the visibility of FM as a distinct profession within targeted skilled-migration policy, even though organisations may still recruit FM capability through other immigration pathways. Greater alignment between occupational recognition, immigration policy, and the changing capability requirements of FM could therefore support more targeted long-term workforce planning.

From an academic point of view, this research adds to understanding by showing that FM labour shortages are not only a numbers issue. They are connected to how the profession is organised and how capability is built. This is important because many discussions of labour shortages focus mainly on vacancies, migration, or recruitment. This study shows that the deeper problem is also about training systems, career visibility, recognition, and the ability of the field to renew its workforce. A key academic contribution is that workforce development should be understood as part of FM performance, not separate from it.

Future research could examine how FM workers move through their careers in New Zealand. For example, studies could explore how people enter FM, what training they receive, and what influences them to stay in or leave the profession. Research could also compare different types of organisations, such as healthcare, education, commercial property, local government, and outsourced service providers. This may help identify where the strongest barriers are and what support works best in practice.

Another useful area for research is the connection between workforce barriers and service outcomes. For example, future studies could look at whether weak training pathways or unclear career progression contribute to more reactive maintenance, higher compliance risk, or lower service quality. This would help link the workforce issues more directly with FM performance and organisational risk. In the researcher's view, this kind of research is important because labour shortages should not only be measured by the number of vacancies. They should also be understood through their effect on service delivery, safety, planning, and long-term organisational value.

In summary, this theme shows that labour shortages in FM require more than recruitment or temporary support. Organisations need to invest in people, policymakers need to strengthen education and recognition, and researchers need to examine the deeper systems behind workforce shortages. Without these wider changes, FM in New Zealand may continue to face recurring shortages and difficulty building the skilled workforce needed for the future.

### 5.5.5 Summary of Theme

This section shows that structural barriers are a major reason why labour shortages continue in the FM sector. The problem is not only a current lack of workers, but also the weakness of the systems that should support workforce entry, development, progression, and retention. Limited training pathways, weak links between education and industry, unclear career progression, and low investment in workforce development all make it harder for the sector to build a stable and skilled workforce.

These barriers are also connected to each other. Weak training pathways make it harder to prepare workers for FM roles. Poor alignment between education and industry means that workers may not always be ready for the real demands of FM practice. Unclear career progression can reduce motivation and retention, while limited investment affects skills and capability. The small size of the New Zealand FM market also makes it harder to build large training systems and clear professional pathways. Together, these issues limit the sector's ability to respond to labour shortages in a long-term way.

The main point is that labour shortages in FM cannot be solved only through recruitment or short-term coping strategies. The sector needs better systems that support people from entry into the profession through to long-term career development. FM workforce planning should therefore focus not only on filling roles, but also on building a profession that people can understand, enter, grow within, and remain part of.

This section also connects to the next theme because future strategies need to respond to both the causes of labour shortages and the structural barriers behind them. It is not enough to say that the sector needs more workers. FM also needs clearer education pathways, stronger training support, better career visibility, and closer coordination between industry, education, policy, and professional bodies. The next theme therefore discusses future strategies and recommendations for building a stronger FM workforce in New Zealand.

## 5.6 Future Strategies and Recommendations

### 5.6.1 Overview of Findings

The previous theme showed that labour shortages in FM are affected by structural barriers, including weak training pathways, unclear career progression, limited investment in workforce development, and poor coordination between education, industry, and policy. Because of these barriers, short-term responses alone are not enough. The findings of this research show that future strategies need to focus on building a stronger and more organised workforce system for the FM sector in New Zealand.

Participants explained that solving labour shortages cannot depend only on individual organisations hiring more workers. Recruitment is important, but it does not solve the deeper problem if the sector still has weak entry pathways, limited training options, and low professional visibility. For this reason, participants suggested that future solutions need to be more coordinated and long-term. Industry bodies, employers, education providers, and government therefore need to work together rather than responding separately.

One strong point raised by participants was the need to improve awareness and visibility of FM careers. FM is still not well understood by many people outside the sector, especially young people and those choosing future career pathways. If people do not know what FM is, they are unlikely to choose it intentionally as a career. Therefore, making FM more visible is an important future strategy. This could include career promotion, stronger links with schools and tertiary education, and clearer explanation of FM as a professional field that includes operations, compliance, asset management, sustainability, technology, and service delivery.

Participants also emphasised the need for clearer education and training pathways. The findings suggest that FM should not continue to rely mainly on accidental entry or informal learning. Instead, there needs to be a more structured route for people to enter the sector, build their skills, and progress into higher roles. This includes formal qualifications, vocational training, professional development, mentoring, and workplace learning that matches the real needs of FM practice.

Another important finding is that future strategies should focus not only on attracting new workers, but also on keeping and developing the current workforce. Participants explained that experienced workers carry important knowledge about buildings, systems, contractors, compliance, and daily operations. If these workers leave without proper knowledge transfer, the sector loses more than just staff numbers. It also loses practical understanding and

professional judgement. Therefore, retention, skills development, and career progression should be part of any future workforce strategy.

The findings also show that policy needs to be better aligned with the needs of the FM sector. Immigration can help fill some immediate gaps, but it should not be treated as the only answer. Future policy should connect immigration, local training, education pathways, and long-term workforce planning. In the researcher's view, the main issue is not choosing between local workers and migrant workers. The real issue is how both can be part of a balanced workforce system that supports the sector now and in the future.

Overall, the findings suggest that responses must match the complexity of the labour shortage problem. Since the causes, impacts, coping strategies, and structural barriers are connected, the solutions also need to be connected. A stronger FM workforce will require better visibility, clearer education pathways, stronger professional identity, improved retention, more investment in skills, and better coordination between industry, education, and policy. This means future strategies should move the sector away from short-term reactions and towards long-term workforce development.

### 5.6.2 Comparison with Existing Literature

#### 5.6.2.1 Awareness and Professional Identity

The findings show that improving awareness of FM careers is an important future strategy for reducing labour shortages. Participants explained that many people still do not clearly understand what FM is or what kinds of career opportunities it can offer. This lack of awareness makes it difficult for the sector to attract new workers, especially young people who are making early career decisions. If FM is not visible as a career option, people are less likely to enter the profession by choice.

