

Integrated Project and Change Management Framework for Healthcare Projects

A thesis presented in partial fulfilment of the requirements for the degree of

Master of Quality Systems

at Massey University, Palmerston North, New Zealand

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Acknowledgement

I would like to express my sincere thanks to my Supervisor, Nigel Grigg and Daniel Hunt; General Manager of LabPlus &APS, for their firm honest and consistent support during this research. Daniel, thank you for pointing me in the direction of transformational healthcare and empowering me to achieve my goals. Nigel, I am grateful for your expert guidance in this report's compilation, which helped raise this research to an academic standard.

A huge thanks to my project team; I was fortunate to learn change management under Sandra Dodds' direction and project management from Jacob Tonner. For his practical knowledge in setting up a PMO, Paul Stevens provided the foundations of the research. James Poloai and Steven Martin for graciously provided the platform for conducting the research, allowing me to work closely with the LIS team and PGWG. Thank you for all your support and guidance.

And lastly, I would like to dedicate this research to my husband and dearest friend Colin Osborne. There is no amount of thanks that I can give for everything you have done to complete this thesis. From being my pillar, someone I bounced ideas off to create the SharePoint site in record time despite the many changes. Ruth Badar Ginsberg said it quite elegantly:

"If you have a caring life partner, you help the other person when that person needs it. I had a Life partner who thought my work was as important as his, and I think that made all the difference for me."

-Ruth Badar Ginsberg

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List of Acronyms

ADHB	Auckland District Health Board
APM	Agile Project Management
APS	Anatomical Pathology Services
CAS	Complex Adaptive System
CM	Change Management
EPMO	Enterprise Portfolio Management Office
ICR	Investor Confidence Rating
IPCMF	Integrated Project and Change Management Framework
LIS	Laboratory Information Services
NRLTIP	Northern Region Long Term Investment Plan
OD	Organisational Development
OGC	Office of Government Commerce
P3M3	Portfolio, Programme and Project Management
PGWG	Project Gateway group
PM	Project Management
PMBok	Project Management Body of Knowledge
PMI	Project Management Institute
PMM	Project Management Methodologies
PMO	Project Management Office
PPM	Project Portfolio Management
PRINCE 2	Project in Controlled Environment
VAPM	Value Adding Path Map
WHO	World Health Organization

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Abstract

The purpose of this study was to develop an integrated project and change management framework for healthcare. Transformative healthcare has become front and centre in the health industry, utilising projects as a form of delivery. Healthcare projects invariably create change, to which either staff or patients need to accommodate. Hence, having a framework that consolidated the two practices would be valuable. Set at Auckland District Health Board (ADHB) the research utilised a case study design and employing a pragmatic research methodology as it provided a flexible and more reflexive approach to research design. The research findings show that project and change management can be integrated and extremely useful in a healthcare setting. However, building capability for both domains requires a series of logical, economic and reasonable steps. Due to the time limitation of a master's thesis, it is difficult to evaluate the new framework's implementation fully. This, however, paves the way for future research.

Chapter 1 Introduction

1.1 Background

Investor Confidence Rating ICR is a three-yearly assessment scheme that The Treasury uses to assess the performance of investment agencies in managing investments and assets critical to the delivery of NZ government services (Treasury, 2019). One of the eight parts of the ICR is an assessment using the Portfolio, Programme and Project Management maturity, also known as P3M3 (Treasury, 2019). Portfolios play a key role in controlling projects and programmes, and collectively, how the entire organisation invests in and manages change.

A portfolio is a group of initiatives (including projects), that may or may not be related to each other, coordinated to deliver strategic objectives (EPMO, 2018). Managing a Portfolio is concerned with doing the right things through effective planning, coordination and prioritisation processes. These processes aim to achieve optimum value by aligning investment with business strategies (EPMO, 2018). An individual portfolio area, for example, may include various 'major' projects, ongoing work programmes (such as infrastructure remediation) and many projects.

In 2016, The Treasury assessed Auckland DHB as part of the Investor Confidence Rating ICR. The outcome of the assessment indicated the need to improve the approach of project, programme and portfolio management, and the delivery of change within the organisation. In response to this assessment, Auckland DHB initiated the development of a Project Management Framework as part of the organisation's overall attempt to improve project, programme and portfolio capability, aiming to close the gaps in maturity identified in the P3M3 assessment (EPMO, 2018). The framework did not attempt to define every aspect of project management or offer a prescriptive step-by-step approach to run a project. Instead, the aim was to provide staff at ADHB with standard policies and guidelines for the critical elements of project management within the organisation. It also set the minimum standards that senior management and executives could expect from any project, regardless of size or complexity (EPMO, 2018). *"Auckland District Health Board Project Management Framework; Guides, policies, and standards"* was first published in 2017 and is owned by the Auckland DHB Enterprise Portfolio Management Office (EPMO).

Healthcare projects can range from facility upgrades and health IT implementation to quality improvements such as implementing best practice guidelines (Richer, Marchionni, Lavoie-Tremblay, & Aubry, 2013). Project Portfolio Management (PPM) has become increasingly important within the District Health Boards (DHB), as executives carefully prioritise funding and resources to those projects that will yield the most significant alignment to the business's objectives (EPMO, 2018). In LabPLUS & Anatomical Pathology Service (APS), this task has been assigned to the Project Gateway Group (PGWG). This group ensures that before any large project commences, investment of resources is reflective of the strategic priorities of the organisation and projects' have minimum governance of Sponsor/Clinical lead, Project manager and Change owner/business owner. Healthcare resource can be limited, and the demand for constant improvement endless. Projects need gating in this manner so that limited resources such as Information Technology (IT), scientific and clinical expertise are not overburdened. Work is prioritised based on the availability of funds, skills and risk.

Given the nature of healthcare projects, change management's role in achieving project success has grown substantially. Benefit realisation relies heavily on the workforce adopting the change that a project will deliver (Galli, 2018; Hornstein, 2012). While organisational change management activities are undertaken, leading change in a project's context is an area that still requires further development. Change Management support and advice is provided by the Organisational Development (OD) team at Auckland DHB. ADKAR by PROSCI is the methodology that has been adopted and encouraged by the organisation. While this methodology has a tremendous practical application, the researcher saw potential in exploring how these practices could be integrated with the project management framework. The benefit would be a more realistic approach to project and change management while running projects in a healthcare setting. An integrated approach would address the technical delivery of the project and the challenges of adoption. Both of which aid overall benefits realization.

1.2 The Importance of the Research

In the World Health Organization (WHO) European Region's Framework for Action on Integrated Health Services Delivery, WHO calls for actions across several domains, one of which is to facilitate the strategic management of health service transformations towards integrated care (Cash-Gibson, Tigova, Alonso, Binkley, & Rosenmüller, 2019). In 2018 the Northern Region Long Term Investment Plan (NRLTIP) was publicly released. Developed by the Northland, Waitemata, Auckland and Counties Manukau DHBs, with the Ministry of Health, Treasury, and other partner agencies' input, it provided important context for future investment decisions. Equity in health was the main feature in the document. The region has committed to reducing inequities in the system and working across DHB boundaries, integrating, and sharing resources, assets and services to optimise health outcomes for all communities.

NRLTIP performed a deep dive into specific areas of the regional healthcare system. Phase one looked at future care models for cancer services, elective surgery, radiology, and services for the frail and elderly. Phase two focused on developing detailed plans for these areas and conducting deep dives into the community/primary care, population health, mental health, and laboratory services. The laboratory deep dive was completed in 2017 and included 13 recommendations centred around creating a single collaborative and integrated pathology network across the four District Health Boards in the Northern Region that is patient-focused. Over the past two decades, the merging of services has gained popularity as a way of reforming the healthcare sector (Gordon & Pollack, 2018). Integration has come about in response to the poor patient outcomes resulting from a fragmented service (Cash-Gibson et al., 2019).

For many healthcare systems, the service is centred on functions (Gordon & Pollack, 2018). Functional units create a territorial silo, which can inadvertently ignore the needs of the patient and lead to low patient experience (Gordon & Pollack, 2018). In the last decade, Canada and the United Kingdom both mandated integrating their health services into local health networks (Beastall, 2008; Gordon & Pollack, 2018). The goal was to unify common elements of the primary disciplines to enhance service delivery to patients and overcome fiscal constraints (Gordon & Pollack, 2018). However, despite the need to continuously improve practices, implementation of changes can be very challenging. This is attributed to healthcare complexity and the persuasive influence that context has on implementation and improvement (Augustsson, Churrua, & Braithwaite, 2019). Typically, healthcare integration projects involve significant organisational

change. Such projects' management needs may benefit from a combination of project and change management practices (Gordon & Pollack, 2018).

1.3 Scope and Boundaries of the Research

This research was conducted at LabPlus & APS, a tertiary referral medical laboratory, part of the state-owned Auckland District Health Board (ADHB). It is the fourth-largest district health board in New Zealand and is a government-funded provider of health services for 542,000 residents living in the Auckland central district (Auckland District Health Board, 2020). The growth projections for the district are nearly 100,000 extra people by 2030 (Auckland District Health Board, 2020). Auckland DHB is responsible for the health and wellbeing of the population that live within the district. As an organisation, it provides a range of hospital and community services from multiple sites including Auckland City Hospital, Greenlane Clinical Centre and the Buchanan Rehabilitation centre. ADHB also works with community-based providers such as primary healthcare organisations (PHO) and Auckland Council to improve population outcomes (Auckland District Health Board, 2020).

LabPLUS & APS provides primary and secondary pathology service, which consist of a comprehensive range of over 900 routine and specialist laboratory tests. It is a centre for referral tests from other laboratories, government bodies, private and commercial institutions and research bodies within New Zealand and overseas (LabPlus, 2020). The organisation employs over 450 staff, covering areas such as Chemical pathology, Haematology, Microbiology, Virology and Immunology, National testing centre, Forensic Pathology, Anatomical Pathology and Diagnostic Genetics. These departments are supported by highly specialised Phlebotomy, Specimen Services, Clinical Trials, Administration, and Customer Service teams (LabPlus, 2020).

1.4 Research Aim, Question

After participating in a transformational project at LabPLUS & APS, the researcher was intrigued to explore ways of managing projects of this calibre. Upon performing an initial investigation into organisational change projects, the researcher realised that the process that was missing for LabPLUS & APS projects was change Management. This set-in motion the project's overall aim; to integrate the two disciplines of project and change management and provide a case for senior

leaders to consider adopting elements of both practices for future organisational projects and service delivery.

Research questions:

1. Can elements of project and change management practices be integrated into one framework?
2. Is there a need for both practices in a healthcare project?
3. What would an integrated project and change management framework look like in practice in a healthcare setting?
4. How can capability for this framework be embedded into an organisation?

