# Oil And Water: A Qualitative Study Of Project Management Professionals' Experience Delivering High Value Capital Infrastructure Projects Within an Operational Organisation

Megan D. Laus

30 April, 2025

A dissertation submitted to

Auckland University of Technology

in partial fulfilment of the requirements for the degree of

Master of Business (Management)

Faculty of Business, Economics and Law - Te Ara Pakihi, Te Ōhanga Me Te Ture

**Abstract**

Large, complex operational organisations often deliver capital projects as part of their overall business strategy. In many cases, these organisations will establish a project group to enable delivery of these projects. The project group will generally consist of project management professionals hired for the duration of the project (Andersen et al., 2007; Ershadi et al., 2021; Thiry & Deguire, 2007). Typically, these project teams lean heavily on their operational colleagues and the organisation's internal corporate services to support project delivery.

There is a large body of research investigating collaboration and collaborative behaviours between stakeholders in project management, however, the common focus is collaboration between external stakeholders, e.g. contractors, designers, and consultants (Hällström, 2024; Moradi et al., 2022; Vosman et al., 2023; Wei et al., 2022). Little research has been conducted to understand the collaborative behaviours of cross-functional teams within a single organisation, when a project team is focused on project delivery, and requires the support of their operational colleagues focused on running operations and the organisation's business as usual.

This dissertation includes a review of project management literature, including research on high-performing teams, collaboration, and collaborative behaviours. This study investigates the perceived enablers and barriers for project delivery teams to engender productive collaboration with their operational peers in the delivery of capital projects. Qualitative data was collected via an online survey of project delivery professionals currently involved in the delivery of a high value capital project within a large, complex operational organisation.

Twenty project management professionals completed the survey, providing written accounts of their experiences delivering capital projects within an operational organisation, and their perceptions of what they consider the barriers and enablers to intraorganisational collaboration.

A thematic, reflexive analysis of the data was conducted, analysing the accounts of enablers and barriers, and separately identified distinct negative and positive themes. Through further synthesis of the themes three key factors were commonly perceived to enable successful collaboration these were leadership, trust, and relationships. The participant examples showed that the absence of these factors created a negative barrier to collaboration.

There are three key findings from this study of project delivery professionals' experience of collaborating with their operations peers. First, operational organisations must invest considerable forethought when establishing project teams, ensuring strong leadership at the helm. Second, organisations must communicate project and organisational goals across the business and include operational teams, this will aid in establishing trust and transparency from the outset. Finally, early engagement between working groups is

essential, as this enables relationships to be established and trust to build. Detailed recommendations for practice are developed.

Further research is recommended of intraorganisational collaboration for complex operational organisations delivering large capital projects. With particular emphasis in the strain on project professionals working in an operational organisation and the operations perspective on collaboration with project delivery teams.

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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 acknowledgements). ChatGPT (Open AI) was used for the purposes allowed in the AUT Post Graduate Handbook 2025, including grammar checks, synonyms, and sense making. No data, images, or text were generated, amended, or analysed using AI tools, 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.

Megan D Laus

# Acknowledgements

Thank you to my employer for sponsoring this degree, both financially and with flexibility to attend lectures and invest considerable time on assignments and research.

I would like to express my gratitude to Perry Fon-Sing, without you, I may not have started this degree. Your support and guidance at the beginning was everything. To Brent Lancaster, thank you for your words of encouragement and sharing your own post-graduate study and thesis story with me. Thank you for allowing me flexibility and time to continue my work on this project.

Without the research participants, there would be no research. Thank you to my colleagues for participating in this study and sharing your personal experiences and opinions.

Thank you to my husband Milan. I remember before I enrolled in this degree, I asked you if you would pick up the slack with our family so that I would have time to focus on my study. You did not hesitate. And the many days and nights that you have done the extra heavy lifting at home have made all the difference in me being able to focus on my study.

My children, Rocco and Freya. It's been a long journey that has been traversed during some of your most important years. I hope that I balanced family and study well enough that you didn't feel like you weren't getting the time and attention you deserve. I hope my journey is encouragement for you both to follow whatever path you choose and keep putting one foot in front of the other, even when you are so weary you just want to stop. And to show you that it is never too late to learn.

To my parents, Alan and Wendy. My brothers and sister, Peter, Susan, and Sam. Thanks for your words of support and encouragement. Especially Mum and Susie, when I was ready to give up and struggling to balance everything, your words and encouragement kept me going.

To my research supervisor Dr. Paulette Brazzale, you have been particularly patient and empathetic. Thank you for your guidance with my ethics application, research design, interpretation of findings and the many document edits. Thank you for allowing me the opportunity to work when and how I was able. When I just didn't have the energy anymore, you supported me to keep going and to aim high.

Sue Knox, thank you for your assistance in formatting my dissertation. Having assistance with this took a huge load from my shoulders.

The ethics approval for this study was granted by the Auckland University of Technology Ethics Committee (AUTEC) on 15 May, 2024 with application number 24/116.

# Chapter 1 Introduction

This chapter provides an overview of the dissertation. It introduces the research topic of intraorganisational collaboration, providing the setting and context of the study. It introduces prior research on collaboration and collaborative behaviours between internal and external stakeholders. The research purpose, research questions, and boundaries of the study are outlined in this chapter.

## 1.1 Introduction

Operational organisations frequently deliver large-scale, high-value capital projects delivered by project teams and supported by employees in other teams within the same business (Aldaghlas et al., 2020; Anderson & Merna, 2005; Musawir et al., 2017). An example is a national rail organisation whose core operational business is to run trains and move freight. At different times they will also have project teams that build train stations and other rail infrastructure (capital projects).

When project delivery teams have different priorities from their colleagues in operations (and vice versa), collaboration can be more difficult than usual. The operational teams are busy booking freight, maintaining railway tracks, and keeping trains moving. They have permanent stable employment with a high degree of job security, and their day-to-day tasks have a high degree of predictability. In stark contrast, the project delivery team is normally on a temporary or fixed contract, often only for the length of a project. These project teams work to fixed deadlines and budgets, often working in a volatile, unpredictable, chaotic, and ambiguous (VUCA) environment (Luis de Moura et al., 2023). In most cases, the project team will rely on support from their operational colleagues who work in finance, information technology, safety, planning and other teams to support them in completing the project successfully. Working in different environments, with different demands and pressures can make collaboration between these two areas of business challenging (Pemsel et al., 2016; Yin et al., 2023).

Many scholars have researched collaboration and collaborative behaviours within project management, applying a lens of external stakeholder relationships (Moradi et al., 2022; Vosman et al., 2023; Yin et al., 2023). Additionally, there is a significant body of knowledge in the project management research examining high performing teams, high performing projects and examining how these collaborate with each other. The Solis et al., (2013) case study of an interorganisational construction team delivering a health care facility found that the participants considered themselves a high performing team based on the high levels of trust, communication and information exchange that existed within the project team. However, little research exists to understand collaboration and the collaborative behaviours of cross-functional teams, specifically operations and project teams working together towards an overarching organisational strategy. As a practitioner working in a capital projects team within an operational organisation, I am invested in project performance and outcomes, and particularly how we collaborate with our operational colleagues to work harmoniously and achieve positive outcomes. In the Methods chapter, I discuss my role as an Insider

Researcher and how this has influenced the design of this research and my role within it. My personal insights and observations based on my own experience, as opposed to a research finding or literature, will be made clear throughout the dissertation.

It is my opinion that the importance of aligning project teams with operational teams, particularly in pursuit of a shared organisational strategy cannot be understated. At the core of project and organisational success is the ability for cross-functional teams to work collaboratively. This study examines one perspective, that of the project management professional delivering capital projects within an operational organisation.

## 1.2 Research purpose and questions

The main aim of this study was to develop a deeper understanding of the critical factors needed to facilitate effective collaboration between project management and operations teams within the same organisation working on a capital infrastructure project delivery. Many large organisations with business-as-usual operations at their core, deliver capital projects as an integral part of their overall business strategy. In New Zealand, this includes organisations such as Fonterra, New Zealand Transport Agency (NZTA), Watercare, KiwiRail etc. The challenge these businesses face, is the complex nature of having interdependent teams that work in a matrix, cross-functional environment and rely on intraorganisational collaboration, particularly for ensuring positive project delivery outcomes.

*This research is driven by these two questions:*

RQ1. What is the lived experience of collaborating on capital infrastructure project delivery within an operational organisation, from the perspective of project management professionals?

RQ2. What do project management professionals perceive as the key enablers and barriers to success, when collaborating with their operational peers to deliver capital projects?

This research is situated in a complex operational matrix organisation, delivering multiple capital infrastructure projects at various stages of completion. I have asked project management professionals for their perspective on the barriers and enablers of project success, as they possess first-hand experience of project delivery within these constraints, with involvement in projects that have underperformed and projects that have been a great success.

This research investigated how the two sometimes competing teams work together to achieve positive project outcomes, through the analysis of the experiences of project professionals working in this context.

The data for this research was gathered from project delivery professionals, currently delivering capital projects for an operational organisation via a qualitative online survey. The participants were asked to provide examples and anecdotes based on their experience of intraorganisational collaboration, sharing both positive and negative examples, and highlighting what they perceive to be the enablers and barriers to positive intraorganisational collaboration.

## 1.3 Contributions

This research contributes to the existing project management body of knowledge with findings on the key enablers and barriers for intraorganisational collaboration in the setting of operational organisations delivering large capital projects as part of their organisational strategy. First, it details different sources of literature that study collaboration and collaborative behaviours, identifies the gaps in research and provides direction for further studies. Second, it discusses the findings of this research project, providing recommendations for practice. Third, it is intended to drive further research to develop a deeper understanding of intraorganisational collaboration for cross-functional project and operations teams, and it is expected that these findings provide effective recommendations for practice to improve project outcomes and support organisational strategies.

## 1.4 Dissertation outline

This dissertation is presented in five chapters. Following this introduction to the study, the second chapter follows with a literature review, examining collaboration with external stakeholders and in other industries, and the collaborative behaviours that support project outcomes. The third chapter details the methodological approach to this research, further detailing the research method. Chapter four provides a thorough review of the findings from this research, describing the thematic analysis of the data and reflecting on participant observations with direct quotes. Finally, chapter five is a discussion of the overarching themes and sub themes that emerged from the data and will conclude the dissertation with recommendations for practice and identify limitations of the research.

# Chapter 2 Literature Review

This chapter highlights current research in the project management body of knowledge examining collaboration and collaborative behaviours. Many large operational organisations deliver capital projects as an integral part of their business strategy (Aldaghlas et al., 2020; Andersen et al., 2007; Anderson & Merna, 2005; Hadi et al., 2022; Musawir et al., 2017). In New Zealand, organisations such as Fonterra, New Zealand Transport Agency (NZTA), Watercare, and KiwiRail are known to deliver large capital projects as part of their overarching strategic objectives. The challenge these organisations face is the complex nature of interdependent teams working in a matrix, cross-functional environment and relying on intraorganisational collaboration, particularly for ensuring positive project delivery outcomes (Aubry et al., 2012; Connaughton & Collinge, 2021; Fellows & Liu, 2012).

First, I will introduce literature on the phenomenon of intraorganisational collaboration. Second, I will synthesise existing research and literature to identify gaps for further investigation. This review introduces the academic conversation around intraorganisational collaboration, particularly in the context of cross-functional teams and project delivery within operational organisations. In this review, I will demonstrate how this study contributes to the project management literature.

## 2.1 Operations organisations delivering capital projects

A capital infrastructure project involves the construction of a fixed asset, which means that the organisation must invest a significant amount of capital funding in delivering the project. Ensuring the successful outcome of a capital project is essential to achieve a return on the organisations' investment (Aldaghlas et al., 2020; Anderson & Merna, 2005; Roberts & Schermer, 2011). To achieve this, all the actors that work within and on project delivery for the organisation must have close alignment with operations, including aligning the strategic planning of both organisational groups (Anderson & Merna, 2005). When project delivery is misaligned with the organisations' overall strategic objectives, it introduces a significant risk to the business, with potential negative impacts on project timelines and budget, thereby impacting the organisation financially and reputationally (Yin et al., 2023).