This finding is supported by literature on FM in New Zealand, which suggests that the profession is still not fully recognised or clearly understood compared with more established fields (Crutzen et al., 2016). Some industry initiatives, such as competency frameworks and professional development activities, also show that there are already efforts to strengthen FM as a career pathway (FMANZ, 2021; Business View Oceania, 2021). However, the findings of this research suggest that more work is still needed to make FM visible outside the existing professional community.

A key point from this research is that awareness and professional identity are closely connected. It is not enough to promote FM only through general advertising. People also need to see FM as a respected and meaningful profession with clear responsibilities, standards, and career opportunities. If FM continues to be viewed mainly as maintenance or background support, it may remain difficult to attract people who are looking for a recognised professional pathway.

In the researcher's view, improving awareness should therefore involve more than explaining what FM does. It should also show the value of FM in supporting safe buildings, service quality, sustainability, asset performance, and organisational operations. This would help position FM

as a strategic profession rather than only a support function. Stronger professional identity could also help current workers feel more recognised, which may support retention as well as attraction.

This means future strategies should focus on making FM more visible through education, career guidance, industry promotion, and public workforce discussions. If the profession becomes easier to understand and more clearly valued, more people may consider FM as an intentional career choice.

#### 5.6.2.2 Education and Training Pathways

The findings also show that stronger education and training pathways are needed to address labour shortages in FM. Participants explained that the sector needs clearer and more structured ways for people to enter, learn, and progress in the profession. This is important because FM should not depend mainly on accidental entry or informal learning. While experience is valuable, it alone may not prepare workers for the wider responsibilities now expected in FM roles.

Existing literature supports this concern. Studies on FM in New Zealand show that education pathways are limited and often begin at a higher level, such as postgraduate study or specialised professional learning (Crutzen et al., 2016). This can make it difficult for new entrants to discover FM early or prepare for it as a career. The literature also shows that FM has become a broader and more complex profession, involving operational, managerial, strategic, and cross-functional responsibilities (Heng, 2010). Because of this, short or general training alone may not prepare workers for the full demands of the role.

Some formal pathways do exist in New Zealand, but they are still limited or focused on particular levels of learning (Massey University, 2024; Wintec, 2022). This suggests that the problem is not only the absence of education, but also the need for more connected pathways across different stages of a worker's career. People need options that support entry-level learning, practical workplace skills, professional development, and progression into more senior FM roles.

In the researcher's view, education and training should be treated as part of the workforce pipeline, not only as individual learning. If pathways are clearer, the sector can attract people earlier, prepare them better, and support them as their responsibilities grow. This would also help reduce the gap between what organisations need and what workers are ready to do.

For this reason, future strategies should include stronger cooperation between education providers, industry bodies, and employers. Training should reflect the real work of FM, including compliance, maintenance planning, contractor coordination, asset management, sustainability, digital systems, and communication. A more connected education pathway would help build a workforce that is not only larger, but also better prepared for the changing needs of the FM sector.

#### 5.6.2.3 Policy and System Misalignment

The findings also show that future strategies need stronger coordination between policy, education, and industry. Participants explained that labour shortages continue partly because these areas do not always work together in a clear and connected way. Education may not fully match industry needs, immigration settings may respond to short-term labour gaps, and employers may be left to manage workforce pressure by themselves. When these parts are not aligned, the sector can struggle to build a steady and prepared workforce.

Existing literature supports this concern. Studies suggest that immigration policy alone cannot solve labour shortages, especially when the deeper issue is connected to training, skills development, and long-term workforce planning (The Treasury, 2022; Stringer et al., 2023). Migration can help when the local supply is limited, but it does not automatically strengthen the local workforce pipeline. Other literature also warns that labour demand should not always be treated the same as genuine skills shortages, because vacancy pressure can come from different causes (Migration Observatory, 2026). This means policy responses need to be careful and connected to the real causes of the shortage.

The main issue is not whether immigration should be used or not. The more important question is how immigration, education, training, and industry planning can work together more effectively. If migration is used only to fill urgent vacancies, the sector may continue to depend on temporary solutions. However, if it relates to local skills development and better workforce planning, it can become part of a wider strategy.

This suggests that FM needs to be more clearly included in workforce policy discussions. If FM is not recognised as an important part of the built environment and service economy, its workforce needs may remain hidden. Better alignment between policy and industry could support clearer training pathways, improved recognition, and a more balanced approach between local workforce development and international recruitment.

Therefore, future strategies should not rely on single policy changes. They need a system-wide approach where education providers, employers, industry bodies, immigration settings, and workforce agencies understand their shared role in developing the FM workforce. This would help move the sector away from reactive shortage management and towards more planned workforce development.

#### 5.6.2.4 Retention and Investment

Future strategies should also focus on keeping and developing the current FM workforce, not only attracting new people. Participants explained that experienced workers are important because they hold practical knowledge about buildings, systems, contractors, compliance, and daily operations. When these workers leave, the organisation does not only lose one staff member. It may also lose experience, judgement, and site-specific knowledge that are difficult to replace quickly.

This concern is supported by literature. Research shows that when experienced workers leave, knowledge and skills can be lost from the industry (IFMA Foundation, 2023). This means retention is not only about keeping staff numbers stable. It is also about protecting the knowledge and capability that have been built through years of practice. Other studies also suggest that investing in workers can improve productivity, performance, and long-term organisational outcomes (Haar & O'Kane, 2023; Awu et al., 2025).

Retention should be understood as part of workforce development rather than as a separate issue. If organisations focus only on hiring new workers but do not support the people already in the sector, the shortage problem may continue. Workers need training, recognition, fair progression opportunities, and a workplace environment that makes them want to stay. Without this, organisations may keep recruiting but still lose knowledge and capability through turnover.

Investment in workers is also important because FM roles are changing. Staff need support to meet new expectations in technology, sustainability, compliance, asset planning, and service quality. If workers are not given opportunities to develop these skills, they may feel left behind or may move to other sectors with better development options. This can weaken the sector's ability to respond to future demands.

For this reason, future strategies should include both attraction and retention. The sector needs to bring in new workers, but it also needs to value and develop the workers it already has. Stronger mentoring, professional development, career progression, and knowledge transfer can help maintain capability and reduce the risk of losing experienced people. This would support a more stable and prepared FM workforce in New Zealand.