1.5 Research Objectives

The study was a collaborative work that explored existing project management and organisational change management frameworks within Auckland DHB; together with the management systems in LabPLUS and APS. The objectives of the project were:

- Understand the requirements for project and change management in LabPlus & APS.
- Increase the awareness and desire for better project and change management practices in LabPlus & APS staff.
- Create a framework that integrates project and change management practices.
- Create tools and training opportunities in both disciplines to increase the capability of the two practices in the organisation.
- Create a SharePoint site for the Project Gate Way Group to assist with project proposal submissions and tracking.

1.6 Limitations of the study

As the research was conducted at LabPlus & APS, which is part of ADHB, the researcher had to use Project Management (PM) and Change Management (CM) methodologies that ADHB endorses. Due to the time limitations of two years for a Master's thesis (in part-time mode), this research's conceptual model could not be verified using current projects. Future work for this can be undertaken as further research.

1.7 Structure of the Thesis

The structure of the thesis is as follows:

Chapter Two: Literature review attempts to answer the first research question; Can elements of project and change management practices be integrated into one framework? The first part analyses the strengths and weaknesses of the most common project and change management methodologies. Followed by a summary of current literature on the topic of integrating project and change management practices. The final part of the literature review explores how the capability of both disciplines could be improved.

Chapter Three: Methodology, starts by explaining the ontological and epistemological perspectives considered for the research. It describes and evaluates the research design methodology and then explains the approach taken, including the use of mixed methods and case study. Research management explains how the case study research was conducted, followed by the project's ethical considerations.

Chapter Four: Results; address the second research question; Is there a need for both practices in a healthcare project? The results of the survey conducted in LabPlus & APS is analysed. Elements that contributed to a project's success are identified—providing evidence for the need for project and change management practices in a healthcare setting.

Chapter Five: Development of an Integrated Project and Change Management Framework, answers the third research question; What would an integrated project and change management framework look like in practice in a healthcare setting? This chapter explains how the researcher developed the integrated framework and the logic of the layout.

Chapter Six: Building Capability of Project and Change Management, explores the tools and techniques used by the researcher to build staff capability in the use of the new framework. This chapter addresses the fourth research question; How can capability for this framework be embedded into an organisation?

Chapter Seven: Conclusion summarises the research's key findings and the contribution to the current body of knowledge. It also concludes whether the research questions were answered and if the objectives of the study were achieved. The previously stated limitations of the study are revisited and recommendations for future research provided.

Chapter 2 Literature Review

2.1 Project Management

Organisations are becoming increasingly project-oriented; adopting this approach to create and deliver new business products or implement changes (Bentley, 2015; Fernandes, Ward, & Araújo, 2015). According to Aubry, Hobbs, and Thuillier (2007), project management is a dynamic structure that is articulated in organisations to aid the delivery of corporate objectives. It provides a set of business skills that can help control cost, reduce risk and improve outcomes (Sa Couto, 2008).

Project management utilises the processes of systematically planning, organising, and then executing a pre-determined set of steps to maximise resources and achieve specific objectives. The use of projects, programs, and portfolios is becoming a growing trend in the corporate world to achieve strategic objectives (Aubry et al., 2007). This management approach facilitates selecting the best projects and brings considerable benefits to the business through the alignment of projects with the objectives, optimal assignment of the resources, and minimising the risk of investments (Ershadi, Jefferies, Davis, & Mojtahedi, 2020).

Due to the lack of funding in healthcare and an increase in demand for health and wellbeing services, more healthcare providers are rethinking the actual means of delivering care, focusing more on value and performance rather than on the volume of work that is processed (Cash-Gibson et al., 2019; Lippi, 2018). The drive to provide better patient care has led to continuous refinement of the services in an effort to improve it (Chiocchio, Rabbat, & Lebel, 2015). Transformative healthcare has become front and centre of the health industry, utilising projects as a form of delivery (Cash-Gibson et al., 2019).

2.2 Project Management Methodologies

The concept of project management (PM) has been around for thousands of years, from the constructions of Giza's pyramids, the Taj Mahal, and the Great Wall of China to the modern-day placement of space shuttles into earth's orbit (Project Management Institute, 2017). As the discipline has grown, proven traditional practices have been handed down, and innovative new

practices have emerged. Project Management methodologies are used to provide guidelines for managing a project. Theory and practice of project management include many practically applicable methodologies for the efficient management of a project (Jovanović & Berić, 2018). Their general aim is to standardise, structure and organise work methods.

A literature search for project management methodologies in key business management databases produced an array of results. Table 2.1 summarises the findings of the literature search. Although there are many more PM methodologies; PMBoK, PRINCE 2, Waterfall, Agile and Lean Six Sigma featured prominently in the search results. The following section of the literature review attempts to explain each PMM and outline their strength and weakness.

Table 2.1 Summary of the literature search findings for project management methodologies

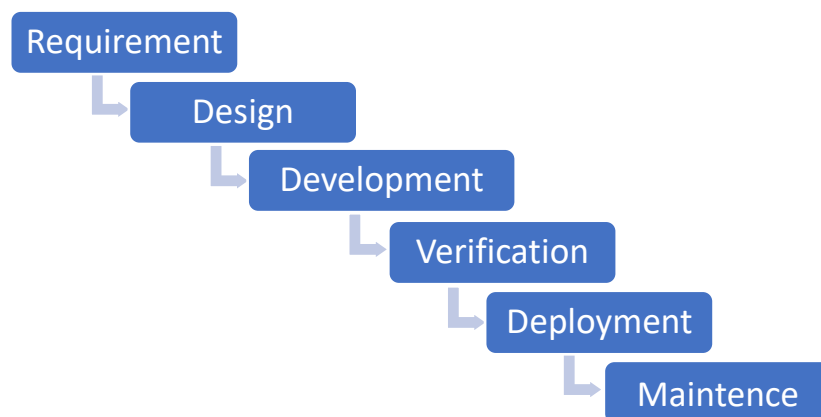
Search criteria:	Number of search results in a database				
	Scopus	Discover	Emerald Insight	Business Source Complete	Web of Science
"Project Management"	184,593	179,768	16,000	38,170	104,355
"Project Management" AND "PMBok"	5,947	1,217	555	251	325
"Project Management" AND "Waterfall"	722	274	161	62	145
"Project Management" AND "Agile"	11,173	3,564	1000	735	2,031
"Project Management" AND "PRINCE 2"	886	351	177	64	80
"Project Management" AND "Lean Six Sigma"	1139	212	535	38	56

Waterfall Methodology

Waterfall methodology also referred to as the traditional way of doing projects, is perhaps the earliest form of project management (Pace, 2019). It is termed as "waterfall" because the method follows a linear progression from one step to another in a downwards fashion (Kalso, 2020). The most common version has six steps that flow in strict sequential order (Kalso, 2020). Each step is completed before the next starts using the output from the previous step, and there is no

overlapping of steps (Kalso, 2020). Typically used when the project has a well-defined scope and design and planning must be done upfront (EPMO, 2018). Examples of projects that would use this method include new buildings, rollover or replacing assets. While there are different versions of the approach, Figure 2.1 summarises the most common version with six steps. Stakeholder and customer requirements are gathered at the beginning of the project. The product is designed, developed, verified, deployed, and upon release any maintenance or adjustment where required.

Fig 2. 1 Waterfall Methodology



PMBok Framework

Project Management Body of Knowledge (PMBok) is an international reference guide that incorporates a wide range of knowledge about project management (Parra, Saroza, Martínez, & Bello, 2016). The PMBOK provides a set of guiding principles for project management which are recognised as “good practices”, and can be applied to most projects. It is published by the Project Management Institute (PMI) who are based in the United States and is recognised globally as a guide for professionals in managing projects. The knowledge, skills, tools and techniques provided in this framework can be adapted according to the type of project and the project manager's capabilities (Project Management Institute, 2017). PMBoK Guide defines a Project Life Cycle into five process groups and ten knowledge areas. A project is accomplished by integrating the project management processes, while the project team operates in ten knowledge areas (Abyad, 2018).

Process Groups:

- 1) **Initiating** – to understand and agree on what the project will achieve and why. This process ensures that the project is feasible and has good governance. If done correctly, will set the project up for success.
- 2) **Planning** – The Process(es) used to refine the objectives and define the scope. Develop the relevant resources, timelines and milestones, and mapping project delivery to business priorities (i.e. risk management, communications, quality, cost/budgeting, duration, sequencing, and external dependencies).
- 3) **Executing** – Those process(es) performed to complete the work defined in the project management plan to satisfy the project requirements. Assigning the project team and distributing information to ensure the proper activities are undertaken. This process also includes ensuring quality assurance methods are in place to address change management, organisational updates, possible changes to the plan, etc.
- 4) **Monitoring and Controlling** – The process(es) required to track, review, and regulate the project's progress and performance; this assures the stakeholders that the project is on track and that the resulting product maps back to the original plan. Changes to scope/plan should be documented, and risk from uncontrolled external actions are mitigated.
- 5) **Closing** – The process(es) performed to complete or close a project formally. Includes ensuring the output/s of the project have been delivered, and the benefits are on track to be realised. The project team is disbanded, and outcomes are transitioned to BAU.

Table 2.2 PMBoK Knowledge Areas

Knowledge Areas	
1. Integration Management	• Develop the Project Charter • Scope Statement and Plan. • Direct, Manage. • Monitor and Control Project Change
2. Scope Management	• Planning, Definition • Work Break-down Structure (WBS) Creation • Verification and Control.
3. Schedule Management	• Definition, Sequencing • Resource and Duration Estimating, • Schedule Development and Schedule Control.

Knowledge Areas	
4. Cost Management	• Resource Planning, • Cost Estimating, • Budgeting and Control.
5. Quality Management	• Quality Planning, • Quality Assurance and Quality Control.
6. Resource Management	• HR Planning, • Hiring, Developing and • Managing Project Team.
7. Communication Management	• Communications Planning, • Information Distribution, • Performance Reporting,
8. Risk Management	• Risk Planning and Identification • Risk Analysis (Qualitative and Quantitative), • Risk Response (Action) Planning and • Risk Monitoring and Control.
9. Procurement Management	• Acquisition and Contracting Plan, • Sellers Responses and Selection, • Contract Administration and Contract Closure.
10. Stakeholder Management	• Identify Stakeholders • Engagement plans

Note: Contents adapted from Project Management Institute (2017)

PRINCE 2 Methodology

Project in a Controlled Environment (PRINCE 2), this methodology helps determine what, how, when and by whom the activities will be implemented using a common language and dividing the project into manageable and controlled stages (Parra et al., 2016). It was developed in the United Kingdom to manage Informatics/ computer projects (Jovanović & Berić, 2018) and is owned by the company AXELOS; which is a joint venture set up by the Office of Government Commerce (OGC) and the Capita (Ng, 2018). PRINCE 2 has seven processes that provide a controlled start, controlled progress and a controlled close to a project (Bentley, 2015). Seven themes explain the philosophy of the various aspects of the project; why they are needed and how they can be used. These philosophies are implemented through the processes (Bentley, 2015). There are seven key principles interwoven into the processes and themes to form a strong structure (Bentley, 2015).