These complex, matrix organisations are often described by academics and professionals as being heavily siloed. Yin et al., (2023) define the phenomenon of "siloed" organisations as those with standalone departments that do not communicate or share cross-functional knowledge. Each team works to optimise activities that contribute to departmental goals rather than those of the broader organisation. In their literature review of Project Management Offices (PMO) Hadi et al. (2022) found that the presence of silos leads to barriers in knowledge sharing and communication and creates an impediment to organisational development and progress.

Mohamed et al. (2004), in an earlier literature review, found that when project delivery is not directly linked to an individuals' primary role responsibilities, they will face the struggle of role duality, and the negative

impact of attempting to balance multiple competing tasks whilst meeting the demands of the project team. Yin et al. (2023) conducted mixed methods research of the construction industry that found high levels of internal competition exists between organisational departments and project teams when they experience a misalignment of goals. Yin et al found that when operations staff experience this tension it contributes to less-than-optimal performance and poorer project outcomes. Hence, I have identified that it is likely this tension could be a factor in the performance of capital infrastructure project delivery within an operational organisation in a New Zealand context.

Further to this Mohamed et al. (2004) identified the need for strong leadership behaviours at every hierarchical level, and deliberate planning to overcome this internal conflict. Recommending that organisations must create a culture whereby intraorganisational collaboration is considered part of business as usual and lauded as integral to its business. This indicates that both leadership and organisational culture are likely to be important considerations in capital infrastructure project delivery within an operational organisation.

### 2.1.1 Stakeholder relationships

Numerous project management scholars have identified project stakeholder relationships as the cause of issues and barriers faced when there is a lack of collaboration and alignment with both internal and external stakeholders (e.g., Aubry et al., 2012; Hadi et al., 2022; Matinheikki et al., 2019; Riis et al., 2019; Yin et al., 2023). In their research, Yin et al. (2023) state that the key to successful project outcomes is facilitating open and early collaboration with stakeholders, emphasising that early engagement allows cooperation and innovation between all stakeholders. This finding is supported by the Bond-Barnard et al., (2018) project management literature study that project success is directly linked to levels of trust and degrees of collaboration between all stakeholders. Further, in public infrastructure project case study Vosman et al. (2023) found that early engagement and establishment of relationships ensures better information sharing and provides the opportunity for early intervention when problems arise. Together these findings indicate that relational factors such as trust and engagement between stakeholders is likely to be an important aspect in the success or breakdown of collaboration in capital infrastructure project delivery within an operational organisation.

The project management literature was largely focused on external project stakeholder relationships, which appear to be the primary focus for research of collaboration and its importance in successful project delivery. There is a notable lack of literature addressing the phenomenon of collaboration between *internal* stakeholders. With many organisations delivering projects as a key part of their overall strategy, this knowledge is important for practice, and ensuring self-delivered projects achieve positive outcomes.

### 2.1.2 Aligning goals and strategies

When an organisation attempts to deliver projects that are misaligned with its overall strategic goals due to poor collaboration, it contributes to creating adversarial relationships between operations and project

delivery teams, and risks failure in both areas (Bjorvatn, 2021; Denicol et al., 2020; Yin et al., 2023). Ansari et al. (2015) highlight the importance of ensuring strategic goals are aligned across both sides of the business to ensure synergy and to achieve the organisations overall organisational goals. An example of a large, capital project failing due to misaligned strategies is the circa £36m HS2, (the UK's fast train project) investigated by Cooke, (2024). Their case study of this project revealed a direct link between the project's failures and misalignment of strategy, thereby creating an organisational culture characterised by competitiveness, narcissism, and hubris.

Alsudiri et al., (2012) conducted a case study of four telecommunication projects in Saudi Arabia, attributing the failure of all four projects to a lack of strategic organisational alignment. They further identified that the misalignment between project and organisational strategies was the result of poor communication and weak leadership. Supporting this finding, in a project management survey conducted by KPMG (2013) in New Zealand, it was found that of the organisations surveyed, more than 50% reported a misalignment between project objectives and their corporate strategy. In an interesting correlation 50% of respondents also confirmed that they had not "consistently achieved the intended project results". Together these studies demonstrate the importance of aligning project and organisational strategies and ensuring that these are communicated early and effectively at all levels.

Luo et. al (2006) researched organisational performance within technology firms investigated cross-functional organisational relationships. They found that organisations can benefit from a healthy combination of both, by the dual existence of cooperation and competition that occur between cross-functional teams, a concept the researchers have coined as "coopetition". In their study of cross-functional relationships that have the dual presence of competition and cooperation, Luo et. al., found that competition between colleagues from different business units within the same organisation often arises due a number of possible influences that include conflicting deadlines, priorities, resources and budgets. Yet despite the presence of competing priorities, the Luo et al. research confirmed that when organisations and their leaders develop strategies to bring these seemingly opposing forces together to create positive tension, they promote and engender high levels of intraorganisational collaboration that can lead to superior individual and organisational performance. Their findings demonstrate that identifying the driving forces for competition and cooperation is essential to unlocking operational excellence and achieving organisational goals in a complex matrix organisation. These findings are supported by more recent coopetition studies, with scholars examining the benefits and drawbacks that may be derived between (normally) competing entities. Overwhelmingly, it has been identified that when managed well, coopetition offers organisations advantage through innovation, knowledge and access to resources and capabilities that may not otherwise be possible (Benitez-Nuñez et al., 2025; Bouncken & Fredrich, 2025; Czakon et al., 2020).

### 2.1.3 Collaboration

Yin et al. (2023) identified in their review that multiple scholars confirmed intraorganisational collaboration has many benefits for project teams and contributes to better project outcomes. These benefits include better

integration and coordination between teams, more efficient decision-making within teams and by project leaders, and access to a greater quantity and quality of rich information. Their review shows that when silos are removed and cross-functional relationships are encouraged and prioritised, it ensures more effective coordination and provides the organisation with increased adaptability. Promoting and engendering positive intraorganisational collaboration allows organisations to harness the collective power of many, tapping into a broader pool of innovation and creativity, ultimately benefiting the organisation by leveraging knowledge and skills from across the business (Griffin, 1997; Mohamed et al., 2004; Yin et al., 2023).

Solis et al. (2013) studied healthcare construction organisations to examine the driving forces of high performing project teams. They found that high performing teams shared an organisations' values and goals, showed high levels of trust and transparent communication, and collaborated effectively with a shared knowledge of operational needs. They confirmed that of all the enablers, the key drivers of successful interorganisational collaboration were found to be trust and open communication. These findings echo previous research noted above, emphasising the importance of open communication and trust as key enablers for successful intraorganisational collaboration in organisations.

In their study of the impact of cross-functional relationships that have the dual presence of competition and cooperation, Luo et al., (2006) found that competition between colleagues from different business units within the same organisation often arises due a number of possible influences that include conflicting deadlines, priorities, resources and budgets. The Luo et al. (2006) study introduced earlier in this chapter, confirmed that despite competing priorities, when organisations and their leaders develop strategies to bring opposing forces together to create positive tension, they promote and engender high levels of intraorganisational collaboration that can lead to superior individual and organisational performance. I believe this demonstrates that identifying the driving forces for competition and cooperation is essential to unlocking operational excellence and achieving organisational goals in a complex matrix organisation.

## 2.2 Summary

My research of intraorganisational collaboration revealed synergies with these studies, however there was only a single study that examined cross-functional collaboration in capital projects (Yin et al., 2023), and this applied an external stakeholder collaboration lens. I believe the lack of research in the area of intraorganisational collaboration within operational organisations delivering large capital projects demonstrates that little is known about the enablers and barriers for collaborative behaviours between project delivery professionals and their operational peers within the same organisation.

This research focuses on intraorganisational collaboration within large, complex organisations that deliver capital projects, addressing the gap identified in the existing body of literature. It provides insights into both the barriers and enablers of effective intraorganisational collaboration at organisational and individual levels, within a complex matrix organisation that has operations as their business as usual whilst delivering high value capital projects.

# Chapter 3 Method

This chapter details the methodological approach for this study, examining the enablers and barriers to intraorganisational collaboration within complex operational organisation that delivers high value capital projects. First, I will introduce the methodological approach for this research, addressing the ontology, epistemological stance and research paradigm. Second, I will detail the research method and provide background on how this decision was influenced by my position as an Insider Researcher.

## 3.1 Methodology

Adopting an interpretivist paradigm I sought to understand existing knowledge, interpreting and developing shared meaning and building on this to develop new knowledge (Schwandt, 1994). As an Insider Researcher, I drew from a subjectivist epistemology, aiming to build an understanding of my colleague's experience of intraorganisational collaboration. This research is underpinned by a relativist ontology, based in the understanding multiple realities can exist among people, and these realities are fluid (Brannic & Coghlan, 2007). As the researcher in this paradigm, I am an integral part of the process of research and cannot be separated from the research or its outcomes (Brannic & Coghlan, 2007). This ontology aligns with the changing nature of the relationships and business conditions in the organisational context in which this study is conducted. It is influenced by the ever-change landscape of project delivery and the different roles and sensemaking of the actors within it.

This research is a qualitative study. In this study, as the researcher I take the perspective of an insider. Scholars of insider research acknowledge opposition to this research approach, and that it is often criticised as having a lack of academic rigor due to the inherent biases and subjectivity of the researcher (Brannic & Coghlan, 2007; Greene, 2014; Snellgrove & Punch, 2022). However, providing strong counter arguments and data from studies, they argue the benefit of being positioned inside the object of research and having access to rich, in-depth data (Aguilar et al., 2025; Brannic & Coghlan, 2007; Snellgrove & Punch, 2022; Unluer, 2012). Insider research is recognised as a branch of action research, it offers an important approach to practitioner research to ensure linkage between theory and praxis (Arar, 2018; Morales-Contreras et al., 2024).

An effective insider researcher must apply methodological reflexivity to address their relationship with the object being researched and ensure the researcher's conduct does not impact the object or setting of the research as a result of their study. To achieve this, insider researchers must adhere to proven protocols and procedures that are "demanded by the different research traditions" (Brannic & Coghlan, 2007).

I work in the capital projects team, delivering Crown-funded capital infrastructure projects for an operational organisation—the topic and focus of this research. It means as a researcher, I am working within the organisation I am studying, and in one of the roles that are within the scope of my research. My position and perspective as an insider researcher have influenced the design of my study, with a particular focus on the

relationship I have with the participants in the study. The work I do, and my internal relationships are essential to ensuring my organisation benefits from positive capital infrastructure project outcomes, hence I have a unique perspective on the lived experience of employees working within these project teams. Working in a capital projects team for an operational organisation, I have experiential knowledge related to the factors of successful project delivery. I recognise the need to acknowledge this, and I have introduced reflexivity practices to my research design. Through reflexive awareness, I can take my close knowledge of the research subject, reframing and articulating my colleagues' experiences with a theoretical lens (Brannic & Coghlan, 2007). Specifically, I did this by maintaining careful and conscious objectivity when reviewing the participant responses, whilst maintaining the ability to interpret industry-specific jargon and application for sense-making some of the stories and examples. My research supervisor provided oversight and feedback to identify when my personal experience was creating a blind spot in my analysis and interpretation of data.

### 3.1.1 Research Method

As stated earlier, a primary factor in developing the research design was my position as an insider researcher. My position had implications for this research's methodological integrity and ethical conduct. To ensure the credibility of the research findings as an insider researcher, and to separate my "role duality" (Brannic & Coghlan, 2007, p. 70), it was essential to ensure and communicate a very clear boundary between my roles of researcher and colleague to mitigate risks and ensure participant anonymity. The risks of power imbalance, coercion (perceived or real), and biases were removed by conducting the survey online, with explicit anonymity. Maintaining research participants' anonymity was a key consideration in developing the research protocol. This was also an important element of the research that required management as part of the research ethics requirements for the AUT Ethics Committee (AUTEC). Throughout the data analysis I remained conscious of my potential biases, analysing the data with an open mind and reflective practices to minimise the effect of personal bias on data, and my interpretation of the experiences and examples that participants shared (Unluer, 2012).