Taken together, the literature and this research show that future strategies for FM labour shortages need to be connected rather than separate. Improving awareness can help more people understand FM as a career. Stronger education and training pathways can prepare workers more clearly for FM roles. Better policy alignment can connect immigration, local training, and workforce planning. Retention and investment can help keep experienced workers and protect important knowledge in the sector. These areas support each other, so progress in one area may be limited if the others remain weak. For this reason, labour shortages in FM should not be addressed through one single solution. A stronger response needs coordinated action across education, industry, policy, and employers. This is especially important in New Zealand, where the FM sector is smaller and needs better use of limited workforce resources.

### 5.6.3 Interpretation of Findings

The discussion above shows that future strategies for FM labour shortages need to respond to the whole problem, not only one part of it. Earlier themes showed that the causes, impacts, coping strategies, and structural barriers are connected. The response therefore also needs to be coordinated. Hiring more workers may help in the short term, but it will not fully solve the issue if FM remains low in visibility, training pathways are limited, career progression is unclear, and policy support is not well aligned with sector needs.

A key interpretation from this research is that the FM sector needs to move from a reactive approach to a planned workforce development approach. At the moment, many responses appear to happen after labour shortages have already created pressure. Organisations may outsource, redistribute work, use contractors, or depend on migrant workers to fill gaps. These responses can help services continue, but they do not build a strong workforce system. Future strategies should focus more on preventing the shortage cycle from continuing rather than only managing the effects after they appear. Another important point is that education, industry, and policy need to work more closely together. If education providers do not understand the real demands of FM work, training may not prepare workers properly. If industry does not clearly explain its skill needs, education pathways may remain weak. If policy does not recognise FM as an important workforce area, the sector may continue to receive limited attention. This means each part of the system depends on the others. One group cannot solve the labour shortage problem alone.

Future strategies also need to balance attraction, development, and retention. Attracting new workers is important, but it is only the first step. The sector also needs to prepare workers with the right skills, support them through career progression, and give them reasons to stay. If people enter FM but do not see a clear future, the shortage problem may continue. If experienced workers leave without passing on their knowledge, the sector loses capability that is difficult to replace quickly.

This research also suggests that professional identity is central to future solutions. If FM is still seen mainly as maintenance or background support, it will be difficult to attract people intentionally into the profession. A stronger identity can help FM become more visible, more respected, and more attractive as a long-term career. This is not only about image. It is also about creating clearer standards, stronger education pathways, and better recognition of the value FM brings to organisations and the wider built environment.

Taken together, labour shortages in FM should be understood as a system problem that requires connected strategies. The sector needs better awareness, clearer education routes, stronger retention practices, more investment in people, and improved coordination between industry, education, and policy. Without this type of joined-up approach, future strategies may only reduce pressure for a short time while the deeper causes remain.

### 5.6.4 Implications

The results of this theme have important implications for industry, policy, and academic understanding. They show that future responses to labour shortages in FM need to move beyond short-term actions. Hiring more workers, using contractors, or relying on immigration may help with immediate gaps, but these actions will not be enough if the wider workforce system remains weak. The main implication is that the sector needs a more coordinated and long-term approach to workforce planning.

For industry, FM organisations need to invest more seriously in their people. This means training current workers, supporting new workers, and helping staff develop the skills needed

for changing FM roles. Organisations should not only ask how they can fill vacancies, but also how they can build capability inside the workplace. This includes mentoring, professional development, better workload management, and clearer steps for career progression. If workers can see a future in FM, they may be more likely to stay and grow in the profession.

Industry also needs to take a stronger role in promoting FM as a career. Many people do not clearly understand what FM involves, so employers and professional bodies need to explain the value of the profession more clearly. FM should be presented as more than maintenance or support work. It should be shown as a field that includes building performance, compliance, sustainability, technology, service quality, and strategic support for organisations. This would help attract people who may not consider FM as a career option.

From a policy perspective, future workforce planning should connect immigration, education, and local skills development. Immigration can continue to help fill some gaps, especially where local skills are limited. However, it should work alongside stronger local training and career pathways. If immigration is treated as a separate answer, the sector may continue to depend on external labour without fixing the local workforce pipeline. Policy support is also needed to make FM more visible in education and workforce planning.

Education providers also have an important role. Training programmes should match the real skills needed in FM practice. This includes technical knowledge, but also communication, contractor coordination, compliance, digital systems, asset planning, and problem-solving. Stronger partnerships between education providers and industry could help students and new workers understand FM earlier and prepare more clearly for the work. This may also reduce the gap between qualifications and workplace expectations.

From an academic perspective, this research suggests that future studies should not treat labour shortages only as a numbers problem. More research is needed on how the FM workforce is developed, why people enter or leave the profession, and how education, industry, and policy can work together more effectively. Research could also examine whether stronger professional identity and clearer training pathways improve attraction and retention in the sector.

A key implication is that responses must match the size and complexity of the problem. Labour shortages in FM are connected to awareness, training, skills, retention, policy, and professional recognition, so the response must also be coordinated. If each group works separately, the sector may continue to manage shortages rather than solve them.

In summary, future strategies for FM labour shortages require shared responsibility. Employers need to invest in workers, education providers need to offer relevant pathways, policymakers need to support long-term planning, and professional bodies need to strengthen the identity and visibility of FM. Together, these actions can help build a stronger and more prepared FM workforce in New Zealand.

### 5.6.5 Summary of Theme

This theme shows that future strategies for labour shortages in the FM sector need to be coordinated and long-term. The problem cannot be solved only by individual organisations hiring more workers or using short-term responses when pressure becomes serious. Earlier themes showed that labour shortages are connected to weak workforce pipelines, skills mismatch, low professional visibility, reactive coping strategies, and structural barriers. Because these issues are connected, the solutions also need to be connected.

The main message from this theme is that FM needs a stronger workforce system. This includes improving awareness of FM careers, building clearer education and training pathways, supporting better career progression, investing in current workers, and aligning policy with the real needs of the sector. These actions should not be treated separately. For example, better career awareness may attract new people, but without training pathways and career progression, those people may not stay. In the same way, immigration may help fill urgent gaps, but without local workforce development, the sector may remain dependent on short-term labour supply.