Processes

1. **Starting Up a Project** – in the pre-project process, the project sponsor and project manager are appointed, and a project brief is produced.
2. **Initiating a Project** – this process scopes the project, prepares a business case and a project plan. The documents will provide sufficient justification to proceed, also a baseline against which progress and success will be measured.
3. **Directing A Project** – dictates how the project board will oversee the project. The project board are the key decision-makers. Made up of the management team representing the sponsor, the users of the final product and the suppliers of the product
4. **Controlling Stage** – dictates how to control each stage of the project.
5. **Managing Product Delivery** - This process provides a control mechanism so that the Project Manager and specialist teams can agree with the details of the work required. Create formal requirements on accepting, executing and delivering project work.
6. **Managing Staged Boundaries** – this process dictates how to transition from one stage to the next.
7. **Closing** – Covers the formal decommissioning of the project, follow-up actions and evaluation of benefit achievement.

Table 2.3 Themes and Principles of PRINCE 2 Methodology

Theme	Related to Principles	Explanation
1. Business case	Continued Business Justification	Establish mechanisms to judge whether the project is desirable, viable and achievable
2. Organisation	Defined Roles and Responsibilities	Define and establish the project's structure of accountability and responsibility
3. Quality	Defined Roles and Responsibilities Focus on Products Learn from Experience	Define and implement how the project will verify that products are fit for purpose
4. Plan	Continued Business Justification Manage by Stages Manage by Expectations Defined Roles and Responsibilities Learn from Experience	Facilitate communication and control by defining the means of delivering the product

Theme	Related to Principles	Explanation
5. Risk	Continued Business Justification Defined Roles and Responsibilities Learn from Experience	Identify, assess and control the uncertainty and improve the ability of the project to succeed
6. Change	Continued Business Justification Defined Roles and Responsibilities Learn from Experience	Identify, assess and compare achievements against those planned
7. Progress	Continued Business Justification Manage by Stages Manage by Expectations Learn from Experience	To monitor and compare actual achievements against those planned

Note: Contents adapted from Bentley (2015)

Agile Project Management (APM) Methodology

Agile project management is based on the "Agile manifesto" which was created in 2001 (Cesarotti, Gubinelli, & Introna, 2019). It evolved from software developers who out of frustration at traditional business practices sought to foster productivity and innovation by improving the quality of collaboration (Codington-Lacerte, 2020). Software development relies heavily on capturing user requirements accurately. The difficulties lie in the clients knowing what they want and being able to articulate it, developers completely understanding those wants and needs, errors that are part and parcel of software development and a future that is unpredictable (Twidale & Hansen, 2019). The agile manifesto is a set of principles and practices that aim to enhance a team's ability to respond to the changing environment and product requirements (Krehbiel et al., 2017). A project that employs agile methodologies is complex adaptive systems (CAS). The CAS based Agile Project Management (APM) framework prescribes the six practices for managing agile development projects:

Table 2.4 Agile Project Management Practices

Practice	Explanation
1. Guiding Vision	Recognizing and nurturing a shared project vision as an internal model translates it into a powerful influence on team behaviour.
2. Agile Vigilance	In a context of continually changing, the agile manager must adapt the project on the edge. Without a rigid project structure,

Practice	Explanation
	supervision takes on a central role to balance, chaos, risk and project boundaries.
3. Organic Self Organised Team	Small and dynamic team composition that supports adaptability to changing external conditions. Scrum formally recognizes three key roles: Product owner, Development team and Scrum Master. The product owner represents the stakeholders and ensures that the team offers value to the business. The Development team is responsible for the practical advancement of the project. The Scrum Master acts to support the team in applying the Scrum methodology and prevents external influences from reducing the effectiveness of the team.
4. Simple Rules	Generative and straightforward rules, if some practices are not being followed, the team analyses and remove the causes. In this way, the rules become easily implementable and do no restrict the autonomy and creativity of team members
5. Open Information	The group's knowledge enriches the single element of the team—open and free-flowing information between team members.
6. Adaptive Leadership	Adaptive leadership promotes the creation of an adaptable and evolving team process able to adapt to different contexts. Collaboration and communication are central aspects and allow teams to move faster by solving things face to face.

Note: Contents adapted from Cesarotti et al. (2019)

APM embodies the majority of today's methodologies, like Extreme Programming, Crystal Methodologies, Scrum, Adaptive Software Development, Feature-Driven Development, Dynamic Systems Development Methodology and others (Cesarotti et al., 2019). These methods differ in specific techniques but have in common: short iterative lifecycles known as sprints, frequent relations with customers, and constant learning (Codington-Lacerte, 2020). Instead of in-depth planning at the beginning, the project is broken down in to into smaller manageable subsets which the project teams pursue using a process called design sprints. The goal of each sprint is to produce a working component which is then improved upon if required. Versions of the components of the overall output, are produced, tested, and reviewed. More versions are produced until the final version, is delivered. A design sprint can be broken down into five stages

(Twidale & Hansen, 2019). These stages do not have to follow sequentially; they represent a systematic way the short iterative cycles can be tackled (Twidale & Hansen, 2019). Design sprints can occur in several iterative cycles and more importantly, can run in parallel (Twidale & Hansen, 2019). The stages of design sprints are as follows:

- **Understand** - An exploration of the problem(s) trying to gain an empathetic understanding of it. This information gathered and synthesised will feed into defining or redefining of the problem.
- **Sketch** - Conceptualise the problem through ideation and exploring alternative solutions.
- **Decide** – Choose an idea or theory and visualise it.
- **Prototype** - Materialise (build) ideas sketched earlier.
- **Validate** – test the idea or prototype, learn and reflect

The agile manager understands the effects of the mutual interactions among a project's various parts and steers them in the direction of continuous learning and adaption (Cesarotti et al., 2019). Adaptive APM-based framework includes several practices, like adaptability; fluid organizations, recognition of external control limits in task prioritisation and the focus on problem-solving techniques in which the individual plays a central role. All members are skilled and valuable stakeholders in team management. The primary troubleshooting mechanism is the team's self-regulating ability that minimises up-front planning and focuses on adaptability to changing conditions.

Lean Six Sigma Methodology

A lean project is structured to provide a product that improves the maximum value and minimise waste. The lean management approach originated from the automotive industry, and over the decades has become well established in the service industry. John Krafcik, American research coined the term in the 1980s when his research team noted that the Japanese firm Toyota produced vehicles with fewer defects and greater variety than their competitors, using less of everything; time, money and resources (Ballard & Tommelein, 2012). Over the decades, lean production has made its way into project management as a method of improving delivery in a production environment. The main results consist of significant improvements in schedule and waste (time and resources) reduction (Cesarotti et al., 2019).

Six Sigma is a data-driven methodology focused on eliminating defects, usually implemented to fix an existing product or process that does not meet customer specification or the performance

required by the company. The method can also be applied to design new products or services; in this case, it is called; Design for six sigma (Cesarotti et al., 2019). Six sigma is implemented using sequential phases known as DMAIC: Define, Measure, Analyse, Improve, Control (Cesarotti et al., 2019). Table 2.5 describes the activities carried out in each phase of DMAIC.

Table 2.5 Phases of Lean Project Management

Phase	Activities
Define	• Understand the opportunity • Build the team • Know what the customer wants • Build the case for change
Measure	• Map the process • Gather data • Show size of the problem • Confirm true cause
Analyse	• Identify potential causes • Analyse the process • Analyse the data • Confirm the causes
Improve	• Organise the workplace • Generate potential solutions • Select the best solution • Implement
Control	• Implement process control • Ensure all new processes are documented • Make the improved process the standard way • Capture team learning

Note: Contents adapted from Cesarotti et al. (2019)

2.3 Comparison of Project Management Methodologies

Project management methodologies (PMM) are the different approaches and techniques that teams may use to deliver a project. No one methodology is better than the others; some structured for speed while others for comprehensiveness. Each approach has its pros and cons for specific scenarios. Table 2.6 Compares the strength and weakness of the five methodologies discussed earlier in the literature review. The researcher has summarised the findings into a table format.

Table 2.6 Strengths and Weaknesses of Project Management Methodologies/ Framework.

Source: Author

Methodology/ Framework	Strengths	Weakness
Waterfall	• It allows for departmentalization and managerial control. • Simple and easy to understand and use.¹ • Easy to manage due to the rigidity of the Model – each phase has specific deliverables and a review process.¹ • Sequential phases are processed and completed one at a time.¹ • Works well for smaller projects where requirements are very well understood.¹	• It does not allow for much reflection or revision.¹ • Difficult to make changes or correction once past each phase. Not suitable for the projects where requirements are at a moderate to high risk of changing.¹ • Not a good model for complex and object-oriented projects.¹ High amount of risk and uncertainty
PMBok	• It is a globally recognized standard.² • It builds on experience. • It contains the accumulation of years and years of good practices from thousands of project managers.² • It is process-oriented every process is totally defined with inputs, tools, techniques and outputs. • Can be applied to projects from any industry.²	• Can be too complicated for small projects • Highly document-oriented • Difficult to keep the team connected.
PRINCE 2	• The method is repeatable and therefore, teachable. • Can be applied to Projects from any industry. • It builds on experience. • Everyone knows what to expect. • If a project is handed over in the middle, it is useful to know what	• Can be document heavy • Does not cover soft skills • Not enough emphasis on project plan and execution.³

Methodology/ Framework	Strengths	Weakness
	documents to look for and where to find them.³ • There is early warning of problems.³	
Agile	• The customer gets results faster • Flexibility and adaptability to user changes. • It allows the opportunity to reflect and gather requirements after each deliverable • User feedback continues through the entire project	• It can generate scope creep because users add more requirements according to the deliverables received. • Works better in small teams. • It is harder to implement quality controls because of constant Change.
Lean Six Sigma	• Customer-focused • Shorter customer fulfilment lead times • Improved quality • Lower costs to apply the methodology • Improved capacity utilisation • Maximise invested capital • Customer loyalty and retention	• Data driven • One size does not fit all • Too rigid