The study used the Critical Incident Technique (CIT) (Flanagan, 1954) because it is used to study the efficacy of functions by determining the enablers and barriers by collecting descriptive data from research participants; and using this data to determine key aspects of an event or undertaking. A key benefit of the CIT is that it is well suited to exploring what aids or impedes activities based on behaviours, which is the aim of this study and the research questions. Since its inception, CIT has evolved further and gained popularity as an "exploratory and investigative tool" (Butterfield et al., 2005, p. 475), with the intended outcome of understanding how people give meaning to their actions, thereby creating an opportunity that can empower individuals to take action that influences behaviour (Watkins et al., 2022). CIT has a seventy-year history of being used successfully with qualitative survey research and is one of the lasting techniques for collecting individual's retrospective accounts for the examination of human behaviours (Watkins et al., 2022). Over the years, CIT has evolved significantly, with many modifications and variations to bring it closer to a more

constructivist paradigm, focusing on individuals' “actions, thoughts and cognition” (Watkins et al., 2022, p. 710).

I chose to use a qualitative survey to ensure the anonymity of participants. Surveying participants to gather qualitative data is a recognised method that is particularly useful when the information is sensitive and anonymity is critical (Braun et al., 2021). Online surveys allow further accessibility to research participants, reaching those that are based in different geographical locations and providing flexibility for participants to respond in their own place and time. Online surveys provide access to research participants’ perceptions and how they interpret their experience of events (Hua, 2016). Online surveys also provide the opportunity to reach participants and gather data from those who might otherwise decline a face-to-face interview (Braun et al., 2021).

In this study, I collected cases and examples of the experiences and opinions of my project management colleagues. An online survey offered several key benefits, beyond removing the ethical risks. First, for participants, an online survey provides flexibility, it gives respondents a high level of freedom to respond to questions how, when and where they want to (Braun et al., 2017). Second, the anonymity offered by online surveys is important when gathering sensitive information in research, and has been successfully applied in a large range of research settings, including health, appearance, women’s issues, same-sex couples’ issues, gender issues, mental health etc. (Braun et al., 2021; Hazell & Berry, 2022). Power relations and the importance of anonymity to encourage openness and freedom to express opinions were identified as key ethical considerations for me as an insider researcher. These influenced the design of the research, with the online survey allowing me to remove these ethical risks.

### 3.1.2 Research ethics

Permission was gained from my organisations’ senior leadership to conduct the research with my colleagues within the organisation. I felt that as an insider researcher, it was important to conduct a thorough risk review and assure the organisation that there would no harm or impact to the business or participants (employees). A critical step was to demonstrate to the senior leadership of the organisation, the careful design of the research to protect and ensure the safety and anonymity of all parties. With organisational permission granted, an application was made to the Auckland University of Technology Ethics Committee (AUTEC). The application was accompanied by a copy of the Participant Information Sheet and full survey (Appendix A & B). Permission to progress with the research project was granted by AUTEC on 15 May, 2024 (Appendix C).

### 3.1.3 Survey design

Qualtrics was selected as the data collection tool for this study, as it is commonly used in organisational research (Baker, 2013; Young, 2015). In addition, Qualtrics is provided as the preferred qualitative research tool by Auckland University of Technology.

The survey collected basic demographic data including gender (male, female, non-binary/third gender, prefer not to say), education level (some high school, completed high school, undergraduate diploma or certificate, Bachelor's Degree, Master's Degree, Ph.D. or higher, trade school, post graduate industry certification), and participant's years of experience in project management (Table 3.1). These demographic data were carefully determined to maintain participant anonymity (Braun et al., 2021).

With CIT guiding the style and nature of the research questions, participants were asked to provide two examples of critical incidents: one positive and one negative, with additional questions to encourage deeper thinking. Open text boxes were provided to the participants to encourage them to write as much as they wanted to. The full survey is included in Appendix B.

The survey participants were asked to write about their experiences and to provide specific examples and stories in response the survey questions that talked about:

*Positive example*: Describe a time when you felt that collaboration between the project delivery teams, and the operations teams worked well. Explain how the incident(s) began, what contributed to its success and how and why this type of collaboration impacted outcomes for this part of the project.

*Enablers*: Based on your experience, what do you think are the key enablers to positive collaboration between project delivery teams and operations teams working in the one organisation?

*Negative example*: Describe a time when you felt that collaboration between the project delivery teams, and the operations teams didn't go smoothly. Explain how the incident(s) began, what contributed to its failure and how and why this type of collaboration effected the outcomes of this part of the project.

*Barriers*: Based on your experience, what do you think are the key barriers to positive collaboration between project delivery teams and operations teams working in the one organisation?

*Improvements*: Based on your experience, please explain how do you think cross team collaboration can be improved in large capital projects?

The research participants accessed the survey via a link shared through an anonymised email from an independent team administrator. A consideration for the survey design was allowing time for it to be completed without conveying urgency or a sense of (time) pressure. Participants were able to access the survey at any time, from any place and could exit and return to the survey as needed. I found that by allowing ample time (four weeks) for participants to complete the survey, a sufficient number of research participants responded in the allotted time, and sending reminders or 'nudges' was unnecessary. The fields for each question were set to require a minimum 100-word-count response and could not be skipped to provide some assurance of rich data. I limited the number of questions to avoid creating participant survey fatigue (Braun et al., 2021), however, there was no time or maximum word limit placed on the length of the

participant answers. This allowed respondents the flexibility to provide either brief, or more detailed storytelling in their response.

### 3.1.4 Data collection

Data collection was conducted via an anonymised Qualtrics software online survey. Participants were recruited via posts made on an organisational Microsoft Teams chat site. This chat site includes over 100 people from the projects teams. I uploaded a recruitment poster (Appendix D) which included a brief summary of the study. I also emailed senior managers outside my immediate team, to share the link with their teams. This ensured that I had no knowledge of who participated in the research, as they accessed the survey link independently.

The online survey included a Participant Information Sheet (Appendix A) to inform consent, and upon consent being agreed, participants moved to a small number of demographic questions and the survey itself (Appendix B). Following the demographic questions, participants were asked to share stories and anecdotes of their experience(s) and finally, their perception on what is needed on how to improve intraorganisational collaboration. Notification of this study reached more than 100 potential participants, with twenty respondents participating in the survey.

Within the online survey, the questions applied the CIT by asking participants to share both positive and negative examples of collaboration, through stories of their lived experiences (Flanagan, 1954; Viergever, 2019).

### 3.1.5 Participants

As detailed above, in total 20 participants completed the full survey. The respondents were overwhelmingly male (male n=17, female n= 3). The highest representation came from respondents having more than 12 years' experience, and eight respondents falling within the early to mid-career category with 0-11 years' experience.

Three respondents indicated that they had a Certificate or Diploma qualification, nine were educated to bachelor's degree level, and eight possessed a post graduate qualification (Master's). The full demographic data of all 20 participants is detailed below (Table 1).

The freeform style of the answer boxes provided in the survey format, allowed for unrestricted storytelling and sharing of experiences. The participant responses showed good engagement and allowed for rich data to support the intended outcomes of this study.

Of the twenty respondents, 9 filled out the second survey to go into the draw for a coffee card. The coffee card survey was created solely for the purpose of offering incentive and reward for interested participants. The second survey is not linked to the main survey data and maintains protection of anonymity to the main survey data.

**Table 3.1**

*Demographic data*

| Category | Values | n= |
|---|---|---|
| **Gender** | Male | 17 |
| | Female | 3 |
| **Education** | Undergraduate Diploma or Certificate | 3 |
| | Bachelor's Degree | 9 |
| | Master's Degree | 8 |
| **Experience** | 0-5 years | 3 |
| | 6-11 years | 6 |
| | 12-17 years | 1 |
| | 18-23 years | 3 |
| | 24-29 years | 4 |
| | 30 years plus | 3 |
| **Seniority** | Project support | 6 |
| | Project delivery | 6 |
| | Project leadership | 6 |
| | Other | 2 |

### 3.1.6 Data Analysis

The main method underpinning qualitative analysis that many researchers follow is the thematic analysis technique (Braun et al., 2023; Braun & Clarke, 2021a, 2021b; Shortland & Perkins, 2022; Watkins et al., 2022). This technique provides a step-by-step process that allows large amounts of data to be filtered and grouped into identifiable themes. In this research project, I needed to maintain an awareness of being an insider researcher and mindfully step through the recognised phases.

Analysis was performed in five phases. However, before analysis of the data could begin, the first critical step was to redact any references in the data that might reveal the identity of an individual or organisation. The raw data was then saved in a separate, password-protected file. The five phases of analysis that followed are detailed in the table below.

**Table 3.2**

*Phases of thematic analysis*

| | |
|---|---|
| 1. Data familiarisation | The first phase and reading of the participant responses |
| 2. Coding | This second phase introduces manual, open coding |
| 3. Initial theme generation | Synergies identified and initial theme generation |
| 4. Reviewing and developing themes | Further review of the initial themes to identify clusters and patterns of shared meaning |

| | |
|---|---|
| 5. Refining themes | Interrogate themes from step four, produce network diagram and identify final themes for discussion |

(Braun et al., 2023)

## 3.2 Coding

### 3.2.1 Data familiarisation

The first phase of the coding process was data familiarisation. I initially read the survey responses as they came in, and once the survey closed I conducted a thorough read through of all the raw data together. In this first phase, as mentioned above, I saved the survey responses to Excel and redacted potentially confidential information. I saved the raw data in a password protected file and the ongoing coding was conducted with the redacted file. I progressed with reading the responses twice more, becoming more familiar with the survey responses, before commencing phase two, Coding (Braun et al., 2023; Gray, 2014)).

### 3.2.2 Initial coding

In the second phase the data was manually coded, focusing on all the meaningful data, using Open Coding. This phase is the first step to identifying initial codes across the entire dataset. I also began highlighting interesting anecdotes that could be used as quotes, and for providing context in the research findings. Phase two identified twenty-three initial codes.

### 3.2.3 Initial theme generation

Once manually coded, in the third phase of the analysis I identified synergies within the different stories and examples and generated initial themes. With twenty-three initial codes, the data was reviewed to identify emerging themes. The codes were grouped together without too much interrogation, but rather, based on recurring patterns. The analytic patterns and overarching themes linked well to the survey questions and broadly sat under positive and negative. While grouping the themes in this way felt rigid and very much a deductive-led approach, I was conscious to follow a more hybrid approach, allowing abductive-led theme generation to enter into the next phase of thematic analysis (DeJonckheere et al., 2024).

### 3.2.4 Reviewing and developing themes

Reviewing and developing themes in phase four helped reduce the volume of data and allowed the story of the data to emerge. Further, whilst the initial thematic analysis had a hybrid, albeit somewhat deductive approach, this phase introduced an abductive lens to the data interrogation, giving to new and emerging patterns.