Future strategies should focus on changing the way the sector prepares and supports its workforce, not only on filling vacancies. This means the responsibility should be shared between employers, industry bodies, education providers, policymakers, and professional organisations. If these groups work separately, the shortage problem may continue. If they work together, the sector has a better chance to build a workforce that is skilled, stable, and ready for future FM demands.

This theme also leads into the next section, which brings all the findings together. The future strategies discussed here show that labour shortages in FM are not a single issue with a single solution. They are part of a wider system problem. Therefore, the next section synthesises the main findings and explains how the causes, impacts, coping strategies, barriers, and future solutions are connected.

## 5.7 Synthesis of Findings

When all findings are considered together, labour shortages in the FM sector can be understood as more than a simple lack of workers. The issue is linked to several parts of the FM system, including how people enter the profession, how they are trained, how employers respond to staffing pressure, and how the sector prepares for future demand. The causes, impacts, coping responses, structural barriers, and future solutions are therefore not separate matters. They influence each other and form a wider pattern.

The first link is between the causes of labour shortages and the impacts experienced by organisations. Weak workforce pipelines, skills mismatch, an ageing workforce, limited professional visibility, and reliance on immigration reduce the supply of suitable workers. When employers cannot find enough skilled people, the pressure moves into daily operations. Existing staff take on more work, service quality becomes harder to maintain, and preventive

maintenance may be delayed. This shows that labour shortages do not only affect recruitment. They also affect how FM services are planned and delivered.

The second link is between the impacts of shortages and the coping responses used by organisations. When FM teams are under pressure, employers often use outsourcing, contractors, task redistribution, and technology to keep services running. These responses are practical and sometimes necessary. However, they mainly deal with the immediate effects of shortages. They do not fully solve the deeper causes, such as limited training pathways, low awareness of FM careers, or weak workforce planning. In some cases, these responses can also create new problems, such as a heavier workload for existing staff or reduced internal capability.

The third link is between coping responses and structural barriers. Organisations may want to plan for the long term, but they often work within a wider system that does not fully support workforce development. If education pathways are limited, career progression is unclear, and industry and policy are not strongly aligned, individual organisations are left to manage shortages by themselves. This helps explain why short-term responses become common. They are not always used because they are the best solutions, but because stronger sector-wide systems are not yet in place.

The main pattern across the discussion is a repeating cycle. Weak entry pipelines and skills gaps create labour shortages. These shortages increase workload, reduce service quality, and push FM towards reactive practice. Organisations then use short-term responses to maintain services. However, because structural barriers remain, these actions do not fully solve the problem. The same pressures then continue. This cycle shows that FM labour shortages are not only a temporary labour market issue, but a wider system problem.

This synthesis also explains why future strategies need to be coordinated. Improving recruitment alone will not be enough if training pathways remain weak. Immigration alone will not be enough if local workforce development is not strengthened. Technology alone will not solve the issue if the sector does not have enough skilled people to use and manage it properly. For this reason, future action needs to combine career awareness, education pathways, retention, investment in skills, professional recognition, and policy alignment.

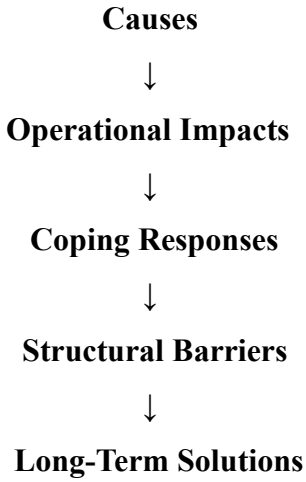
Overall, labour shortages in New Zealand's FM sector are caused and maintained by connected workforce, organisational, and structural issues. The sector needs to move away from only managing shortages after they happen and move towards building a stronger workforce system. This means developing people earlier, supporting them better, recognising FM as a profession, and improving coordination between industry, education, policy, and professional bodies. This joined-up approach is important if FM is to build a more stable and capable workforce for the future.

### 5.7.1 Strategic FM Workforce Development Framework

Based on the synthesis of findings, this study proposes a Strategic FM Workforce Development Framework to show how labour shortages are created and maintained within the New Zealand FM sector, and how longer-term responses can address these interconnected problems. The framework brings together the main causes, operational impacts, coping responses, structural barriers, and future workforce strategies identified in this study. It also links these findings to Human Capital Theory and the concept of skills mismatch.

**Figure 5.1**

*Strategic FM Workforce Development Framework*




| THEORETICAL FOUNDATION |
|---|
| **Human Capital Theory**<br>Investment in education, training, workforce development, and retention strengthens capability and productivity. |
| **Skills Mismatch**<br>Mismatch between available workforce skills and the technical, digital, managerial, and compliance skills required in modern FM. |

***Note***. Developed by the researcher based on the findings of this study and informed by Human Capital Theory and the concept of skills mismatch.

Figure 5.1 shows that FM labour shortages are not caused by one isolated factor. Weak entry pathways, low professional recognition, skills mismatch, ageing, and immigration dependence create workforce pressure that affects daily operations. Organisations respond through outsourcing, redistribution of work, migrant labour, training, and technology, but these responses mainly manage immediate pressure. Structural barriers, including weak education pathways, unclear career progression, limited workforce investment, and poor coordination, allow the shortage cycle to continue. Human Capital Theory supports the need for greater investment in education, training, development, and retention, while the skills-mismatch

perspective explains the gap between the capabilities available in the workforce and those required by modern FM roles. The framework therefore shows that sustainable improvement requires coordinated long-term workforce development rather than short-term recruitment responses alone.

### 5.8 Chapter Summary

This chapter discussed the main findings of the study in relation to the research aim, which was to examine the causes, impacts, and potential strategies for addressing labour shortages in the Facilities Management (FM) industry in New Zealand. The purpose was not only to repeat the results, but to explain their meaning, connect them with existing literature, and interpret them within the New Zealand FM context.

Five broad thematic areas were discussed. The first theme focused on the causes of labour shortages. It showed that the issue is not only about a lack of workers, but also about weak entry pipelines, low awareness of FM as a career, skills mismatch, an ageing workforce, reliance on immigration, and weak professional identity. These factors make it difficult for the sector to attract, prepare, and retain suitable workers.