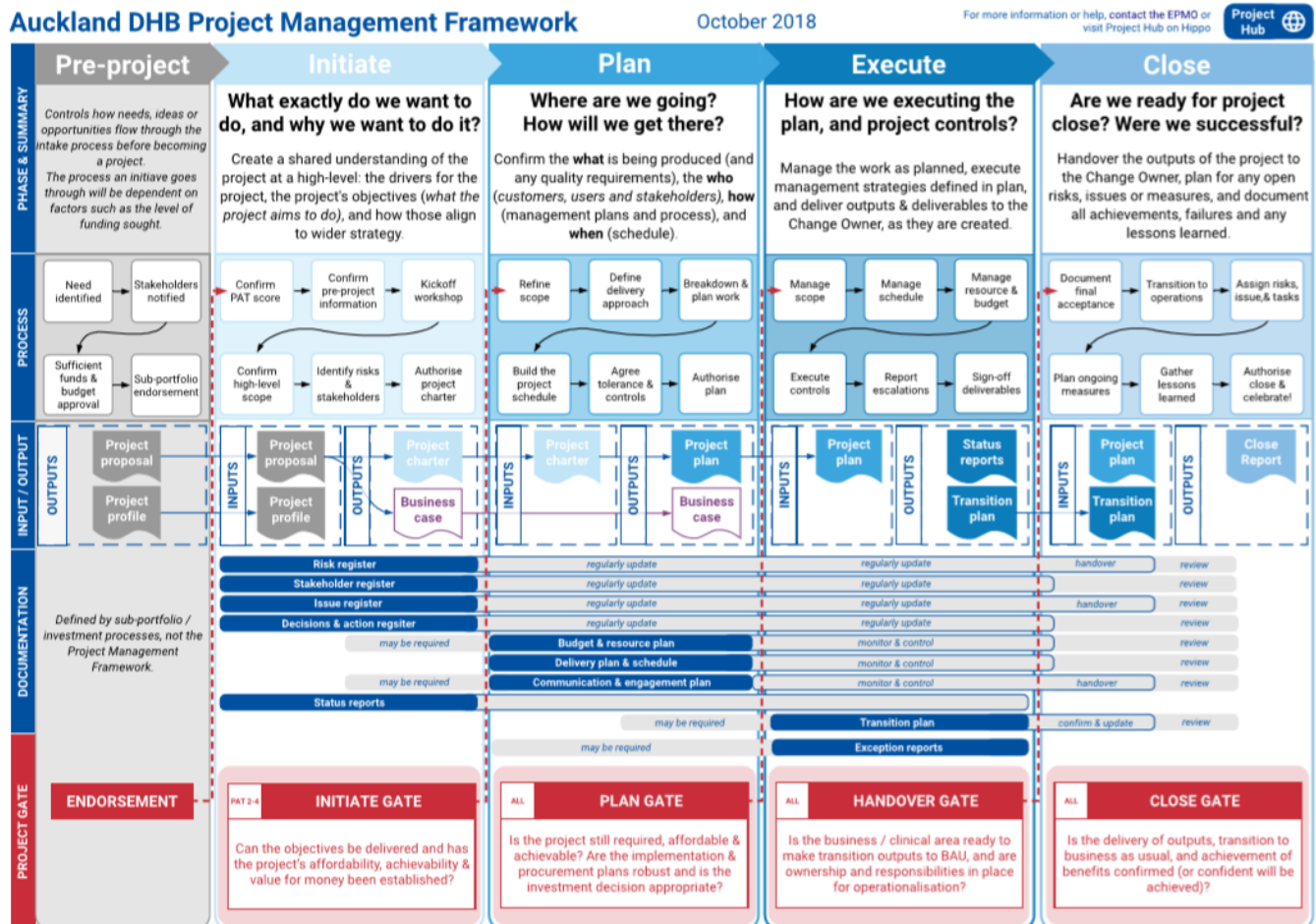
Note: Reference ¹ Kalso (2020) and ² Project Management Institute (2017) and ³ Bentley (2015)

When managing a project at ADHB the organisation endorses the use of ADHB's P3M3 framework, which incorporates both PRINCE 2 and PMBOK methodologies for project management. PMBoK and PRINCE 2 both complement each other in practice and provides a useful groundwork for project management. Prince 2 describes itself as a project management methodology. Whereas PMBoK provides best practice in terms of norms, process and methods that successful project managers should know.

ADHB's project management framework was designed to provide standard policies and guidance for project management's critical elements and set the minimum standards that senior management and the executive can expect from any project, regardless of size, or complexity. Fig 2.2 summarises ADHB's P3M3 framework, which divides the project lifecycle into five phases; Pre-project, Initiate, Plan, Execute, and Close. The lifecycle phases are intentionally broad to make the

framework applicable across the entire organisation at a macro level, ensuring a consistent but scalable approach to project delivery.

Fig 2.2 ADHB's P3M3 Project Management Framework



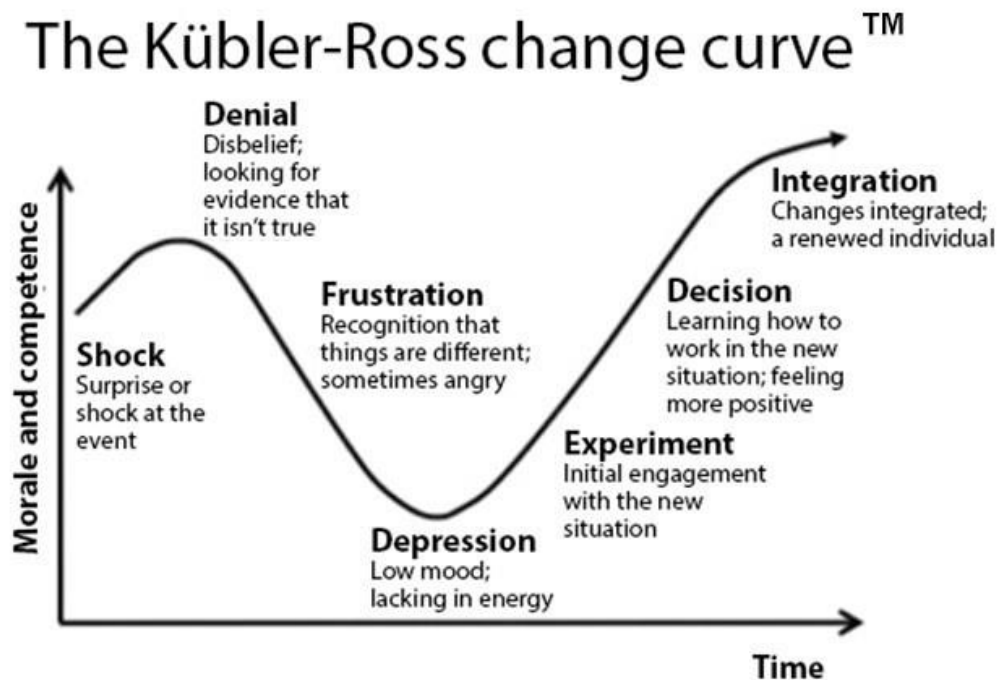
The focus of the framework is project management, rather than technical elements of developing outputs. As a result, this framework is high level and intended to accommodate different development approaches, tools, the ADHB project lifecycle, and the minimum standards' parameters (EPMO, 2018). It does not provide technical guidance on product/service/output development, or elements such as requirements analysis, design & development, testing, and release management (EPMO, 2018). As part of project initiate and plan phase, projects will define the approach for developing and delivering the project's outputs. Many projects, particularly information technology or construction projects, will need to incorporate a specialist development methodology and processes to support their approach. Three development approach commonly used at ADHB is waterfall, Agile or Lean Six Sigma. The differences between these approaches relate to how outputs or components of outputs are developed and delivered to the customer/business (EPMO, 2018).

A useful framework should be tailored to the specific environment and adaptable to projects' dynamic nature and stakeholder demands (EPMO, 2018). It needs to be flexible while still providing guidelines that leverage both best practices and past experiences to ensure the project goals are achieved. Based on this argument coupled with the research being conducted at Labplus & APS which is part of ADHB, the new integrated framework incorporated ADHB's P3M3 Project Management framework. Agile methodology was used for project delivery given nature of the research was exploratory, requiring an iterative process with outputs that had to be established, designed and developed.

2.4 Change Management

Coping with change can be challenging for both individuals and organisations. Harvey (1990) stated: "It is crucial to remember that for every change proposed or achieved, someone loses something" (Elrod & Tippet Donald, 2002). This element of loss if unaddressed can manifest as emotions like those accompanying the stages of grief. The Change Curve seen in Fig 2.3, is perhaps one of the best known and most applied models for businesses and organisations when looking at changes in the workplace (Critchley, 2012). It is an adaptation of the Kubler - Ross grief curve that documented the five stages of grief an individual passes through when coping with trauma and terminal illness (Elrod & Tippet Donald, 2002); (1) Denial, (2) Anger, (3) Bargaining, (4) Depression and (5) Acceptance. Kubler Ross laid the foundation for understating the process of Change.

Fig 2.3 Kubler - Ross Change Curve



Note: Adapted from Elizabeth Kubler Ross Foundation (2020)

The change curve is a theory which tracks the different stages of an individual's psychological journey through change. In the face of change, people experience a vast range of emotions. However, the speed at which a person may go through these emotions varies based on the individual's circumstance (Wiggins, 2009). For example, people are more open to change if they have had a positive experience in the past or can identify with the benefits that may come from the "new environment". It is important to note that change is not a linear process, people may cycle through the emotions, and at times go backwards. There will be a dip in productivity or a low point; the idea is to be able to get past this and move into a place of acceptance (Critchley, 2012; Elrod & Tippet Donald, 2002)

The success of organisational change interventions relies heavily on people's abilities and commitment to implement these interventions and see them through to completion (Jowett & Ma. Regina, 2017). An organisation's capability/readiness to change is about how well it can manage and implement Change (Vaishnavi, Ma, & Pankaj, 2019). Ultimately, generating engagement for change and ensuring that people can implement these interventions rests on an organisation's leaders' shoulders. Therefore, a key variable in organisational change is the effectiveness of its leaders – in particular, their effectiveness in leading change (Jowett & Ma. Regina, 2017). Ideal

leaders of today can be described as transformational (Creasey, 2017; Singh, 2013). These leaders are distinguished by their capacity to inspire and provide inspirational motivation, individualized consideration, intellectual stimulation and idealized influence in the followers (Singh, 2013).

2.5 Change Management Methodologies

Change management is the conception of planning and implementing change in an organisation (Talmaciu, 2014). It is specific activities required to foster the adoption of the proposed change (Creasey & Taylor, 2014; Talmaciu, 2014). When changes impact how employees do their jobs, the speed and level of adoption and usage directly impact the benefits realization and value creation of the change (Creasey & Taylor, 2014). Variations in personnel and organizational cultures have led to various perspectives. Change Management comprises of the three layers; organisation, people and projects (Galli, 2018). Change management methodologies synthesize the research and practice in the field as a basis to understand the processes and mechanisms of change at both organizational and individual levels.

The literature is full of methods meant to achieve organizational change. Known as change theories or models of change, their adaptation to the existing situations in an organisation's life can provide viable solutions to streamline and improve change management. Although there are many change models, the researcher's literature search in key business databases produced four prominent models. Table 2.7 summarises the literature search results for the four prominent change models: Kurt Lewin's Change Model, Kotter's 8 Step Change Model, ADKAR Change Management Model, and McKinsey's 7-S Model. The following section attempts the review the different models and provides their strengths and weaknesses.