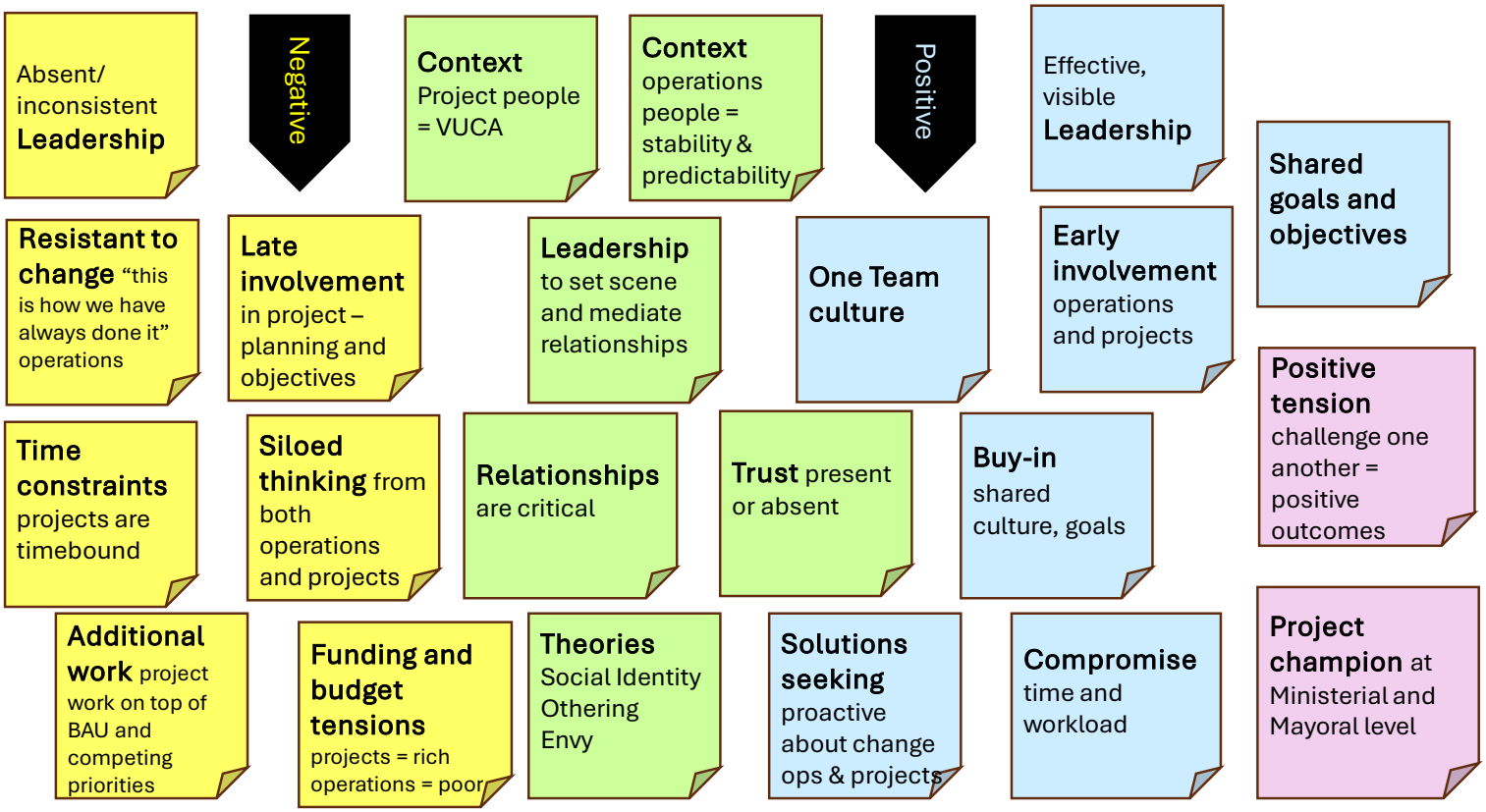
### 3.2.5 Refining and defining themes

As the key themes unfolded (Bager-Charleson & McBeath, 2022; Creswell & Poth, 2018), I commenced phase 5. Phase five involved further reflection and analysis for “refining, defining and naming themes” to

produce the final themes and labels in Table 3.2, below (Braun & Clarke, 2021a). At this stage, my research supervisor challenged the process I had followed and the themes themselves. In response, together we created a network diagram (see Figure 3.1), allowing an inductive approach to allow the data to tell the story. The final themes are discussed in detail in Chapter 5.

**Figure 3.1**

*Network Diagram*



# Chapter 4 Findings

In this chapter first, the themes identified in the negative cases are presented; second, positive case themes are presented. Finally, the overarching themes identified from the full analysis are presented. Quotes from the survey participants are used throughout the chapter to illustrate the themes.

The participants provided written examples of times when collaboration was absent (negative cases) and when collaboration was successful (positive cases). Their cases provide insights into the *barriers and enablers* of collaboration between project and operations teams, and specifically how project management professionals perceive the impact this has on joint activities, project outcomes, and achieving overall organisational goals and strategy.

This quote from Participant 16 sums up the many key factors participants identified as needed to foster positive intraorganisational collaboration.

> Clearly defined requirements from all involved stakeholders, project management plans and agreement by all stakeholders, RACI agreed, clarity of drivers, outcomes, priorities, risks and opportunities well defined and managed, having a joint defined strategy agreed and visible to all parties, senior stakeholder leadership and sponsorship, joint forums and governance, inclusion and respect by all parties to achieve the objectives for the wider good. Visibility, communications, respect and cross functional teams are key (Participant 16).

The themes identified from the thematic analysis of negative and positive cases are summarised in Table 4.1 below. The full set of emergent themes were analysed for commonalities, from this analysis the overarching themes of leadership, trust, and relationships became evident across the data. Specifically, comments regarding the absence of these three factors were related in negative cases and presence of these factors was a feature of the positive cases.

**Table 4.1**

*Themes identified through thematic analysis*

| Negative sub-themes | Positive sub-themes | Domain | Overarching themes |
|---|---|---|---|
| Siloed thinking<br>Funding<br>Budget constraints<br>Lack of shared vision<br>Lack of shared goals | Breaking down silos<br>Compromise<br>Shared goals | Organisational and structural | Leadership<br>Trust<br>Relationships |
| Poor planning<br>Time constraints<br>Additional work | Planning and coordinating<br>Early involvement | Process and operational | |
| Resistance to change | Embrace change<br>New ways of working | Cultural and behavioural | |

## 4.1 Themes from analysis of negative cases

The research participants shared examples of experiences working in an environment that they perceived as being negatively influenced by poor collaboration between projects and operations teams, leading to a negative impact on project outcomes. Evidence supporting the themes that evolved from the examples is detailed below.

### 4.1.1 Negative organisational and structural influences themes

**Siloed thinking**

The participants commonly mentioned "siloed thinking" as a barrier to intraorganisational collaboration. Notably, the blame for "siloed thinking" was directed at both the operational and project teams. I have interpreted this to mean when a project team works in isolation of other teams – meaning in its "silo", and their colleagues in operations teams similarly work in the isolation of their own "silo"; thus, teams working in isolation from one another. Williams et al., (2012) identify "siloed thinking" as a situation that occurs when different functions within an organisation pursue their own objectives without considering the impact this may have on other teams and functions.

The participants used the term "siloed thinking" to explain a dynamic that they perceive is preventing the development of relationships, leading to failure in communication, and resulting in the extinction of any potential for effective intraorganisational collaboration. The participants indicate that they believe that organisations suffer when "siloed thinking" leads to misunderstandings and blocks the opportunity to exchange intelligence, ideas, and solutions. In this first quote Participant 10 highlights the impacts of a project team that works in a "siloed" way.

> Project delivery teams often work in a siloed way, ringfenced away from operational teams this comes down to structural problems – teams are not set up to allow cross pollination of ideas and working. (Participant 10).

In these two additional quotes from Participants 15 and 17, they apply the concept of "silos" to both project teams and operational teams – working in their own silos to achieve their own goals.

> Working in silos, driving for selfish outcomes without considering the wider good and implications, lack of a visible integrated plan, lack of communications, poor culture and leadership, poor or no governance structures, lack of understanding of implications and wider business requirements (Participant 15).

> Operating in silos. Avoiding relationships and/or networking in deference to performance and productivity (Participant 17).

There were other examples of "siloed thinking" in the negative stories, however the participants did not use the term "siloed". For example, Participant 7, referred to "internal focus" and a lack of communication between the two teams, this signaled my understanding of silos.

> When a project was under time and financial pressure, they started for focus internally on themselves and that cut off the communication lines with the operations teams. Previously there were 'commercial skirmishes' between the project and the operations teams which started to erode trust.

> These gradually eroded the collaboration without anybody seeing it until it needed a reset and very strong leadership and support.

> Another example of when a project demanded resources, the operations teams did not respond well to this. The operations teams could not see the benefits for them so deprioritised the request (Participant 7).

The participant examples in this theme align with my interpretation of "siloed thinking"; teams working in isolation from one another. The participants indicated that based on their experiences they had a perception that "siloed thinking" directly impacts relationships and collaboration. The common theme in these negative cases stemmed from project and operations teams working in isolation, without effective communication or understanding of each other's objectives. The perception of the project management professionals surveyed, is that this lack of communication and knowledge contributes to distrust, the erosion of relationships, and inhibits both teams' ability to collaborate effectively.

Organisational performance is (negatively) impacted, and projects perform poorly when organisations are heavily siloed, with silos creating an unnecessary division between departments and functions, creating barriers and a disconnection that impedes communication. The negative forces created by siloed thinking are well supported by academic literature (Andersen et al., 2007; Bento et al., 2020; Bjorvatn, 2021; Casciaro et al., 2019; Hadi et al., 2022; Nakata & Im, 2010; Senescu et al., 2013; Williams et al., 2012; Yin et al., 2023).

**Funding and budget constraints**

Many participants commented that there was an inequity perception of a divide between the haves—project team, and the have-nots—operations team. Some participants reported feeling that the negative attitudes of their operations colleagues were due to the operations team perceiving that the funded capital project teams were affluent compared to their operational colleagues who worked in a non-funded, profit-driven environment. Participants reported feeling that this perceived disparity was a cause of tension between the two groups. The quote below from Participant 1 illustrates that project employees may feel that their operations colleagues were envious of the perceived affluence of the project team, and the participant considered this tension to be a barrier to intraorganisational collaboration.

> Differing financial incentives, i.e. different funding streams, in my case we have millions of dollars, so it is perceived we are "wealthy" whereas operations are "running on the smell of an oily rag" (Participant 1).

Based on my experience as an insider to this research, I interpret these comments as relating to the New Zealand context where significant infrastructure projects such as roads, railways, and water infrastructure are often enabled by the Crown and other publicly funded entities, contributing substantial funding envelopes to organisations to deliver capital projects (assets). The funding amount is based on business cases that outline the project scope and are often years in the making. Once funding is allocated, the project team must deliver the agreed scope and achieve key milestones - and the funding must be spent. Conversely, the operational side of the business must function and rely solely on the profitability of the organisation. Profits are often achieved by reducing expenditure and cutting costs. The tensions reported by the research participants has likely arisen from the funding (of projects) versus no funding (of operations) divide. I have interpreted this as an example of social comparison (Festinger, 1954) and it could possibly indicate the participants feel they are the target of envy from their operations colleagues (Suls & Wills, 2024).

The participants provided many examples demonstrating that when large infrastructure projects are being delivered through an operational organisation, and tensions between the operations and project teams develop. Participants linked some tensions to the affordability of (people) resources, remuneration differences, and the ability to afford basic benefits such as catering. Reinforcing my interpretation that negative social comparisons influence behavior and impact relationships. These quotes from Participant 5 illustrate this:

> Different cultures are the second barrier to positive collaboration. The operations teams have been under decades of underfunding and any money was spent to keep the network alive like there was no tomorrow. In contrast the project was 'flushed' with funding and were on a different journey but had strict financials and management controls in place. It took time for both cultures to understand and acknowledge each other and slowly morph into a 'together we will be better' (Participant 5).

> At the dawn of the [redacted] project, a key risk was the ability of a previously under-funded organisation (including the operations teams) to help the Programme deliver capital project activities that have not been delivered for about 10 years. The culture, strategy and

> thinking were about day to day and there was no additional funding available to step up the resource levels (Participant 5).

The stories shared by the participants suggested that the project delivery teams often found themselves in conflict with their operational colleagues due to their contrasting priorities and significant differences in financial resourcing for their business areas, as illustrated in the quote from Participant 6:

> A recent time when this occurred when planning travel for operational staff to travel to [redacted] for one of our large projects. In the project world we understand that we have a budget/governance of funds and have to be reasonable as we often get questioned regarding spending by our funder. The operational staff (one in particular) was insistent that he and the team get flown Business Class, however, the company policy stated that Premium Economy was the class of travel, and any Business Class travel was to be explicitly approved by the CEO. This was not something we were prepared to do, and the individual became really frustrated that the project wouldn't just pay the extra (Participant 6).