The second theme examined the impacts of labour shortages. The discussion showed that shortages create pressure across FM operations, including heavier workload, stress and burnout, lower service quality, delayed preventive maintenance, higher costs, compliance pressure, and reduced strategic capacity. The issue therefore affects not only staff numbers, but also the way FM services are planned, delivered, and managed.

The third theme explored the coping strategies used by FM organisations. These included outsourcing, work redistribution, contractors, and technology use. While these responses help organisations keep services running, they are mostly short-term measures. They do not fully address the deeper causes of the shortage and may create further pressure if they become the normal way of working.

The fourth theme considered structural barriers to sustainable workforce development. These barriers included limited education and training pathways, weak links between education and industry, unclear career progression, insufficient investment in skills development, and the small size of the New Zealand FM market. This showed that shortages continue partly because the wider system is not strong enough to develop and support the workforce properly.

The fifth theme focused on future strategies and recommendations. It showed that addressing labour shortages requires coordinated and long-term action across industry, education, policy, employers, and professional bodies. Future responses should include stronger career awareness, clearer education pathways, better retention, investment in workers, stronger professional recognition, and better alignment between immigration, training, and workforce planning.

Taken together, the discussion showed that labour shortages in FM are not a simple or isolated problem. They are connected to how the workforce is attracted, trained, supported, and

retained. They also affect how organisations operate and how the sector prepares for future demand. The main contribution of this chapter is that FM labour shortages should be understood as a system-level workforce issue, not only as a short-term staffing problem.

The next chapter presents the conclusion of the study. It summarises the main contributions, discusses the limitations, and provides final recommendations based on this research.

# CHAPTER SIX

# CONCLUSION

## 6.1 Introduction

This research was about labour shortages in the Facilities Management (FM) sector in New Zealand. The study looked at the main reasons for these shortages, what impacts they had on the industry, what strategies organisations were using to cope, and what barriers existed for long-term workforce development. It also discussed possible recommendations for the future. The research did not treat labour shortages as only a short-term staffing problem. It considered them a broader issue that affects how FM organisations work, how services are given, and how the industry can get ready for future workforce needs. This was important because FM is a sector that supports the daily operation and long-term performance of buildings and facilities in many areas of society.

This study aimed to examine the causes, impacts, and potential strategies for addressing labour shortages in the Facilities Management (FM) industry in New Zealand. This included looking at both current and future workforce needs. It was important to understand not only why these shortages are happening, but also what they meant for industry and how they could be addressed more effectively. The results of the study showed that labour shortages in FM come from several connected problems. These problems included low awareness of FM as a profession, weak education and training systems, problems in attracting and keeping workers, and bigger structural challenges for workforce development. The study also found that these shortages cause real problems for organisations, such as increased workload, pressure on services, difficulties in operations, and trouble keeping a steady workforce for the long term.

This study was important for many stakeholders because FM was connected to operational efficiency, service quality, safety, and sustainability. The job of FM was not only to maintain buildings or fix technical problems. FM also helped organisations to perform better by making sure facilities are working, safe, and suitable for users. Because of this, labour shortages in FM did not just affect the number of staff. They also affected the overall performance and strength of the built environment. If there are not enough skilled workers, the effects can be seen in service delivery, maintenance quality, response times, meeting compliance, and how organisations plan for the future. So, labour shortages in FM should be seen as a bigger issue for organisations and the sector, not just a simple employment problem.

This chapter presented the main conclusions of the research by giving a summary of the key findings and showing how they answered the research aim and questions. It also explained what this research has contributed to knowledge and practice, talked about the study's limitations, and gave suggestions for future research. In this way, the chapter ended the research by showing its value and pointing out how further research can help improve understanding of labour shortages and workforce development in the FM sector in New Zealand.

## 6.2 Overall Conclusion

This research was about labour shortages in the Facilities Management (FM) sector in New Zealand. The study looked at the main reasons for these shortages, their impacts on industry, what organisations were doing to cope, the barriers that make it hard to develop the workforce for the long term, and possible strategies for the future. The research showed that labour shortages were not simply a short-term problem, but a bigger issue that affected how FM organisations worked and how they planned for future needs. This was important because FM is responsible for making sure buildings and facilities are safe, functional, and perform well in different sectors.

The purpose of this study was to find out the causes, impacts, and possible solutions for labour shortages in the FM industry in New Zealand, looking at both current and future workforce needs. The results showed that labour shortages happened because of several connected reasons, such as low awareness of FM as a career, problems in education and training, and difficulties in attracting and keeping skilled workers. These problems were also related to the general labour market in New Zealand. For example, there were not enough workers available, making it difficult for organisations to find suitable staff. There were also mismatches in skills and where workers are located, and many industries needed more workers than are available. This situation puts extra pressure on the FM sector, which needs workers with special skills that are not easy to find. Therefore, the study suggested that labour shortages in FM are caused by both problems inside the sector and by wider workforce issues that affect how many workers are available, how skills are developed, and how organisations can recruit staff.

Labour shortages not only affected staff numbers but also had an impact on how organisations operated. When jobs are not completed, the workers who are there must do more work, which increases their workload and puts pressure on how services are delivered. Over time, this can cause tiredness, lower performance, and less productivity. Even if the work is finished, it is often done under stress, which can reduce quality and output. This problem was also seen in the wider New Zealand labour market, where organisations often must do more with fewer people, which cannot continue for a long time. Because of this, labour shortages in FM can cause delays, higher risks in operations, and problems in keeping service standards. Also, these pressures can make it hard for organisations to concentrate on long-term improvements, because they must deal with urgent needs first. So, labour shortages can cause both short-term and long-term problems for the FM sector.

This study is important for many people because FM is connected to how well organisations work, the quality of services, safety, and sustainability. FM is not only about looking after buildings, but also about helping organisations perform effectively and ensuring that facilities are safe and functional for users. Because of this, labour shortages in FM affect more than just the number of staff. They also impacted how well the built environment works and how strong it is. If there are not enough skilled workers, organisations can find it hard to do regular maintenance, fix problems quickly, and plan. This meant labour shortages were not simply a workforce problem, but a bigger issue for organisations and the whole sector. It also explains

why this problem matters for employers, education providers, professional groups, and others who were involved in planning and developing the workforce.