Table 2.7 Summary of the literature search finding for change management models

Search Criteria	Scopus	Discover	Emerald Insight	Business Source Complete	Web of Science
"Change Management"	57,890	61,911	15,000	10,112	5,966
"Change Management" AND "Kurt Lewin"	606	49	268	28	20
"Change Management" AND "Kotter's 8 Step"	29	17	10	5	8
"Change Management" AND "ADKAR"	146	44	28	16	16
"Change Management" AND "McKinsey 7-S Model"	19	1	13	0	0

Kurt Lewin's Change Management model

Lewin's theory (Lewin, 1951) distils the process of change down to three steps: the behavioural thaw (unfreezing), the change (transition) and the recrystallization of behaviours (freezing) (Galli, 2018). This three-step model has become best-known and, arguably, the most influential organisational change approach (Burnes, 2020). In the initial phase known as "unfreezing" the change is defined and respectively explored, analysed and understood. This stage highlights the difference between the organisation's real behaviour and the desirable behaviours (Talmaciu, 2014). The second phase "transition" consists of applying the change according to the chosen strategy, implementing a system of behaviour for the Change, specific new values and attitudes (Talmaciu, 2014). The final phase, known as "freezing" consolidates the new system of rules, norms, structures, and policies into the organisation's permanent elements (Talmaciu, 2014).

Lewin's change theory has been criticised as too linear and prescriptive, failing to address the complex iterative process of change (Wojciechowski, Pearsall, Murphy, & French, 2016). There is a lack of detail on how to deal with the human side of change (Galli, 2018). This is a common limitation of most methods not taking in to account an individual's reactions to the change, leading to resistance. An organization or project team will struggle with adopting the change if people resistance is not handled correctly (Galli, 2018). Despite the limitations mentioned, Lewin's Model of Change has become a staple in healthcare management (Wojciechowski et al., 2016).

Kotter's Eight Step Change Model

John P. Kotter's Eight-Step change model (Kotter, 1996) expanded Lewin's original change theory (Appelbaum, Habashy, Malo, & Shafiq, 2012). Kotter believed that "Leadership must create and sustain the kind of changes needed for successful organizations to compete in the current competitive world" (Galli, 2018). His process emphasises a top-led model for change, where it is necessary to engage at many levels of the organisation to implement the organisational Change (Pollack & Pollack, 2015). The process is typically depicted as a linear sequence of eight steps summarised in Table 2.8.

Table 2.8 The Principles of Kotter's Eight-Step Model

Principle	Explanation
1. Create a sense of urgency	Generate an awareness of the need for the organisation to change. It is crucial to gaining needed cooperation.
2. Create a core coalition	Involves forming a group who have enough power to lead the change
3. Develop and form a strategic vision	Developing a strategic vision requires formulating an overall roadmap for the change process. The transformation vision is required to align objectives and to progress as a group.
4. Communication and share vision plans	Regular, consistent communication of the change to develop an understanding of the future state
5. Empowering employees to act on the vision	Involves removing obstacles to change, changing structures or systems that undermine the vision, and encouraging innovative ideas
6. Generate short term wins	Short-term wins help to demonstrate the viability of change and to build momentum
7. Consolidate gains and produce more change	Not allowing complacency and having continuous progress is a goal. Change efforts often fail because participants revert back to their prior habits, usually failing to implement change.

8. Initiate and set new changes	In this stage, the goal is to institutionalize the change and to anchor it in the organizational culture
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Note: Data adapted from Pollack and Pollack (2015) and Galli (2018)

Despite the popularity of the process, Kotter's model of change management lacks rigorous fundamentals. The change management model appears to derive its popularity more from its direct and usable format than scientific consensus (Appelbaum et al., 2012). Both Kotter's (1995) article and 1996 book were based on his personal business and research experience and did not reference outside sources (Appelbaum et al., 2012). The division between how change management is described and how it is practised is not new; the explanation may lie in the target audience. The process of creating change is meant for end-users, such as stakeholders involved in managing the change (Appelbaum et al., 2012; Pollack & Pollack, 2015). Kotter's model views change as a linear process; however, organisations are comprised of multiple instances of the process, each with overlapping stages, and each moving at their own speed (Appelbaum et al., 2012).

McKinsey 7-S Model

McKinsey's 7-S Model was developed by Tom Peters, Richard Pascale, and Robert Waterman Jr., while employed by McKinsey & Company (Galli, 2018). The Model is simple yet complex, identifying seven interrelated areas to empower organisations to inventory their effectiveness (Dewey, 2020). Evaluation of an organisation's effectiveness begins by establishing the critical elements to the operations, followed by understanding how they work in cooperation with each other. This holistic approach to organisation management prepares executives to make a significant change to the business effectively and efficiently (Dewey, 2020). McKinsey's 7-S Model identifies seven key elements that make organizations successful; strategy, structure, systems, shared values, style, staff and skills. Table 2.9 describes the seven elements of Mckinsey's 7-S Model. Fig 2.4 depicts the interrelated relationship between the seven areas.

Table 2.9 Elements of Change for McKinsey's 7-S Model

Elements of Change	
Strategy	Involves transforming the organisation from the current position to the new position, as identified by the objectives.
Structure	Identifies and defines the roles, responsibilities, and accountability relationships.
Systems	The systems influence behaviour because they are the mechanisms that affect the resources available for a given entity and the processes by which individuals are rewarded and groups measured. They include management control systems, performance measurement/reward systems, planning, budgeting, resource allocation systems, and information systems.
Shared values	The central organisational beliefs and attitudes help employees understand the organisational purpose and how it will affect the internal and external environments.
Staff	Includes staffing levels and motivation
Style	This element looks at the leadership of the project and the team. It also includes how the company hires and retains staff into the organization or project team.
Skills	This refers to employees and team members' ability to do the organisation's or project team's work.

Note: Contents adapted from Dewey (2020)



Fig 2.4 McKinsey's 7-S Model (Dewey, 2020)

ADKAR Change Model

Jeff Hiatt is the founder of PROSCI and the creator of the ADKAR change model (Hiatt, 2006). The model focuses on people's adaption to change instead of the change itself (Galli, 2018). ADKAR represents the five building blocks of by how an individual experiences change; Awareness, Desire, Knowledge, Ability and Reinforcement (Galli, 2018; Hiatt, 2006).

Fig 2.5 PROSCI ADKAR Model, Hiatt (2006)



Application of ADKAR methodology can be used to help individuals make sense of the change that is in progress. It can provide organisations with a common language for change. It also enables managers to lead change and diagnose gaps, which can then be remedied with corrective actions. Change is fully realised when every person impacted by the change has achieved each step of the ADKAR model. Having said that it is not feasible for an organisation to take one person at a time through the steps. Hence PROSCI 3 phase process for organisational change management provides a strategy and plan that play a role in influencing individual change.

Fig 2.6 PROSCI 3 phase process for organisational change management, PROSCI (2020)



Each element in this model creates an environment that is more receptive to the change being implemented. Table 2.10 is a quick summary of the tactics that may be used at different stages of the process.

Table 2.10 Summary of tactics used in ADKAR, Hiatt (2006)

Change Management Activities	A	D	K	A	R
Communication	●	●	●	●	●
Sponsorship	●	●			●
Coaching	●	●	●	●	●
Resistance Management		●			●
Training			●	●	

2.6 Comparison of Change Management Methodologies

There is no right or wrong change management methodology. The different methodologies do share some commonalities. When selecting a change methodology for use, it is recommended to compare the different methodologies and decide based on what the organisation needs. Table 2.11 Compares the strength and weakness of the four methodologies discussed earlier in the literature review. The researcher has summarised the findings into a table format.

Table 2.11 Strengths and Weaknesses of the Different Change Methodologies. Source: Author

Methodology	Strengths	Weaknesses
Lewin's change model	• Simple and effective three-step process, which makes it attractive for large organizations and project teams to use.¹ • Analysing aspect changes is easy to do.¹ • The three major steps are transparent enough for change management novices to understand how to do the change from start to finish.¹	• The Model does not detail how to deal with the human part of the change.¹ • The unfreezing phase can be time-consuming and costly if planned poorly or with minimal top management support.¹ • Linear and prescriptive
Kotter's Eight-Step Model	• Greater direction, steps presented in action points arranged in a practical sequence • Incorporates people side of change • Advice on which point in the process to communicate with employees.¹ • Advice on including employees is effective for organisations with a traditional managerial hierarchy.¹	• The process describes what has to be done but little detail in how it should be achieved • Can only be applied to specific types of change • The process should be used as a simple set of linear steps.² • It comes across as a top-down approach. The employees do not have input or the option to share ideas before strategic vision creation.² • Prescriptive, delay or regress if steps are skipped or executed incorrectly, as each step is reliant on the last.
McKinsey 7-S Model	• Shows the weaknesses and strengths in seven core dimensions of the organisation or project team.¹	• Can be time-consuming and tedious to go through all of the levels.¹

Methodology	Strengths	Weaknesses
	This characteristic provides managers with an opportunity to identify where the need for change lies more clearly.¹	- Since it is a complex model, it would be challenging to implement in a large organization.¹ - Instead of focusing the entire model on the people side of change, it only focuses on the skills and staff resource.¹
ADKAR	It has relatively increased focus of employee and project team member acceptance of change. The process starts and ends with them as the forefront of change.¹	- Not practical for an organisation to take one person at a time through the steps. - Lack of academic research on the application of the Model.

Note: Reference ¹ from Galli (2018), ² from Pollack and Pollack (2015)

ADHB endorses the use of ADKAR methodology by PROSCI for change management. Hence the new integrated framework for project and change management developed by the researcher incorporated this model. Despite the lack of academic research on the application of ADKAR, its practicality makes it easy to translate into change activities. During a change project, ADHB's approach is to create awareness and desire for the change initiative through communication at every level. Applying a standardised and consistent approach to knowledge transfer and building capability within the staff to manage and lead the change. This provides staff with the ability to handle the change and manage the challenges that may come with it. Because there is already an appetite for the ADKAR change model in the organisation, staff would be able to relate to the new integrated framework if it incorporates this model. Using the change model that the organisation endorses provides a reliable platform from which to build a framework that is more likely to succeed.

2.7 The Importance of Integrating Project and Change Management in Healthcare

Project management and change management use different terminologies and different methodologies. Their respective proponents arise out of different parts of an organization and have different functional and educational backgrounds. However, they are intimately linked to a

successful outcome (Fibuch & Ahmed, 2018; Hornstein, 2015). There are two distinct bodies of knowledge that underpin the two disciplines' practice (Crawford & Nahmias, 2010; Pádár, Pataki, & Sebestyén, 2017). Project management focuses on planning and control; its origins are from engineering and construction. While Change management places emphasis on behavioural aspects of adopting change and has grown from the Organisational Development field (Crawford & Nahmias, 2010).

Today the vast majority of innovation and business-development opportunities require integration of processes. Healthcare integration projects typically involve significant organisational change, intending to provide improved patient services and outcomes through the integration of healthcare services. Some of the management needs of healthcare integration arguably go past the traditional domain of project management, leading practitioners in these projects to use change management combined with project management (Gordon & Pollack, 2018).

Healthcare integration is an attempt to unify and simplify fragmented and uncoordinated services. There are two broad categories of healthcare integration: vertical integration and horizontal integration (Pollack & Algeo, 2014). Vertical integration focuses on acquiring primary care physicians, establishing physician alliances between hospitals and the organisations where services are managed, and establishing an organizational culture of patient healthcare maintenance (Pollack & Algeo, 2014). Horizontal integration exists when mergers and strategic alliances lead to the development of a multi-hospital system (Pollack & Algeo, 2014).