The research participants discussed the tensions created by being conversely "rich" and "poor", noting that these attitudes significantly impacted intraorganisational collaboration and contributed to the erosion of trust. A possible explanation for this is "negative plurality" (Dille et al., 2018) that occurs between stakeholders when they find themselves in opposition, due to budget and other constraints (Flyvbjerg et al., 2009). The effect of this tension appears to impact trust and relationships. Despite their apparent wealth, projects with Crown funding are subject to stringent governance requirements. They must uphold strict fiduciary obligations and demonstrate that all spending is carefully managed, accountable, and supported by auditable evidence. However, operations teams may not always understand these requirements and perceive that the funding can be more easily spent. This disconnect could create frustrations between the two groups, particularly when these misunderstandings exist. These attitudes are another example of envy, perceived or real, due to the perceived wealth inequity between the teams.

**Lack of shared vision and lack of shared goals**

Participants shared their experiences when they observed a disconnect between project and operations teams due to a lack of shared vision. Their accounts suggest that having a gap in understanding between project goals and the organisation's overall objectives can lead to a division between the two groups. This was similar to the attribution of the communication breakdown that occurs with "siloed thinking", as discussed earlier. Having shared goals and objectives is perceived by some participants as the key to pulling the project and operations teams together. With shared interests, the groups are more inclined to develop a joint approach to working together and achieving success together. When the teams have an individualistic approach to goals and objectives, barriers to success are raised and opportunities missed. I provide a quote from Participant 15 that gives insight into the impact a lack of shared vision and shared goals can have on outcomes.

> Shortly after the initial reopening of [redacted] there were further disruptions due to weather and other factors. The result was a period when [redacted] operations were very disrupted with customer impacts and [redacted] impacts… This came down to a lack of full understanding of each other's interests and objectives and the different perspectives of each

> group in spite of best efforts, they had not been fully communicated and incorrect assumptions had been made (Participant 15).

Working towards a single goal without understanding whether this aligns with the other working group, e.g. projects versus operations, allows room for (incorrect) assumptions and has the potential to negatively affect the organisation and its customers. Another theme that has become evident from the data is poor planning, this is discussed below. Poor (integrated) planning is more likely to occur when teams do not work jointly towards a shared vision, and shared goal.

### 4.1.2 Negative process and operational influences themes

**Poor planning, time constraints and additional work**

Participants spoke of the tensions between working groups when resources are constrained due to poor planning, and unplanned or additional work that can burden both sides, projects and operations. The participants provided examples of how they perceived additional, unplanned work that often has a negative impact on time, money, and manpower demands. The quote from Participant 7 highlights the importance of planning and the burden created when work is not effectively planned between the two groups;

> In constructing a new [redacted], you need to do some enabling works on the existing [redacted] where the new [redacted] will connect. In doing this, the project delivery team needs to coordinate with the operations to have access to the existing [redacted]. The main factor to the success is proper planning and continuous coordination. The main barrier is the additional work. Aside from their usual work, they need to spend time and resources in coordinating and communicating with other parties just to get the job done (Participant 7).

Some participants highlighted that project work often comes in addition to the operational team members' operational responsibilities. When additional project work is unplanned or the result of late planning it negatively impacts their operational colleagues, creating a perception that the extra work may have been avoidable if it had been planned properly. The quotes from Participants 10 and 15 illustrate this point;

> Operational teams have a day job to get on with - project work is often on top of their usual workload (Participant 10).

> Some of this was due to "bad luck" but underlying was a lack of understanding and contingency planning for disruption both on the [redacted] but also for impacts on the wider [redacted] logistics. With hindsight these issues were largely foreseeable but had not been adequately planned (Participant 15).

A contrasting perspective provided by some participants was the negative impact on project teams through lost time, increased costs, and in some cases compromised safety. The following quote from Participant 1 provides a good example of when things go wrong due to poor planning;

> Our project set up key safety measures to enable our works. A time occurred when the maintenance team came through the site, without fore-warning, and did away with all our

> safety devices, simply because they were in their way. This resulted in significant down time for them, to remove all our devices, and also a significant loss of time and money to the project, as when we turned up onsite no one could work, because the safety devices were not in place. Had collaboration occurred, we could have planned in assisting and not have the devices in place prior to their works, and also had contingency measures to reinstate. Failure to be open to collaborate and talk cost tens of thousands of dollars in loss to the project, not to mention the frustration, and time loss (Participant 1).

Similarly, this anecdote from Participant 16 demonstrates how a lack of planning, "siloed working" and insufficient communication has contributed to a negative impact on the project;

> A key piece of infrastructure had been planned for months to be implemented over an agreed access window. These capital works were complex and involved many parties across the business and followed all internal processes. However, at the final stage of planning in preparation for the works to commence, it was determined during a site visit that the operations team had another contractor investigating to do a repair of storm damage at the same location, during the same period. This put the delivery of the capital works at risk, due to this conflict. It quickly became apparent that the storm damage works were not visible to the project team, and an integrated plan had to be put in place, hence the capital works were deferred. This was as a result of not all works being planned by operations were visible and approved within the existing processes, and this was remedied. (Participant 16).

This shorter quote from Participant 13 illustrates a common perception of the participants of the direct link between poor planning and communication compromising successful project outcomes;

> When the planning and co-ordination are compromised by the operations team, then collaboration doesn't go smoothly. This leads to reduced project efficiency, compromised quality of work and dissatisfaction arises with the client (Participant 13).

Based on my experience in capital project delivery, I believe when planning and coordination are impacted, it may also introduce reputational risk. If a project is delivered late and/or over budget, it is a negative outcome for the project and the organisation overall, and it can undermine the confidence funders have in the organisation. Another consideration is that despite the perception of wealth, the funding is limited to a fixed sum. If the project runs over budget, that introduces significant financial pressure to the organisation delivering the project.

The participants' stories demonstrate a perception that additional and unexpected work creates a project risk and an additional burden that negatively impacts both teams' workload, the organisation and its customers. The participants indicate they perceive the failure as the direct result of poor or late planning that can be attributed to both sides. Having a shared vision and shared outcomes would mitigate the lack of collaboration that leads to poor planning as Participant 13 suggests above. This finding is consistent with project management studies that examine the importance of early stakeholder involvement and planning to avoid the negative impact of increased risk, work (scope), time and money, and rather, enable positive interorganisational collaboration and project success (Yin et al., 2023).

### 4.1.3 Negative cultural and behavioural influences

**Resistance to change**

This theme pulls together comments that the research participants made regarding their perceptions of how their colleagues in operations react to the constant change and chaos that is a core aspect of project delivery. Several participants identified this resistance to change as a major barrier between operations and project teams. This is illustrated in the quotes from Participants 3, 8 and 9;

> Again, during the flood recovery one of the largest blocks was access, particularly to [redacted]. Operations were initially very resistant to becoming agile and providing resources. This had the effect of delays in reopening [redacted] for [redacted] services as we were unable to [redacted] to inspect and release sites. A barrier is the "this is the way we [operations] have always done it" thinking and being resistant to change (Participant 3).

> Key barriers are often stagnant thinking of operations teams that worked within same conditions for decades. Change is often too painful. (Participant 8).

> My experience of it not going smoothly were hostility from older staff to new technology and the perception that they were not going to be able to operate the new systems. This led to some very experienced staff members leaving or retiring when it was not required, as the training would have been provided. People are fearful of change and if the change is not well communicated it will lead to people filling in the gaps or miscommunicating change to suit their agenda (Participant 9).

From my perspective as an insider, operational environments have a high level of predictability, each day offers a degree of certainty and business as usual (BAU) with only low to moderate levels of volatility. Conversely, project delivery is a typically volatile, unpredictable, chaotic and ambiguous (VUCA) environment (Luis de Moura et al., 2023). People working in a project environment must think on their feet and pivot to deal with the unexpected on a regular basis. I have witnessed that the fast-paced, agile nature of project delivery work is best suited to those that thrive in VUCA conditions. The anecdotes provided by the research participants above, suggest that when their operations colleagues are thrust into the VUCA environment of projects, some find it extremely unsettling, to the extent that they will leave the organisation. The participants suggest that more effective communication and intraorganisational collaboration may prevent this.

## 4.2 Enablers And Positive Examples

### 4.2.1 Positive organisational and structural influences

**Breaking down silos and compromise**

A common theme in the positive cases was around breaking down the barriers created by silos, and how compromising behaviours are important factors in enabling successful intraorganisational collaboration. Participant 1 highlighted the effectiveness and impact of removing silos and seeking compromise, as illustrated in this quote;

> We agreed that the project team would simply get on with the job at hand, minimising disruption, and preventing organisational loss… [this] broke further barriers down to mean that they now reach out to the project team in times of need, breakdown further silos (Participant 1).

Participants also provided examples of the factors they perceive as being important in breaking down silos and positively influencing intraorganisational collaborative behaviour, with compromise being key to ensuring greater productivity and organisational success. This is illustrated in the quote from Participant 2;

> On a large-scale project where there are different delivery partners, interfacing with them is inevitable. Everyone has their own agenda and goal; in order to achieve it, one must be willing to compromise. Sometimes you cannot get your way in because of several restrictions. The only way to do it is to coordinate and plan your activities together with other parties. In that way, everyone can do their business without disturbing or delaying others (Participant 2).

The examples show that communication, planning and relationships are essential to achieving compromise and enabling the removal of siloed thinking. Additionally, having a common goal is one simple step according to the quote from Participant 3;

> Remove the silos, even between different large capital project work streams. Set a common goal, which in our case is to improve customer experience. If we all focus on that goal, then we can work together (Participant 3).

There was also a suggestion that to achieve compromise, colleagues can start by working to understand their colleague's job, as Participant 3 explains;

> The right people with no preconceived ideas. Understanding what constraints other parties have. The ethos of "I don't need to understand how to your job, but I need to understand what your job is" (Participant 3).

The participant responses show that they have a good understanding of the advantages to be gained by removing silos and embracing compromise. Their responses demonstrate a genuine belief that these factors contribute to positive outcomes. They share the positive impact it has on relationships, achieving personal and organisational goals, and going even further to positively impact the "customer".

My interpretation of the comments is that without the presence of silos, or "siloed thinking" channels of communication are opened. This enables the exchange of information, and fosters collaboration, where all actors can share their knowledge, asking questions of their colleagues and seeking solutions across all areas across the business. This finding reinforces the broader understanding that breaking down silos and fostering intraorganisational collaboration enhances the exchange of a greater quality and quantity of information, improving coordination and increasing an organisations adaptability (Yin et al., 2023).

**Shared goals**

The shared goals theme also includes comments about shared objectives, "one team culture" and "buy-in" due to their close alignment and how the research participants used these terms. A number of the participants

communicated that they believed that shared goals and objectives lead to “buy-in”, which in turn helps to cultivate a “one team” culture. The quote from Participant 1 describes their perceived importance of shared goals;

> Talking to one another, understanding each other’s goals, having clearly defined goals. When you can understand and respect individuals’ goals and be empathetic to those goals you can be more open. i.e. operations may simply be about keeping [redacted] moving, whereas the project is simply about doing as much as possible in the shortest amount of time. If we understand and articulate individuals’ goals, we can collectively come to a common ground instead of battling to protect it all the time. A willingness and openness irrespective of personal goals and aspirations. A willingness to understand that what goes around comes around (Participant 1).

Some other participants built on this further adding the importance of shared strategic goals a unifying force, as this quote from Participant 12 illustrates;

> Align project goals with operational objectives. Both teams should have a clear understanding of how the project's success contributes to the organisation's overall strategic goals (Participant 12).

The participant responses indicate that when teams have buy-in to the organisations’ goals and objectives, they become invested in the work and actively seek successful outcomes. From the examples participants provided, this creates an environment where colleagues willingly come together to serve the greater good. Seemingly, when this level of buy-in and an “all for one and one for all” ethos exists, individuals seek an understanding of their colleagues’ role, and the part they play in the bigger engine to achieve organisational success. This attitude sets the foundations for positive intraorganisational collaboration. These quotes from Participants 10, 17 and 21 bring together examples of the positive influence of “buy-in” to the team culture and how it contributes success;

> Operations brought real-world credibility to the solutions being designed as part of a bid-back process. A project team which included people with operations experience. Collaboration worked and ensured the operations team, who would inherit the contract to manage, had buy-in to the outcome (Participant 10).

> Everyone had a part to play, irrespective of role, and understood their part of the picture and how this led to success. This project was successful because "everybody" brought into the outcome (Participant 17).