This chapter presented the main conclusions of the research by giving a summary of the key findings and showing how they answered the research aim and questions. It also explained what the research contributed, discussed the study's limitations, and provided suggestions for future research. In this way, the chapter finished the study by showing its value and how future work can help develop the FM workforce in New Zealand.

### 6.3 Summary of Findings

The interviews with Facilities Management professionals provided valuable insights into the labour shortage challenges experienced within the sector. Participants shared their professional experiences and perspectives on the causes, impacts, and responses to these workforce challenges. They shared their opinions and experiences from their jobs. Many participants said that the problems discussed in this research are real and they have faced these challenges in their work. They also said that Facilities Management is an important and valuable profession. However, many of them did not plan to work in FM. Several participants described entering FM through indirect or unplanned career pathways. These stories showed that there are challenges with the identity and development of the FM profession. The results of this study showed that labour shortages in FM are caused by many connected reasons, not just one. The main reasons are a weak workforce pipeline, skills mismatch, ageing workers, immigration and policy problems, weak professional identity, and weak education and training systems. The study also found that labour shortages have a significant impact on the sector. These impacts include more workload, stress and burnout for staff, problems with service delivery, lower quality of service, more reactive work, and more financial and operational pressure on organisations.

The findings showed that organisations responded to these shortages by outsourcing, redistributing work among existing staff, using contractors, and using technology. However, these approaches mainly addressed immediate pressures and did not resolve the underlying problems. The study also identified broader barriers, including weak training systems, low attractiveness of the FM profession, limited career progression, and poor coordination among education, industry, and policy. A key finding is that FM labour shortages are not only labour market problems but also workforce development problems at the system level. The sector faces difficulties in attracting, training, retaining, and renewing its workforce. The findings also indicate a repeating cycle: weak workforce pipelines and skills mismatch contribute to shortages; shortages increase operational pressure; and organisations then rely on short-term responses that do not address the underlying causes. For the future, long-term responses should include greater awareness of FM careers, stronger education and training pathways, improved retention and career progression, stronger professional recognition, policy support, and better coordination among key stakeholders.

## 6.4 Contributions of the Study

### 6.4.1 Contribution to Knowledge

This study contributes to knowledge about labour shortages in the New Zealand Facilities Management sector in the following ways:

**FM-specific understanding of labour shortages:** The study provides empirical evidence from FM practitioners showing that labour shortages in FM are not only about insufficient worker numbers. They are also connected to weak workforce entry pathways, skills mismatch, professional identity, education and training, migration, retention, and changing capability requirements. These findings are developed in **Sections 4.4–4.8 and 5.2–5.6**.

- **Labour shortages as a system-level workforce problem:** The study shows that FM labour shortages are created and maintained by connected workforce, organisational, and structural factors. This moves the discussion beyond short-term recruitment problems and explains why temporary responses such as outsourcing and labour redistribution do not solve the underlying workforce problem. This contribution is developed in **Sections 5.4–5.7**.

- **Comparison across different FM contexts:** By examining both campus-based FM management and external FM practitioners, the study provides insight into common workforce pressures as well as differences in how labour shortages are experienced across organisational settings. This comparison is presented in **Section 4.9**.

- **Strategic FM Workforce Development Framework:** The study develops a framework that connects the causes of labour shortages, operational impacts, coping responses, structural barriers, and long-term workforce solutions. The framework also links the findings to **Human Capital Theory** and **the concept of skills mismatch**, showing how investment in education, training, workforce development, and retention can help reduce capability gaps. This contribution is presented in **Section 5.7.1 and Figure 5.1**.

- **Foundation for wider FM workforce research:** Although developed from the New Zealand context, the framework provides a structured way of examining FM workforce problems that may also be tested or adapted in other FM markets facing similar workforce-development challenges.

### 6.4.2 Practical Contribution

This study makes a practical contribution to Facilities Management organisations, education providers, professional bodies, policymakers, and future researchers working on FM workforce development. The research delivers insight from practitioners about the real challenges that FM organisations in New Zealand are facing, especially about how labour shortages affect their daily work. The findings show that using only short-term solutions is not enough to solve the problem for the long term. This study shows that temporary strategies have limits, so there is a need for stronger and long-term workforce development. The research gives evidence that can help FM organisations, education providers, professional bodies, and decision makers to

plan better strategies for workforce development. Therefore, this study gives useful directions for addressing labour shortages in the New Zealand FM sector and delivers practical knowledge that can help support the future of the profession.

## 6.5 Limitations of the Study

Some restrictions in this study need to be considered when looking at the results. The research used a qualitative method with semi-structured interviews, so the findings are mainly based on what the participants experienced and how they understood the issues. This gave a deep understanding of labour shortages in practice, but the results are influenced by personal views and not by objective data. The number of participants was also small because of the limited time and resources. Even though the study collected important views from people working in the field, some opinions might not be included, especially from smaller organisations or specialised areas of the FM sector. Because of this, the study might not show all the different experiences in the New Zealand FM industry.

The study also depended on how honest and open the participants were, and how well they recalled77799999999999999999999999999999 their experiences. Sometimes, participants might forget some details or choose not to talk about everything. Because this research is qualitative, the results cannot be used to represent the whole FM sector in New Zealand in a statistical way. The findings should be seen as examples and experiences from the people who took part. The researcher's own understanding was also important when analysing the data and finding the main themes. Even though steps were taken to make the analysis more reliable, the researcher's judgement still affects the results. For these reasons, the findings should be considered with these restrictions in mind.

## 6.6 Recommendations and Future Research

### 6.6.1 Recommendations

Since 80% of the workforce needed in 2030 is already working now, and the industry is facing an ageing workforce, it is important to focus on the current workforce (Martin Jenkins, 2025). A key approach is to invest in training and adapt roles to changing technology. Based on the findings of this study, several recommendations are proposed for industry, policymakers, and education providers. For industry and FM organisations, it is important to invest in both hiring and training. This will help to build stronger skills inside the organisation, make career paths clearer, keep workers for longer, and lessen the need for short-term solutions. It is also important to work more closely with education providers. For policymakers, immigration policies should better reflect the needs of the sector, support FM training programmes, and recognise FM as an important sector. There should be better coordination between workforce policy, education, and industry needs. Education and professional development should focus on making FM training pathways stronger, matching education with the real skills needed in the industry, and making FM more visible as a career. To summarise, the recommendations from this study show that solving the labour shortage in FM needs a long-term and coordinated approach, not just short-term actions.