The health care industry has had difficulty with the systematic use of process management techniques because of its historically fragmented organisational structure and silo mentality (Fibuch & Ahmed, 2018). Gordon and Pollack 2018 paper explores how the Canadian health sector adapted project management to organisational change needs (Gordon & Pollack, 2018). The article retrospectively analyses Ontario (Canada's) efforts to integrate its healthcare provinces in local Health Networks (LHINs), in an attempt to enhance service delivery to patients and overcome fiscal constraints. Five key themes emerged from this study;

- 1) Project management only partly aligns to the needs of healthcare integration projects
- 2) Benefits were found in combining project management with change management
- 3) Change management was particularly beneficial if used early in the project life cycle
- 4) The life cycle of these two disciplines did not align, causing complications in practice
- 5) Practitioners used an intuitive and improvisational approach to combine the discipline

Findings of these studies underpin the need for the current research. Ministry of Health's Northern Region Long Term Investment Plan (NRLTIP) endorses healthcare services integration across Northland, Waitemata, Auckland and Counties Manukau DHBs. The region has committed to reducing inequities that currently exist in the system and work across DHB boundaries, integrating sharing resources, assets and services to optimise health gain for all communities. Such an endeavour will require significant organisational change management and project management to deliver these outcomes.

2.7.1 Research Gap

Crawford's 2010 paper on Competencies for Managing Change highlights the organisational change as a project type (Crawford & Nahmias, 2010). Impact of organisational change management on project success has been explicitly identified in literature only recently (Fibuch & Ahmed, 2018; Gordon & Pollack, 2018; Hornstein, 2015; Pádár et al., 2017). Key components of change management, such as communication and stakeholder management, is covered in PM standards. However, the knowledge and skills required to manage organisational and behavioural change are not specifically addressed. The management of organisational change has continued to have a relatively small representation in the project management literature (Hornstein, 2015), despite multiple studies associating poor management of human factors with the failure of organisational change projects (Crawford & Nahmias, 2010).

Parda et al. 2017 paper explore the interdisciplinary knowledge transfer between the two disciplines to establish common ground between the two. Both project and change management draw on very similar methodologies. The underlying concepts are the same. Nevertheless, the two disciplines continue to run in parallel. Over the past decade, there has been a growing demand for integrating the two disciplines (Crawford & Nahmias, 2010; Hornstein, 2012). Hornstein 2015 (Hornstein, 2015) paper acknowledges that each discipline requires different skill sets, as stated by Crawford and Hassner 2010 (Crawford & Nahmias, 2010). None the less the disciplines are complementary and mutually supportive areas that should be integrated rather than running in parallel. This research will attempt to create an integrated project and change management framework using ADHB's P3M3 Project Management Framework and PROSCI's ADKAR change model.

2.8 Building Project and Change Management Capability

The connection between project management methodologies (PMM) and project success has been the topic of many research pieces. It can be generalised that effective PMM implementation does not always guarantee positive or enhanced project outcome (Wells, 2012). PMM can be useful by compensating for the absence of tacit knowledge in a project (Wells, 2012), helping managers with less experience and knowledge of project management. The same can be said for change management methodologies. Advantage of using adequate project or change management methodology is that it provides support and guidance for managing the transition and executing the project. Some of the elements that would be seen are:

- Effective plans and controls
- Efficient use of resources
- Better communication
- Effective governance
- Benefit realization

However, these advantages can only be achieved if the proper implementation of the methodology is deemed adequate for the type of project under consideration. An incorrect implementation or implementation of an inadequate methodology may lead to confusion and disorientation and, consequently, to poor project execution outcomes (Chin, Spowage, & Yap, 2012). Fibuch and Ahmed 2018 comments that the primary factor behind successful project management is systematic, consistent, and aligned development and deployment across the entire organisation. Legendary companies such as General Electric and Boeing are known for managing their projects and processes well (Fibuch & Ahmed, 2018). On the same token, viewing change from a systemic perspective means acknowledging and embracing people's interconnectedness affected by the change.

A literature review by Shi 2011 has shown many indicators regarding the implementation of project management at both a strategic and tactical level (Shi, 2011). In an attempt to develop the best approach to implement PM practices into an organisation Shi, Qain (2011) propose a term called "Value Adding Path Map" (VAPM). His research explored project management's value in different kinds of organisations; and notes that the magnitude varies from one another. This can be attributed to two things a) the approach taken to implement PM is right, b) the environment in which PM is implemented is suitable. If you were to compare PM to an instrument, knowing the

right way to operate it and the correct context to use it in are both very important. These two dimensions of PM are referred to as "Hard", and "Soft" systems. The coordination of these two systems creates the largest value to an organisation with the least amount of investment (Shi, 2011).

Soft System configuration consists of the general environment in which the PM practices are being implemented. This includes the management system and the PM culture. The maturity of an organisation highly influences value return from project management. A more mature organisation will have more capability, which is the ability to direct the right resource, expertise and time to achieve successful outcomes from a project. Hard System configuration consists of the PM process, PM training and knowledge management as well as the tools and techniques used in the management of projects (Shi, 2011).

Creasey and Hiatt also suggest a similar approach for building Enterprise Change Management (ECM), referred to as the ECM strategy map (Creasey, 2019). As seen in Figure 2.7, capability building is treated as a change project; transition happens from current state to future state addressing both technical and people side of the transformation (PROSCI, 2019)

- People side – addresses components that build buy-in, support and commitment for change management. A fully implemented technical solution that no one supports will not deliver results and outcomes.
- Technical side – implementation of solutions and mechanisms that embed change management process, tools, techniques, training and knowledge management

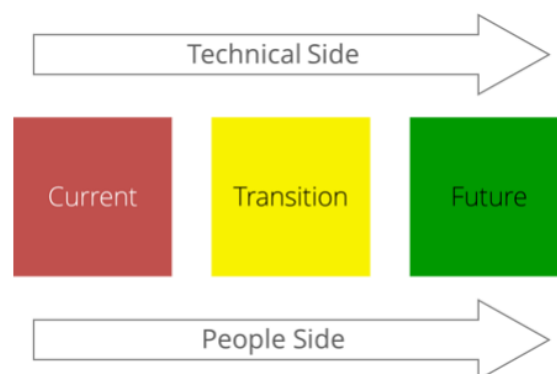


Fig 2.7 Enterprise Change Management ECM, PROSCI (2019)

Soft System Configuration / People Side

This system's focus is to create an environment that endorses the use of project and change management in the core functions of the business. Table 2.12 and 2.13 lists potential activities that will help configure the system:

Table 2.12 Overall management system activities to consider for Soft System Configuration/People Side. Source: Author

Overall Management System	
Change Management	Project Management
• Make a leading change a core competency in leadership roles • Create a change network with business analysts, project managers, directors and executives with high accountability • Building a strong network of sponsors for enterprise change management and making sure they are visible • Budget appropriately for the resource of change management on all projects	• The project management system is aligned with the business strategy • The structure of the overall management system is highly project-oriented • The project management system is very well coordinated with the overall management system including the involvement of the support functions in the organisation • The strategic planning of the organisation and project identification are tightly coupled • Project Management Office (PMO) has been set up • The project manager has a clear goal and authority when managing a project

Note: Data adapted from Creasey (2019) and Shi (2011)

Table 2.13 Culture activities to consider for Soft System Configuration/People Side.

Source: Author

Culture	
Change Management	Project Management
• Understand the organisational culture to develop the best strategy to build change capability across the organisation	• The organisation recognises that project management contributes to the success of the organisation

• Use change management efforts to cultivate the desired organisational culture • Change management is a highly visible initiative and inclusive of our most difficult audiences within the organisation • Maintaining a focus on how individuals benefit from the organisation adopting enterprise change management • Promote the use of change management by sharing success stories of change practices being used in the business • The organisation has a shared language for change management	• The project management professionals have a clear career path in the organisation • The PMO is regarded as an essential department of the organisation • The resources allocation systems are highly project-oriented
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Note: Data adapted from Creasey (2019) and Shi (2011)

Hard System Configuration / Technical Side

This system focuses on implementing solutions and mechanisms that enable staff to practice both disciplines with a universal language and standardised approach. Table 2.14, 2.15 and 2.16 breaks the system into three areas and suggest potential activities that would promote it:

Table 2. 14 Process activities to consider for Hard System Configuration/ Technical Side. Source: Author

The Process	
Change Management	Project Management
• The organisation has a clear definition of change management process including integration management, scope management, cost management, time management, quality management, procurement management, communication management as well as risk management across the initialising, planning, executing, and closing stages of a project	• The organisation has a clear definition of the project process including integration management, scope management, cost management, time management, quality management, procurement management, communication management as well as risk management across the initialising, planning, executing, and closing stages of a project

• Embed change management practices into improvement initiatives and projects • Maintaining a focus on how individuals benefit from the organisation adopting enterprise Project and Change management practices	• The organisation has a clear definition of portfolio and program management processes
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Note: Data adapted from Creasey (2019) and Shi (2011)

Table 2.15 Training and knowledge management activities to consider for Hard System Configuration/ Technical Side. Source: Author

Training and knowledge management
• The organisation has a training budget for project and change management which is aligned with the personal development plans of project management professionals in the organisation • The organisation has a regular project management and change leadership training system for top managers • The organisation has regular training system for project team members • The organisation has sound knowledge management systems for project and change management including the learning system to improve the effectiveness of the project management professionals which goes beyond training

Note: Data adapted from Creasey (2019) and Shi (2011)

Table 2.16 Tools and techniques activities to consider for Hard System Configuration/ Technical Side. Source: Author

Tools and techniques
• The organisation has systematic project management methodologies and techniques in the implementation of project management • The organisation has software to assist with schedule, cost, quality, and risk management • The organisation can track projects to assist in resource allocation • Create a community of practice

Note: Data adapted from Creasey (2019) and Shi (2011)

2.8.1 Research Gap

Companies may face the challenge of establishing a series of logical, economical and reasonable steps of increasing capability in both project and change management (Crawford, Aitken, & Cooke-Davies, 2009). There is a lack of clarity about how capability growth in project and change management can be developed and facilitated by an organisation in the current research literature. This could be due to the nature of knowledge embedding processes is not being well understood at either the organisational or individual level (Fernandes et al., 2015). Organisations need more guidance on how to embed PM and CM practices into the core of their business so that they can reap maximum benefits from it. This research report is an attempt to provide such guidance using Shi, Qain “Value Adding Path Map” and PROCI ECM strategy map

Chapter 3 Research Methodology

3.1 Detailed descriptions of research questions/ hypotheses

Due to the size and nature of the ADHB project management can be challenging. As a public entity, the organisation relies on public funds, compliance requirements from the government or Ministry of Health, adherence to national policies and regional direction while providing service that cannot stop. With all these challenges, change management has taken a prominent role in the organisation. Service development often requires behavioural changes and usually creates extensive change to the way people perform their jobs. For an organisational change project to be successful adoption is the key.