> Defining what’s in it for me for the projects team members from following the control documentation requirements gives a whole of life impact of every decision before it happens (Participant 21).

As an insider, I share similar views to the participants. I have been witness to the benefits of shared goals and team buy-in. The broader the buy-in, the more benefits for the project and the organisation can be realised. In addition, teams are more willing to work together and support one another when they feel they are contributing to the same shared goals to drive success. The examples provided from participants also align

with the Solis et al., (2013) study of high performing teams that found successful intraorganisational collaboration is underpinned by organisations whose teams have shared values and goals.

### 4.2.2 Positive process and operational influences

**Planning and coordinating, and early involvement**

Many of the research participants shared that early involvement in planning and coordinating project works with their operations colleagues was an important key to success. These themes are also closely linked to the earlier theme of shared goals. Participants 9, 10 and 12 explain what they mean by early, clear communication and the benefit this brings;

> Early, clear communication of what the aims and goals of the project are and how the project will affect the different parts of the operational working environment (Participant 9).

> Being clear even at the very early stages what the project delivery and handover process looks like, define what the operations team will need, when operations will need to start being involved, allowing for some continuity of project beyond the commissioning date. Early co-design or similar approach to build the shared vision, develop trust and familiarity with the teams (Participant 10).

> The [redacted] one client practice is successful collaboration between the [redacted] delivery teams and operations teams. It was driven by early involvement, clear communication, mutual respect for expertise, and a shared commitment to achieving project goals. This type of collaboration not only ensured a successful project implementation but also laid the foundation for continued cooperation and innovation in future endeavours. Early and Continuous Engagement: Involve operations teams from the outset of the project (Participant 12).

Participants 15 and 17 share their view of the benefits achieved through collaboration, linking it to early planning and engagement;

> A collaboration between the project team and the [redacted] operational teams was needed to establish a safe, practical, and efficient plan for construction and operations to co-exist. Success factors included early establishment of a project/operations forum to manage the process (Participant 15).

> There was no time for planning past the start. Every task, all the integrated moves, contingency and mitigations needed to be precisely understood by all. Months of planning, bringing the influencers together, getting everyone to share resources and leaving egos at home led to success (Participant 17).

> Early involvement. Take them on the planning journey. Make them part of the solution rather than a participant in the outcome (Participant 17).

The examples demonstrate the participants' experience that establishing early communication and working groups provides the opportunity to build relationships, develop integrated planning, establish processes, communicate goals and identify opportunities and risks. This early foundation paves the way for the project

and overall organisational success. The examples above demonstrate that as with an elite ballet performance, a project is carefully choreographed, with each actor having a specific responsibility, to be provided at exactly the right time. I have interpreted the volume of responses that touch on these themes as a sign of their perceived criticality in leading to successful intraorganisational collaboration. Setting expectations and rules of engagement early in the lifecycle of a project makes considerable sense. A lot of the literature I encountered examined the importance of early involvement with external stakeholders (Chen & Manley, 2014; Connaughton & Collinge, 2021; Hällström, 2024; Williams et al., 2012; Yin et al., 2023), however very few researched early engagement among internal stakeholders. I found it interesting that nonetheless, the same approach holds true. When reading the experiences and examples provided by the participants, it demonstrates that early involvement for any stakeholder relationship helps to establish a positive direction from the very beginning. I have formed this view based on the many examples provided by the participants and my own experience.

When introduced at the beginning of a project, as one of the first steps in establishing an integrated team where project professionals and their operations colleagues come together, the participant evidence suggests it sets the basis for positive intraorganisational collaboration and success.

### 4.2.3 Positive cultural and behavioural influences

**Embrace change and new ways of working**

The participant responses show that when operations people participate in the project space, embracing the change from their normal day-to-day role, they are able to offer the projects the benefit of their knowledge and experience. The examples demonstrate that by sharing their knowledge, operations professionals are able to influence the final outcome of a project and smooth the handover from project delivery to operational asset. This ensures better operability of the asset, e.g. railway line(s), new hospitals, new wastewater systems that are built by a project team and handed over as an asset for operations. Learning new ways of working through collaboration with the project team can also help broaden operations teams' skills and provide an opportunity for development and progression.

Participant 5 considered the change presented by project teams as an opportunity;

> Coming into the [project] offered many employees the opportunity to step up in their career (Participant 5).

While Participant 6 emphasised the benefits of working with team members who were willing to try new techniques and technologies;

> A key enabler is having project members that can embrace change and adopt new technologies, methods, ways of working and ways of delivering projects that aren't the traditional "here's some paperwork and a stack of drawings to review" (Participant 6).

Observing team members who embraced change and others who resisted, Participant 9 shared;

> I was an engineer for the operation during the project to bring new [redacted. There were mixed interactions with the operational team during this time. Some colleagues embraced the change fully and wanted to cooperate as much as they possibly could. Many people wanted to be part of the team that brought them in and be involved in the testing. There was, however, a group of operational staff who were hostile to the change and put up as many blockages as possible e.g. drawing out risk assessments, adding unreasonable testing requirements, not participating in testing. Generally, more people were positive than negative (Participant 9).

In my experience, the project world is typically solutions driven and often at the forefront for innovation. In the previous section on negative influences, I touched on the project world being a Volatile, Unpredictable, Chaotic, Ambiguous (VUCA) environment. What *is* predictable, is that it's unpredictable. I have witnessed wet weather, materials supply, legal requirements; and many other factors that can impact project delivery. It can be a risky undertaking. Being comfortable in the unpredictability is not for everyone, however when operations people adapt to this environment, they can achieve personal benefit and provide a positive influence on the project.

**Positive tensions**

One participant mentioned "tension" in their positive example, and I found this a particularly interesting anecdote - posing tension as a positive factor. This example stood out for me, and in an environment with positive intraorganisational collaboration, I can see that a healthy and respectful challenge of ideas could spur further discussion and the development of solutions and overall results. Successful intraorganisational collaboration will enable this healthy challenge of ideas and allow positive tension to benefit outcomes.

> Contributing to success: The tension between people all striving for the best outcome resulted in a better result than if certain ideas had been left unchallenged and the assumptions made by the project team had been left unchallenged. This was particularly evident in the health-design aspects of the facilities (Participant 9).

This example aligns with recent research by Luo et al., (2006) that found project performance can be enhanced, and organisations benefit, when leaders harness the dual presence of competition and cooperation that exists between cross-functional teams. Their research confirmed that bringing these forces together to create "coopetition", discussed in the Literature Review chapter, can uplift individual and organisational performance, producing innovative solutions and better outcomes all-round.

**Project champion**

"Project champion" was another example of a perceived enabler that did not develop into a theme, with just one participant mentioning the term. In this example, "Project champion" paints a picture of having a single, visible individual, literally championing the project and its benefits to a broad audience. Not unlike a mascot for a sporting team. Participant 10 suggested that a "Project champion" should be a very senior, or even political figure;

> People sometimes forget that they are all pushing for the same outcomes which can lead to a breakdown in inter-team relationships. Guidance from the middle and senior management

> to focus on the shared goals it essential to avoiding these conflicts. Having a senior champion, depending on the nature of the project, that could be a [Chief Operating Officer or Chief Executive], or a political champion such as a Mayor or Minister is essential. Ensure a credible valued champion/sponsor (senior exec, political will) (Participant 10).

It is my perception that the "Project champion" would talk to an audience or consumers such as "Auckland Inc.", the residents of Auckland, demonstrating sponsorship for the project from the very top. Leadership was a term mentioned many times throughout the data, and my interpretation is that leadership and "Project champion" are somewhat synonymous, however the champion may not be as involved as a leader, rather, they're positioned as the mascot and the leader is in the trenches with the team, leading them to success. I have examined leadership in more detail as an overarching theme, in the next section.

## 4.3 Overarching themes

As highlighted in the introduction to this chapter, the themes found in the data for barriers and negative examples, were largely mirrored as having the opposing force in the enablers and positive examples responses. Where participants spoke about "siloed thinking" as a barrier, they also spoke of "breaking down silos" as an enabler. It was the same for "poor planning" versus "early planning and coordinating" and other subthemes. The inductive approach to the thematic analysis of the data allowed the evolution of three overarching themes: Leadership, trust and relationships. All the anecdotes and examples pointed to these three key influences. In the negative examples, it was made clear that in the absence of these factors, intraorganisational collaboration could fail. Conversely, in the positive examples, these three key enablers were critical ingredients to successful intraorganisational collaboration.

### 4.3.1 Leadership, trust and relationships

Significantly, a key factor that became immediately apparent during the data analysis, is the overarching need for strong leadership from the outset, and development of positive relationships and behaviours that foster trust. The presence or absence of effective leadership can serve as either a critical enabler or significant barrier to shaping relationships, building trust, and ultimately driving intraorganisational collaboration and overall success. Successful intraorganisational collaboration in other industries, has been found by researchers to rely on effective leadership and trust-building behaviours to achieve high performing teams and organisational success (Gottfredson & Aguinis, 2017; Solis et al., 2013).

There were many participant examples highlighting the critical role of an effective project leader in driving engagement and serving as the key to ensuring successful intraorganisational collaboration between projects and operations. The survey participants who mentioned leadership reinforce that it plays a pivotal role in setting the conditions necessary for early and sustained engagement across a complex business and evidenced that teams that perform better when they support each other. Several participant quotes (Participant 6, 8, 10, 13 and 16) directly link leadership to project success, providing examples of the influence of leadership on success, or otherwise;

> Cross team collaboration brings the best of both worlds. The operations teams can easily unlock roadblocks faced by the project, while the project bring a degree of discipline, control and delivery expertise to the operational world. By creating a 'portal' for exchange of people and skills, both teams benefit. Some people have left the operations teams to join the capital projects at the start, but then some people are not looking at joining the operations teams at the end of the projects. This 'portal' creates the opportunity. The 'portal' is the leadership and management understanding and collaboration that one will not be poaching from the other, and that if needed the staff will be back to assist. This has happened several times. It is all about the collaboration at all levels between the two teams, which as mentioned earlier is based on trust (Participant 6).

> Define the rules of engagement. have a clear plan and concrete support of top management. If some elements of the team resist too much work with them or even remove them from the project if necessary. Unfortunately, when it comes to make some tough decisions to move the project forward suddenly you find no adults in the room to make it and take responsibility. Top management must have clear goals and support project team. Also, top management must trust their team members to do their job. Clear responsibility and authority boundaries defined on both ends and communication channels established (Participant 8).

> A barrier comes when we don't have sponsorship level. Who is the business leader championing the project? (Participant 10).

> Addressing these barriers requires proactive leadership, fostering a culture of collaboration, promoting open communication channels, establishing shared goals and priorities, investing in training and knowledge sharing, and creating structures that facilitate cross-functional teamwork (Participant 13).

> Clearly defined requirements from all involved stakeholders, project management plans and agreement by all stakeholders, RACI agreed, clarity of drivers, outcomes, priorities, risks and opportunities well defined and managed, having a joint defined strategy agreed and visible to all parties, senior stakeholder leadership and sponsorship, joint forums and governance, inclusion and respect by all parties to achieve the objectives for the wider good. Visibility, communications, respect and cross functional teams are key (Participant 16).

Honesty and transparency are human behaviours that are valued as positive traits in relationships of all kinds. We seek these qualities in friendships and romantic partners, it therefore makes sense that we would seek these behaviours in our work colleagues too. When we reflect on honesty and transparency in our relationships with others, they are qualities that are critical to building trust. Participants 12 and 20 mention transparent communication as their perception of a key enabler;

> Establish open and transparent communication channels between project delivery and operations teams (Participant 12).

> Clear communication establishing open and transparent communication channels helps in sharing information, setting expectations, and resolving issues quickly. regular meetings and updates can keep everyone on the same page (Participant 20).

Participant 5 mentions a number of trust-building behaviours as enablers to collaboration;

> You need to earn your brownie points first. They need to trust you and your intentions before they will start collaborating with you. In this case, the proof was in the much-needed funding to allow them to grow and then to service the project. And this was done years before the need, not when it was needed. So being open, proactive and trust/honesty were the key enablers to collaboration (Participant 5).