### 6.6.2 Future Research

Based on the findings of this study, there are several areas that can be considered for future research. Firstly, subsequent research should include a larger and more diverse sample from different FM sectors in New Zealand. This would provide a wider understanding of labour shortages and employee challenges. It is important to include perspectives from smaller organisations and different types of operations. Also, more research can be done for specific sectors, such as education, healthcare, government, or commercial FM, because each sector may face labour shortages in different ways.

Further research should also look at how effective different employee strategies are over time. This can help to understand which strategies give better and longer-lasting results for the FM industry. Another important area for future research is the professional identity of FM in New Zealand, and how education, career development, and retention can be improved in this sector. Research can also focus on how the requirements for workforce capability in FM are changing because of more technology and digital systems. Finally, comparing New Zealand with other countries or regions can give useful information about the differences and similarities in labour shortages and how they are managed. These future research areas will help to give a deeper and more complete understanding of workforce development in the FM sector.

## 6.7 Closing Statement

Labour shortages in Facilities Management are a significant challenge for the future of the sector in New Zealand. The findings of this study showed that the issue is not only about recruitment but also about broader workforce development problems. Labour shortages should therefore be understood as more than a short-term staffing issue. They are connected to how the sector attracts, trains, develops, and retains its workforce. The study also showed that sustainable improvement requires long-term and coordinated responses rather than short-term fixes. Strengthening workforce capability, professional recognition, and cooperation across the sector will be important for building a more resilient FM workforce. Overall, this study concludes that labour shortages in New Zealand’s FM sector result from connected structural, professional, and workforce development challenges and require coordinated long-term action to support the future of Facilities Management in New Zealand.

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# Appendices

## Appendix A: Interview Questionnaire

The following semi-structured interview questions were used for this study:

Q1. How do labour shortages affect the FM sector in New Zealand?

Q2. What are the effects of labour shortages in New Zealand?

Q3. How does lack of awareness about FM careers contribute to shortages?

Q4. What strategies have been used to address FM labour shortages?

Q5. How effective have these strategies been?

Q6. What future strategies are needed for FM labour demand?

Q7. Which strategy has been most effective?

Q8. How has global FM growth influenced NZ labour expectations?

Q9. What government or external efforts address FM labour shortages?

Q10. What cross-cultural and migration trends affect FM labour supply?

Q11. What is FM's contribution to NZ's economy?

Q12. Does labour shortage threaten this contribution?

Q13. How does technology integration affect FM skills needs?

Q14. What role does immigration policy play?

Q15. How is NZ preventing exploitation of migrant FM workers?

Q16. What challenges do migrant FM workers face?

Q17. How do these challenges affect the FM industry?

Q18. How does lack of FM education contribute to shortages?

Q19. What educational reforms are necessary?

Q20. What skills mismatch contributes to FM labour shortages?

## Appendix B: Sample Interview Transcript 1

Q1. How do labour shortages affect the FM sector in New Zealand?

P6: Majorly, because entry into facilities management is mainly by accident. You either fall into the industry from a trade background or enter from administration, then go through office management and come into facilities from different directions. The Facilities Management Association in New Zealand is trying hard to produce a course to channel people into the industry and be more professional about what skills are needed to be a good facilities manager. Hopefully, with that and a more professional organisational operation, people will feel better about what they do and improve their service delivery to whatever asset they manage.

Q2. What are the effects of labour shortages in New Zealand?

P6: The lack of knowledge and understanding of facilities management has a direct correlation to finding people able to do the role. One of our major clients had a facilities manager who had technical compliance, health and safety, and people management skills, and they are struggling to fill that role.

Q3. How does a lack of awareness about FM careers contribute to shortages?

P6: The lack of knowledge and understanding of facilities management has a direct correlation to finding people able to do the role.

Q4. What strategies have been used to address FM labour shortages?

P6: In my own business, we trained our own people because there was no other training available. The Facilities Management Association is developing a training course, which I understand is not far away, with support from [educational institution], to provide a basic-level course for facilities managers. This would help them learn the fundamentals, such as understanding the business and its culture, the Health and Safety at Work Act in New Zealand, compliance requirements, building warrant of fitness compliance schedules, and the Building Act and Code Compliance Certificate requirements managed by territorial authorities. Building services knowledge is also useful. We prefer employing people with at least an understanding of building services in the commercial office environment, such as chillers, boilers, air handling units, and building management systems. Ideally, a facilities manager should also understand environmental and sustainability practices, including reducing electricity, gas, and water consumption, minimising waste to landfill, and improving recycling.

Q5. How effective have these strategies been?

P6: It has been limited because the courses have not been established yet, which is disappointing. However, people are working behind the scenes to create them. We continue to do our own internal training.

Q6. What future strategies are needed for FM labour demand?

P6: One strategy is capturing people before they leave high school or before university by introducing facilities management as a possible pathway. The industry should be presented to schools as a career option. The current demographic in facilities management is toward the older end, and there do not seem to be enough younger people coming through to replace those leaving.

Q7. Which strategy has been most effective?

P6: I am not sure. Now, facilities managers rely heavily on word of mouth. If we need someone, we call people we know and ask if they know anyone. Employment agents also approach facilities companies, suggesting candidates.

Q8. How has global FM growth influenced NZ labour expectations?

P6: The Facilities Management Association is doing a good job promoting facilities management, although more can be done. There is at least one organisation promoting and supporting the profession. There are online educational opportunities discussing areas such as energy management, and there is an annual summit where professionals, researchers, and industry experts present and educate the industry.

Q9. What government or external efforts address FM labour shortages?

P6: I am not sure the New Zealand government fully understands facilities management. The industry has an identity issue, as many people do not understand what a facilities manager is or what the role involves. Unlike accountants or lawyers, facilities management lacks wider public recognition, including at government level. We need to improve ourselves.