There is not always enough money or resources (staff) for a project to have a project manager and a change manager in the public health sector. Healthcare projects are usually done by technical and clinical staff who may not have project or change management training or experience. Often these staff are expected to manage both domains while continuing with BAU. Hence the first three research question explored the efficacy and practicality of combining project and change management practices. The first hypothesis is that project and change management practices can be integrated. Secondly, it would be valuable to have an integrated framework that could provide staff with guidance when fulfilling both project and change manager's role.

Finally, this research's basic assumption is that an organisation can improve project outcomes performance by improving PM and CM practices. However, standardised practices for both disciplines is not always sufficient at creating value return. How well it is embedded into the company will determine the value that is gained from them. Building the capability of staff to be able to use both practices most effectively and efficiently is the aim of the second research question. If an organisation is aware of these factors and addresses them during the stages of the embedding process, then the embeddedness is more likely to be achieved.

3.2 Consideration for Research Strategy

A research paradigm is based on ontological and epistemological assumptions (Berryman, 2019; Scotland, 2012). Ontology is a philosophical concept that dates to Aristotle times (West, 2011). It is part of the metaphysics study of what exists: the theory of “being” and the rules governing it (Scotland, 2012; West, 2011). Epistemology is concerned with how knowledge can be created, acquired, and communicated (Scotland, 2012). Berryman (2019) describe epistemology as “ways” of knowing; how we know what we know, and who can be a knower. “In other words, what it means to know” (Scotland, 2012).

Ontology and epistemology provide an insight into the researcher's view of what constitutes the nature of truth. Different paradigms inherently contain different ontology and epistemology views based on conjecture and philosophical underpinnings (Scotland, 2012). A researcher’s ontology will generate the research question's foundation, and their epistemological position will help shape the research. Both perspectives influence the choice of methodology, that is the theory of how the inquiry will proceed (Berryman, 2019). In this research, ontology is knowing that Project and Change management are two processes that exist in the business world and healthcare. The epistemology is to understand why these processes are essential and how to use them effectively.

3.3 Research methodologies

Research methodology has a crucial role in generating knowledge from studies and their design (Smyth & Morris, 2007). Providing instructions on the type of data that will be collected, how it will be gathered and subsequently analysed to generate the research question's findings (Berryman, 2019). Hence the methodology is driven by the nature of the research question. The data collected can be either quantitative or qualitative, which is influenced by the researcher's own ontology and epistemology, as discussed earlier. Epistemology and ontological position can be traced back through the methodology (Scotland, 2012).

Epistemology is divided into positivism and interpretivism (Berryman, 2019). A Positivist researcher will look for quantifiable evidence; they believe in a cause and effect relationships through repeat observations (Berryman, 2019). The research will seek to establish links between constructs, generally by comparing groups or responses, utilising quantitative methodologies such as experiments and surveys with the researcher remaining separate from their investigations to

maintain objectivity (Berryman, 2019). Quantitative methodology generally seeks to test a theory, hypothesis, or explanation. Variables are identified, numeric data is collected, statistical analysis is often employed, and set validity and reliability standards are used (Berryman, 2019).

An interpretivist researcher seeks to understand a phenomenon, in context, through the understanding of the participants (Berryman, 2019). The world for an interpretivist holds multiple truths, which is revealed through social constructions, language, shared consciousness, and other social interactions (Berryman, 2019). Using qualitative methodologies such as case study, ethnography, phenomenology, grounded theory and narrative the researcher seeks to understand the “how” and the “why” from an individual’s perspective, investigating interaction among individuals as well as the historical and cultural contexts which people inhabit (Berryman, 2019; Scotland, 2012). Data is collected via field notes, participant observation, analytic memos, artefact collection, document analysis, interviews and focus groups (Berryman, 2019).

Pragmatic research methodology rejects the qualitative/quantitative divide and adopts strategies that draw upon a mixed-method approach (Gunasekare, 2013). Positivism and interpretivism are two very mutually exclusive paradigms about nature and knowledge sources (Feilzer, 2010). Feilzer (2010) argues that pragmatism can be an alternative paradigm that “sidesteps the contentious issue of truth and reality”. Pragmatics recognises that to solve a problem in the “real world”, a singular point of view may not give an entire picture, and there may be multiple realities (Feilzer, 2010). Clarke and Visser (2019) support this argument by exploring possibilities and pitfalls of this research style; concluding that for a “novice researcher” it provides a flexible and more reflexive approach to research design.

3.4 Research Design

There are two components to this research; the first part was to develop an integrated project and change management framework that could be used for healthcare projects. The second part was to build capability for project and change management in the organisation through the development of soft and hard systems. Pragmatic research was the approach selected, as it provided the freedom to use multiple methods. The study's basis was more qualitative, attempting to answer a “how” question through brainstorming sessions, group work, and feedback loops. However, in a scientific setting such as a laboratory; theories and concepts are far more likely to be adopted if backed up with empirical data. Hence, the researcher employed a survey to provide insight around

the understanding of project and change management capabilities at LabPlus & APS. The questionnaire was designed to explore the use of either or both project and change management processes in the laboratory to manage and deliver projects. The survey results were used to identify gaps in the process and help create a new integrated framework.

Case study research design is suited when “what” or “how” questions’ are being investigated. It allows the exploration of existing issues and develops theories within the research's real-life context (Yin, 2014). Thus, allowing the research to be tailored to the inherent complexity of the research problem. Boblin et al. (2013) suggest that a case study design is suitable to conduct in-depth studies in various organisational settings (Boblin, Ireland, Kirkpatrick, & Robertson, 2013). This research was set in the healthcare sector in a single location. LabPLUS & APS is part of the clinical support directorate within Auckland City Hospital. Limiting the study to one arm of the directorate within the hospital allowed the researcher to create an integrated framework for PM and CM in a single management structure. At the same time, LabPLUS & APS is made up of seven departments, each having their own operating model. Therefore, providing a sample population that reflects a larger hospital setting.

The exploratory single-case design suited this research's needs since the study organisation had a history of using project and change management frameworks throughout the company. The researcher wanted to explore how these two processes could be integrated into one. As LabPlus & APS fall under the umbrella of ADHB, the researcher had to utilise the project and change management methodologies endorsed by the organisation to create an integrated framework. By doing this the researcher could align the new framework with the organisation's strategy and vision. At the same time, ADHB’s project management framework was used to manage the research, and agile research methods were used as a means of project delivery. ADKAR change management methodology was used to build capability within the organisation for the new integrated framework.

3.5 Research Management

Managing a research project involves a series of steps and activities that must be managed to avoid delays, development problems and constant monitoring by the advisor (Mustaro & Rossi, 2013). In research, time and results are the two biggest assets. Applying the fundamentals of project management to a research project can help maximise the results and potentially save time

(Mustaro & Rossi, 2013). ADHB's P3M3 divides the project life cycle into five phases, this section describes how the researcher applied the phases to manage this research project.

Initiate Phase

In this phase, the research project is set up. It included analysing the literature, generating a hypothesis, and discussing with the supervisor on the originality and validity of the research. At this point, the researcher determined a high-level structure (individual or group work), secured resources, and explored any ethical considerations. In December 2018 the researcher submitted a proposal to LabPlus Project Gateway Group to request permission to conduct the project at LabPlus & APS, which was approved in January 2019. A working group was formed, which included representation from Auckland DHB EPMO, Organisational Development change practitioners, Health IT portfolio manager, technical and management teams from LabPlus and APS.

Table 3.1 Make-up of the Project Team

Members:	Role
General Manager of LabPlus and APS.	Sponsor
Operations Manager of LabPlus	Process Owner
A Technical Head of LabPlus	Advisory
Director of the EPMO.	Advisory
Change Lead form Organisational Development team	Advisory
Health IT Portfolio Manager	Advisory
Laboratory Information Systems (LIS) Manager	Advisory
Technical Expert and SharePoint Administrator from LIS.	Technical Expert
Researcher	Project and Change Manager

Plan Phase

In the planning phase, the researcher created a work breakdown structure to execute the project (refer to Appendix 3). This phase included extensive research to understand the current practices at ADHB and LabPlus & APS. A more detailed literature review was conducted to compare the project and change management frameworks/methodologies.

Execute Phase

The execution phase relies heavily on the planning phase. Here, the researcher proceeded to develop the new integrated framework, the SharePoint site for monitoring project delivery, and activities that built project and change management capability.

Close Phase

This phase was mostly to do with handing the new process back to the PGWG. For the researcher, this was the period in which the thesis was written up and submitted.

3.6 Detailed Description of the Research Approach

Ilyés (2019) describes research as an area of “high uncertainty and open results” to which agile methods suit ideally. In Particular, an exploratory study may present considerably more uncertainty about where it will lead and what exactly has to be done to make progress at any given point in time (Ilyés, 2019). In research, the use of Agile would be to decompose the research problem into smaller manageable subsets and pursue them using a process called design sprints (Twidale & Hansen, 2019). Outputs from one sprint interlinks with other sprints with time for reflection and learning in between. Design sprints can occur in several iterative cycles and more importantly, can run in parallel (Twidale & Hansen, 2019). In total, there were nine design sprints throughout the research project. This section describes how the researcher conducted each design sprint and how they interlinked with each other.

Sprint 1:

A survey was conducted in the first quarter of 2019 to understand the level of capability for project and change management within LabPLUS & APS. The goal was to identify common themes and areas that require growth to improve the organisation’s maturity for both disciplines. It also provided evidence to support the second research question; Is there a need for both change and project management in healthcare?

The survey included 30 questions (refer to Appendix 3) and covered both project and change management components. The questions were based on the five process groups from PMBok; Initiate, Plan, Execute, Monitor & Control, and Close. Sixteen questions were multi-choice with the answers ranging from Very, Somewhat, Not very and Not at all. “Very” and “Somewhat” were considered positive outcomes for a question. “Not very” and “Not at all” were adverse outcomes.

Three questions had an answer of “Yes” or “No”, one question was based on personal experience of the overall process; Positive or Negative, and one question rated the overall change component as High, Medium or Low. The first two questions gave context about the respondents; what project they were involved in and the role they fulfilled. There were six free text questions; these questions provided the respondents with the opportunity to express lessons learnt, i.e. why they believe the process excelled or how things could be improved.

SharePoint was used to conduct the survey. A link to the questionnaire accompanied by an information sheet (refer to Appendix 2) was emailed to participants. The sample population included anyone who participated in a LabPlus & APS project in 2017-2018. Roles of the participants were recorded; the researcher sought responses from as many roles covered in a project to capture a holistic view. Quantitative analysis was performed on the multiple-choice questions to compare the performance between successful and unsuccessful projects. Qualitative analysis was used to generate themes from the free text, open-ended questions.