The examples shared by the participants show us that a strong leader will leverage the skills and experience of both the project and operations teams, leading the way in collaborative behaviours and bringing the groups together to ‘buy-into’ the organisation's shared goals, creating a “one team” culture. A strong leader will demonstrate the relationship-building and tending necessary to underpin collaboration, displaying critical behaviours like honesty and transparency that engender trust. Under strong leadership, cross-functional teams will come together, working towards the project and organisational goals with a strong culture of intraorganisational collaboration, ensuring better project outcomes.

# Chapter 5 Discussion and Conclusion

This chapter first summarises the key findings from the research as they relate to the research questions. Second, I will address how the results relate to previous research, and third, discuss the contribution this study makes to the existing body of project management research. Fourth, I will provide recommendations for practice that have emerged from this research. Fifth, I will discuss the limitations recognised in this research.

This study sought to understand the barriers and enablers that either allow or prevent intraorganisational collaboration. The unique lens applied to this research is the setting of an operational organisation that delivers high value capital projects as part of its overall business strategy.

*The two research questions were:*

RQ1: What is the lived experience of collaborating on capital infrastructure project delivery within an operational organisation, from the perspective of project management professionals?

RQ2: What do project management professionals perceive as the key enablers and barriers to success, when collaborating with their operational peers to deliver capital projects?

## 5.1 Barriers and enablers of collaboration

In this research I identified the overarching need for leadership, trust and relationships to exist, to remove barriers and enable intraorganisational collaboration. These three themes are all human relationship-based and are the greatest contribution from the analysis. The behaviours and attitudes reported by participants that underpin these three overarching themes to create a positive collaborative environment are the removal of silos, creating a shared vision and encouraging team buy-in, early planning, team members from operations and projects embracing change and the presence of strong leadership and a project champion.

The perceived enablers and barriers to successful intraorganisational collaboration shared by the research participants is comparable to the findings of several interorganisational collaboration studies (Andersen et al., 2007; Ansari et al., 2015; Mohamed et al., 2004; Vosman et al., 2023; Yin et al., 2023) and are addressed later in this chapter. In many cases the enablers and barriers were exact opposites of each other, e.g. when absent, they impeded intraorganisational collaboration, however when present, they were observed as an enabler. For example, siloed thinking versus removing silos, lack of shared vision versus shared vision and team buy-in, and poor planning versus early planning.

## 5.2 Shared vision

The participants recognised that when teams are working together towards a common goal, silos are removed and collaboration is enabled, a finding supported by (Ansari et al., 2015). Close alignment between project

and operations teams ensures that colleagues are communicating, and silos are removed to enable collaboration (Anderson & Merna, 2005).

This research revealed that the participants perception of siloed thinking as a barrier, and the removal of silos as an enabler, is consistent with previous studies of silos and siloed thinking within organisations (Hadi et al., 2022; Mohamed et al., 2004; Williams et al., 2012). Unsurprisingly, the participant responses confirmed that the presence of silos creates a wall between cross-functional teams, preventing effective communication and collaboration (Mohamed et al., 2004). Conversely, when silos are removed, it leads to more effective communication (Hadi et al., 2022) and better enables cross-function collaboration (Yin et al., 2023). This study confirms that leaders must be aware of the impact of silos on the success of a project (Williams et al., 2012).

## 5.3 Early planning

The previous chapter discusses the importance of having a shared vision and removing silos. The findings of this study demonstrate that a critical step towards creating a shared vision and breaking down silos is early planning (Yin et al., 2023). Participant responses confirm that early planning plays an important role in establishing relationships, building trust and creating an environment that enables collaboration between the cross-functional teams of projects and operations. The findings show that when early planning occurs, it de-risks the likelihood of unexpected work and the negative impact that may cause on both projects and operations teams. Consistent with findings from Aubry et al., (2012), this research confirms the importance of early planning, to avoid any negative impacts on projects or operations. Aligning with the participant perceptions, Mohamed et al., (2004) found that leaders must drive early planning to ensure teams share the project goals and organisational goals from the outset.

## 5.4 Responses to change

Participants gave examples of when their operations colleagues were resistant to change, and other examples of where they have embraced change. These examples reveal that change is a delicate area to manage, a view supported by many change management scholars (Burnes, 2015; de Jong et al., 2016; Elving, 2005; Feldman & Orlikowski, 2011). The stories demonstrate that when people are thrust into new ways of working, without appropriate communication or support, they are more likely to struggle, having a negative impact on both the individual and the project. When they find themselves in this situation as an unwilling actor, relationships and trust are eroded. This then becomes a barrier to collaboration. Operations and project delivery are two very different worlds. When organisations remain cognisant of the differences, recognising that projects present a particularly volatile, unpredictable, chaotic and ambiguous (VUCA) environment (Luis de Moura et al., 2023) compared to the relative predictability of operations, they can improve how and when they communicate change, and be sensitive to pushing people too far out of their comfort zone.

## 5.5 Impact of envy

One factor that emerged from this study that I believe is unique to intraorganisational collaboration, is the envy that may arise from the perception of wealthy project teams funded by the Crown, versus teams with tight operational budgets. As an insider, I know that this is often a misconception, highlighting the misalignment that occurs when operations teams are unaware of the fiduciary and governance responsibilities of the projects. This dynamic aligns with Festinger's Social Comparison Theory where the presence of envy, whether real or perceived, can impact the relationships between cross-functional teams (Festinger, 1954; Suls & Wills, 2024). Looking back to the importance of early planning, any potential misconceptions can be dispelled when planning between the two teams starts early and transparent communication is prioritised. This finding is in consistent with interorganisational research (Solis et al., 2013). This finding was unexpected and provides a potential avenue for future research, as being the target of envy is known to contribute to employee stress and could be of particular interest for researchers of well-being and burnout in project management professionals.

An interesting outcome of the research was the perceived impact of positive tension. Luo et al., (2006) posit that positive tensions arise when ideas are challenged in a constructive way, thereby stimulating thought and discussion to identify unique solutions. I believe that when a leader consciously harnesses this energy with a deliberate focus on resolving problems, positive tension can contribute to a productive, more solutions-driven intraorganisational collaborative culture.

When sharing their experiences and perspectives, all participants – who are project management professionals – predominantly described tensions between themselves and their operational colleagues as negative. The presence of these "dialectical tensions" (Kreiner et al., 2015) explains the push-pull dynamic between the project delivery experts and their operational colleagues. These tensions are due to the coexistence of conflicting or opposing forces alongside interdependence, and both are essential for the organisations' success. This finding is supported by evidence from Arvidsson, (2009) who examined the topic of tensions in a similar setting to this study. They confirmed that in a complex, matrix organisation that delivers projects, both positive and negative tensions coexist. They found that positive tensions can ignite innovation when carefully managed.

## 5.6 Leadership

In line with prior research of the success factors for project management, leadership was a commonly reported as an important factor for collaboration. Many studies examine the role of leadership and its contribution to strategy, change, collaboration and project success (Denis et al., 2001; Graetz, 2000; Hill et al., 2012; Kissi et al., 2013; Latif et al., 2020; Laurent & Leicht, 2019; 2023; Smith & Besharov, 2019; Williams et al., 2012). Being identified by the participants as a critical factor is consistent with these other studies. Participant examples spoke of lack of leadership as a barrier, and the presence of strong leadership as

an enabler for intraorganisational collaboration. The participants spoke of the importance of leaders conveying project and organisational strategies, leading by example, being transparent and building trust.

It is apparent from the data in this study that participants feel that projects, and more broadly organisations must have strong, visible leadership. Echoed in other project management studies, the project leader should know the barriers and enablers to intraorganisational collaboration from the outset. They must proactively design communication and interface activity to ensure that good relationships between teams are developed and regular, open communication engenders trust (Bond-Barnard et al., 2018; Connaughton & Collinge, 2021; Flyvbjerg et al., 2009; Riis et al., 2019).

The perceived need for a “Project champion” beyond, or in addition to project and organisational leadership, was an unexpected finding from the research. One of the participants included the role of a “Project champion” in their survey response, which was a notable observation. Their suggestion is that a “Project champion” should be a political figure. This argument resonated with me, as an insider, I feel more committed to my work and outcomes, knowing that the project I am contributing to is embraced by the government and seen as an important contribution to Auckland Inc.. This view is supported by Bryde, (2008), who found that project sponsorship is an important factor for successful project delivery.

Finally, the overarching themes of leadership, trust and relationships close out this chapter's findings. All three factors are woven throughout the participant responses and the sub-themes. They are all critical assets for engendering intraorganisational collaboration, and I would argue that they are an inseparable trinity and must all be present for success.

## 5.7 Contribution

This study contributes to the existing body of Project Management literature by addressing a gap in research into the barriers and enablers to intraorganisational collaboration, when a large operational organisation delivers capital projects as part of their overall organisational strategy. Specifically, this research highlights the criticality of aligning project goals with organisational goals and communicating these early and effectively. Further, this study demonstrates the importance of ensuring project leadership understands the drivers and behaviours that are essential to enabling intraorganisational collaboration, personally demonstrating these behaviours and leading early engagement. Additionally, this study has indicated some psychosocial factors such as working in a VUCA environment, short term employment and being the target of envy, which warrant further investigations in future research of project management professionals working in capital infrastructure projects for an operational organisation.

In relation to the current literature, the study aligns with evidence from the KPMG Project Management Survey, (2013) that evidences project outcomes and organisational performance suffer when there is a misalignment between project and organisational strategies. Improved collaboration between cross-functional teams is imperative to improve strategic alignment and outcomes for both projects and the

organisation. The extant Project Management literature demonstrates a large body of knowledge investigating interorganisational collaboration and the impact this has on project performance, however this study highlights the need to look internally into organisations, with a critical view of leadership and behaviours when a project team is being established.

## 5.8 Recommendations for practice

A clear signal from the data, is that a strong leader is perhaps the ultimate enabler to successful intraorganisational collaboration. In this role, and demonstrating the key driving behaviours, the right leader will unlock the necessary team behaviours and activities that will bring cross-functional teams together for intraorganisational collaboration and successful project outcomes. The project leader must be someone who can lead by example, demonstrating open and transparent communication, building trusting relationships across project and operations teams.

At the infancy of a new project plan, organisations that are establishing a project must go beyond the usual design, budget, scoping etc. activities, and invest equal attention to identifying and attracting the attitudes, behaviours and activities that will engender a collaborative team culture. Early commitment to building relationships and establishing open and transparent communication will be key to removing silos.

Project leaders must carefully and deliberately create a culture that includes, early (people) planning, early and transparent communication, builds trust, embraces change, encourages healthy and respectful debate (positive tension) in the pursuit of innovation and solutions, and proactively removes any barriers to communication and intraorganisational collaboration. Through transparency and communication, leaders will mitigate the risk of envy creeping in due to a lack of knowledge or understanding.

The importance of clearly communicating project goals and how these contribute to the overall organisational strategy cannot be understated. It is essential that the project leader ensures the projects goals, and their meaning are well articulated, particularly their importance and contribution to achieving the organisations' vision and overall objectives. Ensuring buy-in from the project and operations teams will support endeavors, encouraging intraorganisational collaboration as they work together in pursuit of the goals and seek to contribute to the organisations' objectives.

With a strong intraorganisational collaboration, leaders must be able to harness positive tension, mediating healthy debate and encouraging teams to challenge ideas and thought processes to identify innovative solutions.

## 5.9 Limitations of the research and recommendations for future research

This study was undertaken as Insider Research, with participants recruited from within a single organisation. The survey was targeted at project delivery professionals working within the organisation. From a potential pool of over one hundred participants, twenty participants completed the survey and represented a range of

experience, educational achievements and seniority. The study benefited from rich data; however, I acknowledge that the low number of participants reflects a limited sample size for research.

There are a number of opportunities to further investigate the enablers and barriers for intraorganisational collaboration, with a particular focus on operational organisations delivering capital projects. Further study that captures a broader pool of research participants that include gathering the perceptions of people from the operational side of the business participating in the project, will provide a more complete picture that considers the viewpoint of the two groups. It will be important for organisations to understand the whole picture, to better support development of organisational strategies and ensure their success, particularly when project delivery is a key part of that strategy.