Q10. What cross-cultural and migration trends affect FM labour supply?

P6: More people are currently leaving the country than returning, so skilled labour is scarce. I am not certain that enough people are being brought in. When I reviewed the ACC categories for setting business rates, there was no facilities management category. It was classified under administration or real estate. We do not even have a proper category.

Q11. What is FM's contribution to NZ's economy?

P6: From my perspective, after many years in the industry, facilities management is critical. We run major facilities behind the scenes and keep operations functioning. Without facilities management, things would come to a halt quickly.

Q12. Does labour shortage threaten this contribution?

P6: If facilities management was not there, things would come to a halt very quickly.

Q13. How does technology integration affect FM skills needs?

P6: We are currently seeing the presence of AI and its ability to streamline and mechanise processes. There is a strong future for facilities management as AI and technology become more integrated. We may see more streamlined operations, with companies potentially reducing staff while doing more.

Q14. What role does immigration policy play?

P6: If the government better understood the role, as illustrated by the ACC example, and recognised its importance, there would be more opportunity to import labour to fill these positions. Now, without that understanding, it is unlikely people will be brought in to fill those roles.

Q15. How is NZ preventing exploitation of migrant FM workers?

P6: There are laws around minimum wage and living wage, which are relatively new. Companies should be following those laws and paying at least the minimum salary. Salary increases depend on experience. The more skilled a person is in key facilities areas, the more they should be paid.

Q16. What challenges do migrant FM workers face?

P6: Language can be a barrier. Understanding New Zealand laws, especially the Health and Safety at Work Act and building compliance requirements, is important.

Q17. How do these challenges affect the FM industry?

P6: You need to understand those processes to apply for and be considered for a role. It makes it harder to bring people into the industry and get them up to speed. If they do not understand local regulations or how things operate here, there is a delay before they can contribute effectively, which puts more pressure on the existing team.

Q18. How does lack of FM education contribute to shortages?

P6: There are limited options for someone leaving school who wants to become a facilities manager. There are very few educational pathways available. This needs to be improved.

Q19. What educational reforms are necessary?

P6: We need to capture people from school and explain facilities management and building operations as possible career options. This would create a pipeline of younger people entering education and eventually replacing retiring facilities managers. That is not currently being done well.

Q20. What skills mismatch contributes to FM labour shortages?

P6: It comes down to carefully scoping required roles before going to market and matching candidates against those requirements. Many people submit CVs without matching the role requirements, which creates additional work for HR, who then discard most applications because applicants have not followed the role scope.

**Appendix C: Sample Interview Transcript 2**

Q1. How do labour shortages affect the FM sector in New Zealand?

P2: One of the problems we have as an industry is that there is no formal path to FM, so a lot of people that become facilities managers do it through existential means, they pull into it. Labour shortages arise where people transition in and, because it is not considered to be a career, they transition out. In New Zealand, they get their experience and then move to a better paying country, either Australia or the UK. These shortages are mainly because career paths are limited. When you get to a certain point, there is nowhere for you to go within the corporate world, and we do not necessarily pay enough in this country to keep facilities managers here.

Q2. What are the effects of labour shortages in New Zealand?

P2: Labour shortages arise where people transition and, because it is not considered to be a career, they transition out. In New Zealand, they get their experience and then move to a better paying country, either Australia or the UK. These shortages are mainly because career paths are limited. When you get to a certain point, there is nowhere for you to go.

Q3. How does lack of awareness about FM careers contribute to shortages?

P2: You are never going to say, I am going to be an FM. As an industry, we are not very good at advertising it as a career option. People fall into the industry by accident, and there is a lack of awareness of it being a viable career.

Q4. What strategies have been used to address FM labour shortages?

P2: We are not good at it. We have an industry body, and although I work with them, I do not think we have a good strategy to increase our presence in the industry.

Q5. How effective have these strategies been?

P2: We are not good at it.

Q6. What future strategies are needed for FM labour demand?

P2: It has to be multi-pronged, industry bodies, government, public-private partnerships, highlighting our value to New Zealand in the built environment.

Q7. Which strategy has been most effective?

P2: No specific answer provided.

Q8. How has global FM growth influenced NZ labour expectations?

P2: No specific answer provided.

Q9. What government or external efforts address FM labour shortages?

P2: We have an industry body, and although I work with them, I do not think we have a good strategy to increase our presence in the industry.

Q10. What cross-cultural and migration trends affect FM labour supply?

P2: In New Zealand, people get their experience and then move to a better-paying country, either Australia or the UK.

Q11. What is FM's contribution to NZ's economy?

P2: No specific answer provided.

Q12. Does labour shortage threaten this contribution?

P2: No specific answer provided.

Q13. How does technology integration affect FM skills needs?

P2: No specific answer provided.

Q14. What role does immigration policy play?

P2: No specific answer provided.

Q15. How is NZ preventing exploitation of migrant FM workers?

P2: No specific answer provided.

Q16. What challenges do migrant FM workers face?

P2: Finding somewhere to stay close to work is a challenge. If you are coming to New Zealand and want to work in the CBD, you cannot afford to live nearby. You will live further away from where you work. The challenge is how to earn enough money, live, raise a family, and get to work.

Q17. How do these challenges affect the FM industry?

P2: No specific answer provided.

Q18. How does lack of FM education contribute to shortages?

P2: It is not helping. If the industry cannot provide a clear career path and a clear educational path, people will leave and find other jobs. There are many occasions where facilities managers reach a point of burnout and instead of moving to another FM job, they leave the industry.

Q19. What educational reforms are necessary?

P2: Diploma, degree, masters, and link it back to career levels within the marketplace. As a senior facilities manager, you should have at least a bachelor's degree or equivalent. At higher levels, a master's may be appropriate. The industry has been around for years, but we make excuses. Recruitment should set minimum standards, for example a diploma for junior roles. The market should demand qualifications so employers are not just hiring someone to fix issues but someone who can assess situations and think through them.

Q20. What skills mismatch contributes to FM labour shortages?

P2: There is a skills gap, which is a fundamental issue. When job adverts are posted for facilities managers, they ask for previous experience and technical skills. This often means recruiting from other industries rather than existing facilities managers. The gap is that we have not clearly articulated what skills a good facilities manager must have.