This research presented some particularly interesting insights including positive tensions, envy, and the role of a project champion. Understanding the drivers behind these and how they impact teams, and their performance will provide some helpful insights for practice. A more in depth understanding of positive tension, and how it can be harnessed for a solutions-focused environment, and used to drive better innovation will be an especially useful in the competitive projects world. Understanding envy, its causes and the impact it has on project teams is important to understand as a possible barrier to collaboration. With this understanding, leaders and project managers can be more proactive in ensuring envy, perceived or real, does not become a factor between the collaborating teams. Further study into the benefits and impacts of a visible project champion will enhance organisations' capability in identifying key enablers for project success. Finally, another consideration is whether the project champion should also be at government level, and this may contribute to the conversation with funders at the ideation stage of a capital project.

## 5.10 Conclusion

This research provides evidence that there are clear barriers and enablers to intraorganisational collaboration as experienced and shared by the small research group participating in this study. The findings indicate that there is room for more depth and breadth of research in this area.

From the experiences shared by the participants, I have identified that organisations must communicate project and organisation goals in a way that ensures buy-in from both project and operations teams as a critical first step to unlocking the behaviours that enable positive collaboration. When each group has a clear understanding of the role they play in contributing to the organisational strategy and goals, it reduces internal competition and creates a 'one team' culture that enables collaboration. Further, having a strong, engaging leader at the helm of a project team is essential. The project leader should be someone who builds positive and productive relationships across both teams, displaying positive collaborative behaviours. Leading by example and demonstrating transparent communication, compromise and trust is a key driver for creating a collaborative culture between the project and operations teams. Leaders of large infrastructure projects must be able to identify and carefully manage the unique phenomenon of positive tension between operations and project teams to drive coopetition towards positive outcomes. The ability to harness differences of opinion

and challenging ideas to ensure healthy engagement will drive solutions and innovation will contribute to collaboration and building high performing teams. Establishing early engagement and communication channels, is an essential step leaders must take to establishing trusting relationships between cross-function teams.

Gaining a richer understanding of collaborative behaviours and the enablers and barriers to collaboration, particularly in the setting of a complex operational organisation delivering capital projects as part of their overall strategic goals, is an area of research that requires further exploration.

As an insider researcher I was not entirely surprised by the findings from this study, they reinforced some of the assumptions and perceptions I had already held. The participant examples provided me with a deeper understanding of the barriers and enablers to collaboration, particularly how these are experienced and perceived in the project teams. I believe that this will benefit me personally to create a more positive collaborative culture. The most valuable finding from the research, for me personally, is the benefit of harnessing positive tensions. This learning will help me to develop my practice and performance as a people leader.

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# Appendices

## Appendix A Participant Information Sheet

AUT
TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

### Participant Information Sheet

**Date Information Sheet Produced:**

April 2024

**Project Title**

Oil and water: A qualitative study of project management professionals' experience delivering high value capital infrastructure projects within an operational organisation.

**An Invitation**

I am Dr. Paulette Brazzale and I am working with Megan Laus who is studying for a Master of Business (Management) degree with me at the Auckland University of Technology. Megan works in the Auckland Metro Programme at KiwiRail, and our research will survey project delivery professionals at KiwiRail. We are particularly interested in understanding the experiences of project delivery professionals who have delivered capital projects for an operational organisation.. Hence, I am conducting a research project asking develivery professionals to provide brief stories and anecdotes that demonstrate their experiences working in an operational organisation, with particular emphasis on the aspects that were either barriers or enablers to your work. Participation in this study is voluntary.

**What is the purpose of this research?**

This research will contribute to gaining better understanding of what is needed to ensure positive collaboration between project delivery and operations teams. Findings from the research may be used in conference presentations and journal articles. The postgraduate student, Megan Laus will use the data collected for her research under my supervision.

**How was I identified and why am I being invited to participate in this research?**

You are invited to participate in this survey as a project delivery professional working in an operational organisation delivering high-value capital projects. All KiwiRail Capital Projects and Asset Development project delivery professionals are invited to participate.

**How do I agree to participate in this research?**

If you would like to to participate please use the link to the online survey. The first question on the survey will ask you to confirm you consent to taking part in the survey.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

**What will happen in this research?**

The research has one survey that is expected to take you less than 25 minutes, you will be asked to provide some basic demographic data to help us understand something about the range of people taking part in this research, we would be grateful if you would answer these questions about yourself. .

You will then be asked write about your experiences of delivering a high-value capital projects, whilst relying on the support of operational colleagues. Stories or anecdotes that highlight when you have collaborated well, and when collaboration has not gone so smoothly will be asked for in the survey. Please explain in detail to help use understand your experience in these situations.

**What are the discomforts and risks?**

This process should not pose any discomfort or risk to you and you are able to stop the survey at any time.

**What are the benefits?**

This research will support the completion of Megan Laus's Masters degree. Furthermore, it will contribute to providing better understand of the enablers and barriers to intra-organisation collaboration as experienced by professionals that are delivering high value capital projects, whilst employed by an operational organisation.

**What are the benefits?**

This research will support the completion of Megan Laus' Master's degree. Furthermore, it will contribute to providing better understand of the enablers and barriers to intra-organisation collaboration as experienced by professionals that are delivering high value capital projects, whilst employed by an operational organisation.

**How will my privacy be protected?**

You are not asked to provide your name. All responses are anonymous. Any potential identifying information or comments will be redacted from your responses to ensure that your anonymity is maintained. Data will be stored on password-protected computers. Only Megan and I will have access to the data. When you asked to provide a written description of your work experience, please only include detail that you are comfortable sharing with us.

**What opportunity do I have to consider this invitation?**

I have allowed two weeks for potential participants to consider this invitation. You will be reminded via the AMP Water Cooler Group Chat on Teams once during this time.

**Will I receive feedback on the results of this research?**

You will be advised once Megan's dissertation is published and provided with a copy. Further, you will be provided with a copy of the journal article once published.

**What do I do if I have concerns about this research?**

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Paulette Brazzale, paulette.brazzale@aut.ac.nz +64 9 951 9065 extn 9065.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

**Whom do I contact for further information about this research?**

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

### *Researcher Contact Details:*

Megan Laus, Programme Business Manager, Auckland Metro Programme, KiwiRail.

Megan.Laus@kiwirail.co.nz +64 27 525 3059

### *Project Supervisor Contact Details:*

Dr Paulette Brazzale, paulette.brazzale@aut.ac.nz +64 9 951 9065 extn 9065

**Approved by the Auckland University of Technology Ethics Committee on 15 May, 2024, AUTEC Reference number 24/116.**

## Appendix B Survey



### Consent Form

**Consent Form Project Title:**

Oil and water: A qualitative study of project management professionals' experience delivering high value capital infrastructure projects within an operational organisation. This research will contribute to gaining better understanding of what is needed to ensure positive collaboration between project delivery and operations teams

You are invited to participate in this survey as a project delivery professional working in an operational organisation delivering high-value capital projects. All KiwiRail Capital Projects and Asset Development project delivery professionals are invited to participate. The survey is expected to take you less than 25 minutes to complete. You will be asked to provide some basic demographic data to help us understand something about the people taking part in this research. You will then be asked to write about your experiences of delivering a high-value capital projects, whilst relying on the support of operational colleagues. Stories or anecdotes that highlight when you have collaborated well, and when collaboration has not gone so smoothly will be asked for in the survey. Please explain in detail to help use understand your experience in these situations

If you would like to participate, please click on "I consent" below, and you will be able to continue to the online survey. Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are at least 18 years of age and that you may choose to terminate your participation in the study at any time for any reason. For more

detailed information about this research project, please refer back to your participant invitation.

- ◯ I give my consent
- ◯ I do not give my consent

## Demographics

We would like to know a little about the people who have taken part in this survey. Please complete this short series of questions to allow us to gather some basic background information about you.

What gender do you identify as?

- ◯ Male
- ◯ Female
- ◯ Non-binary / third gender
- ◯ Prefer not to say

What is your highest level of education?

- ◯ Some High School
- ◯ Completed High School
- ◯ Undergraduate Diploma or Certificate
- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Ph.D. or higher
- ◯ Trade School
- ◯ Post Graduate Industry Certification

Years of Project Management Experience

- ◯ 0-5 years

- ◯ 6-11 years
- ◯ 12-17 years
- ◯ 18-23 years
- ◯ 24-29 years
- ◯ 30 years plus

Seniority

- ◯ Project leadership
- ◯ Project delivery
- ◯ Project support
- ◯ [ ] Other please describe:

**Critical Incident Questions**

Thinking about your time and experience delivering high value capital projects within an operational organisation, where you have been reliant upon your operational colleagues to collaborate with you and support you. In the following questions you will be asked to provide two detailed examples of firstly a time when this collaboration with operational colleagues worked well and a time when things did not go well. These can be short stories, anecdotes, or observations. Take a moment to think of some examples.

Describe a time when you felt that collaboration between the project delivery teams and the operations teams worked well. Explain how the incident(s) began, what contributed to it's success and how and why this type of collaboration impacted outcomes for this part of the project.

Based on your experience, what do you think are the key **enablers** to positive collaboration between project delivery teams and operations teams working in the one organisation?

Describe a time when you felt that collaboration between the project delivery teams and the operations teams didn't go smoothly. Explain how the incident(s) began, what contributed to it's failure and how and why this type of collaboration effected the outcomes of this part of the project.

Based on your experience, what do you think are the key **barriers** to positive collaboration between project delivery teams and operations teams working in the one organisation?

Based on your experience, please explain how do you think cross team collaboration can be improved in large capital projects?

**Piloting comments**

How did you find your experience of answering these survey questions. Do you have any helpful feedback for improving participants' experience?

**Coffee card draw**

Would you like to enter our draw for a coffee card at Slowlane?

- ◯ Yes
- ◯ No

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## Appendix C Ethics Approval

AUT

Auckland University of Technology Ethics Committee
(AUTEC)

15 May 2024

Paulette Brazzale
Faculty of Business Economics and Law

Dear Paulette

Re Ethics Application: **24/116 Oil and water: A qualitative study of project management professionals' experience delivering high value capital infrastructure projects within an operational organisation.**

Thank you for your responses to AUTEC's conditions.

Your ethics application has been approved for three years until 15 May 2027.

**Standard Conditions of Approval**

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
**Auckland University of Technology Ethics Committee**

Cc: lausmegan@gmail.com; helena.cooper.thomas@aut.ac.nz

Auckland University of Technology, D-88, Private Bag 92006, Auckland 1142, New Zealand.
T: +64 9 921 9999 ext. 8316: E: ethics@aut.ac.nz: www.aut.ac.nz/researchethics

## Appendix D Poster

AUT

TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

# CALL FOR RESEARCH PARTICIPANTS

This research project investigates the experiences of project delivery professionals who have delivered capital projects for an operational organisation.

We are asking you to provide brief stories and anecdotes that demonstrate your experiences working in an operational organisation, with particular emphasis on the aspects that were either barriers or enablers to your work.

**What will happen in this research?**

The research has one online survey that is expected to take you less than 25 minutes. You will be asked to provide some basic demographic data to help us understand something about the range of people taking part in this research, we would be grateful if you would answer these questions about yourself.

You will then be asked to write about your experiences of delivering a high-value capital projects, whilst relying on the support of operational colleagues. Stories or anecdotes that highlight when you have collaborated well, and when collaboration has not gone so smoothly will be asked.

*All KiwiRail Capital Projects and Asset Development project delivery professionals are invited to participate.*

**Please refer to the AMP Water Cooler Group Chat in Teams for more information and a link to the survey.**

***Researcher Contact Details:***

Megan Laus - Programme Business Manager, Auckland Metro Programme | Megan.Laus@kiwirail.co.nz | 027 525 3059

***Project Supervisor Contact Details:***

Dr Paulette Brazzale | paulette.brazzale@aut.ac.nz | 09 951 9065 extn 9065

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, AUTEC Reference number 24/116.