Sprint 2

The researcher compiled a list of common project management methodologies through multiple literature searches. Pros and cons of the methodologies were discussed in detail with the sprint team members, which included the director of the EPMO, Health IT portfolio manager, and the sponsor. Their knowledge and expertise guided these methods’ practical application, especially in a healthcare setting.

Sprint 3

Different change management philosophies and methods were investigated through literature reviews by the researcher. A list of popular methodologies was compiled and discussed in mentoring sessions with the Change Lead who was part of this sprint. These sessions included exploring the pros and cons and the practical application of the methodologies in healthcare.

Sprint 4

The researcher worked closely with the Project Gateway Group (PGWG) using it as the central point for launching the new integrated framework in LabPlus & APS. Hence, the researcher had first to understand how the group functioned and their role within the organisation. This information provided insight into the management system and culture of LabPlus & APS regarding project and

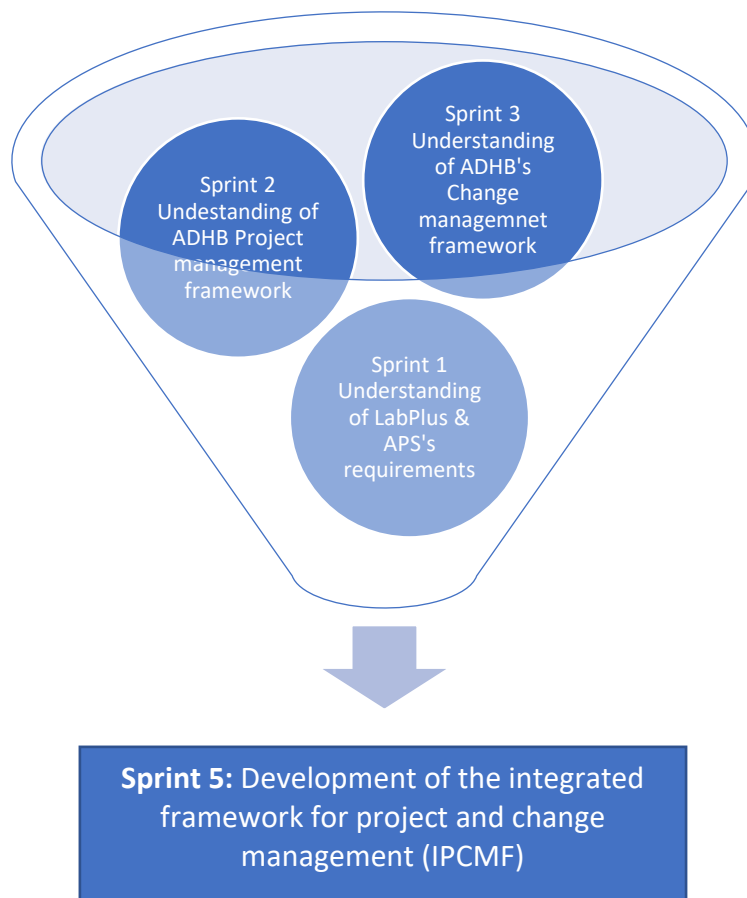
change management. Process mapping and brainstorming sessions were used to gather information. Members of the PGWG participated in both activities, and the researcher also attended the monthly, PGWG meetings to observe the processes.

Sprint 5: Framework Development sprint

A useful framework should be tailored to the specific environment and adaptable to projects' dynamic nature and stakeholder demands. It needs to be flexible, while still providing guidelines that leverage both best practices and past experiences to ensure the project goals are achieved. The outcome of the survey in Sprint 1 highlighted the gaps in capability for project and change management within LabPLUS & APS. Sprint 2 and 3 provided the background information on the frameworks', policies and groups present in ADHB in the project and change arena. Taking these findings and that of the literature review, the researched attempted to create a new integrated framework for project and change management.

The framework was based on activity-based consolidation, architecting the relationship between the project team and the resource/s dedicated to change management – integrating at the “who is doing the work level”. Activities that overlapped were merged to create a common set of steps that can be applied to projects. As the model evolved, the researcher submitted each draft to the working group to review and provide feedback (refer to Appendix). The final version merges the PM and CM stages and activities and highlights the role that would hold the responsibility to ensure that this activity is completed if required.

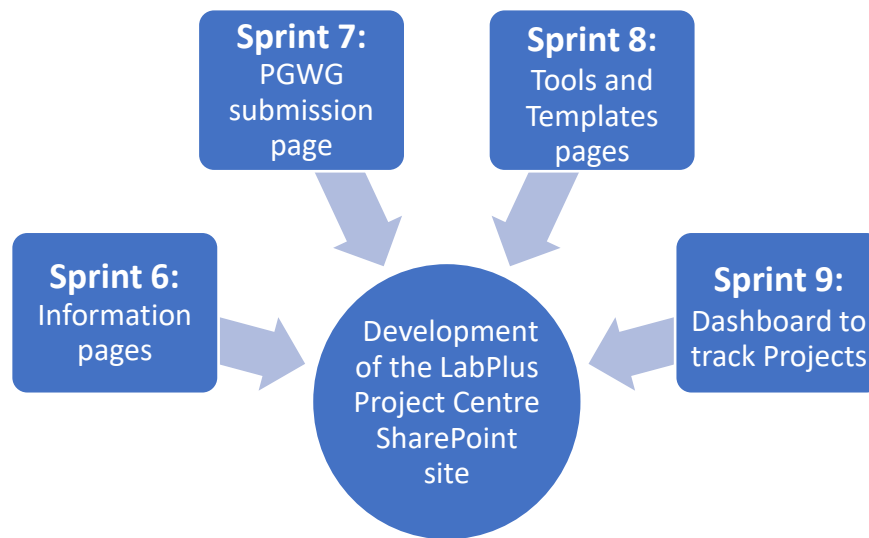
Fig 3. 1 Framework Development Sprint



Sprint 6 to 9: SharePoint Development

Each sprint in this scrum was geared towards creating the different pages of the SharePoint site. The work was initially done in the “Acceptance” environment; this is a development system that ensures the live system is not affected by the new changes. Functionality, layout and content of the pages were tested and revised several times. The SharePoint developer did development; the researcher provided content, and users of the system performed the testing. Once the site was complete, it was transferred to the production environment, which is the live system. Post transfer the pages were tested again to ensure the whole site was still working.

Fig 3.2 SharePoint Development Sprints



Building Capability for Project and Change Management

In this research 'improving' capability is seen as the identification and customisation of a useful project and change methodology, which is then embedded into the organisation. The literature review provided a strategy for building capability within an organisation. Shi Qain's "Value Adding Path Map" (VAPM) and PROSCI's Enterprise Change Management (ECM) strategy map both recommended focusing on soft and hard system configuration, which addresses technical and people side of building capability. This is the approach the researcher used to improve capability in LabPlus & APS. Focusing efforts on developing an overall management system and culture that supports project and change management practices and provides staff with processes, tools, and techniques to successfully apply them. Building capability for project and change management within LabPlus & APS was treated as a change a project. The researcher applied the principles of ADKAR methodology to deliver the change.

3.7 Ethical considerations

The research was governed by the Code of Ethical Conduct for Research, Teaching and Evaluations Involving Human Participants (2017). A peer review of the project was judged to be "Low Risk". Consequently, it did not need to be reviewed by the University's Human Ethics Committees. However, as the research considered the following ethical issues and proposed mitigation techniques :

Table 3.2 Ethical Considerations

Ethical Component/Issue	Description	Mitigation
<i>Informed and Voluntary Consent</i>	Participants from past projects will be asked to complete a survey.	• An information sheet will be given to the target group of participants (refer to Appendix 2); ○ inviting them to participate in the research study ○ detailing what the research is for and why it is being done ○
<i>Respect for privacy and Confidentiality</i>	As this research was conducted in a hospital setting, patient confidentiality needs to always maintain.	No patient data is required for this project. All data obtained will be that of organisational operations and processes level.
<i>Avoidance of conflict of Role/Interest</i>	One of the project team members was a personal relation of the researcher	Decisions made will be done via quorum.
<i>Avoidance of benefits</i>	The sponsor of the project is the General Manager of LabPLUS.	There will be a project steering group that will oversee the direction of the project.
<i>Avoidance of benefits</i>	The researcher is an employee of the Study organisation (LabPlus and APS)	All decisions that are made in regard to the direction of the project, the use of data and outcomes will be clearly documented and be available for transparency.

Chapter 4 Results

4.1 Survey Results

Perceived success was used as a criterion to separate the results into two groups. Respondents that believed their projects were successful and those that did not. Overall performance of the different elements in each group has been calculated as percentages. Results from the survey provided a baseline of capability for project and change management that already existed. It also singled out areas that need development. For the free text question, a qualitative analysis was performed in excel. Depending on the question, the researcher evaluated the answer for either key words or themes that corresponded to particular activities forming a picture of the type of activities the respondents felt added value to overall project success. Breakdown of the analysis of the results are as follows:

Table 4.1 Survey Details

The survey captures the timeline of	2017-2018
Number of projects included in this survey	13
Number of respondents	26

Table 4.2 Participants of the Survey

Role	No of respondents	Percentage of respondents
Change Agent	1	4%
Project Manager	4	15%
Steering Group	2	8%
Subject Matter Expert	6	23%
Team Leader	4	15%
Tester	8	31%
User	1	4%
Grand Total	26	100%

Table 4.3 Types of Projects included in the Survey

Project name	No of respondents	Percentage of respondents
ACS Multilab	1	4%
Antenatal screening (MSS): MSS App	1	4%
Blood Science Work Area	5	19%
Cerebro - LabPlus	4	15%
Cherwell - LIS Service Requests to Queue software	1	4%
ICNet - Lab results and IC Net Interface	4	15%
L2 Hub room upgrade	1	4%
Newborn Screening: Add SCID screen	3	12%
POCT - Universal connectivity	1	4%
Service Excellence	1	4%
Trace Metal Mass Spectrometer upgrade	1	4%
V9 LIS Upgrade	2	8%
Vetting of Sendaway Tests	1	4%
Grand Total	26	100%

4.1.1 Quantitative analysis of the Survey Results

Perceived success was used as a criterion to separate the results into two groups. Respondents either believed the project they were involved in was successful or unsuccessful. There could be a difference in opinion on whether a project was successful or not for projects with multiple respondents. Chart 4.1 summarises the first question's results: Would you deem the project you were part of a success? Of the 26 respondents, 19 believed that their project was successful (73%), while seven believed that their project was unsuccessful (27%)

Chart 4.1 Perceived Project Success

Chart 4.2 and 4.3 analyses the performance of two groups separately. Each graph compares the performance of the different PM and CM elements that respondents felt contributed to a project's success. In Chart 4.2 the response of “Very” or “Somewhat” is much higher than “Not Very” or “Not at All” indicating that respondents felt that the different elements of project and change management were executed to a reasonable standard for projects deemed successful. On the other hand, projects deemed unsuccessful had a higher percentage of responses of “Not Very” or “Not at all” which can be seen in Chart 4.3.

Chart 4.2 Survey Results for Perceived Successful Projects

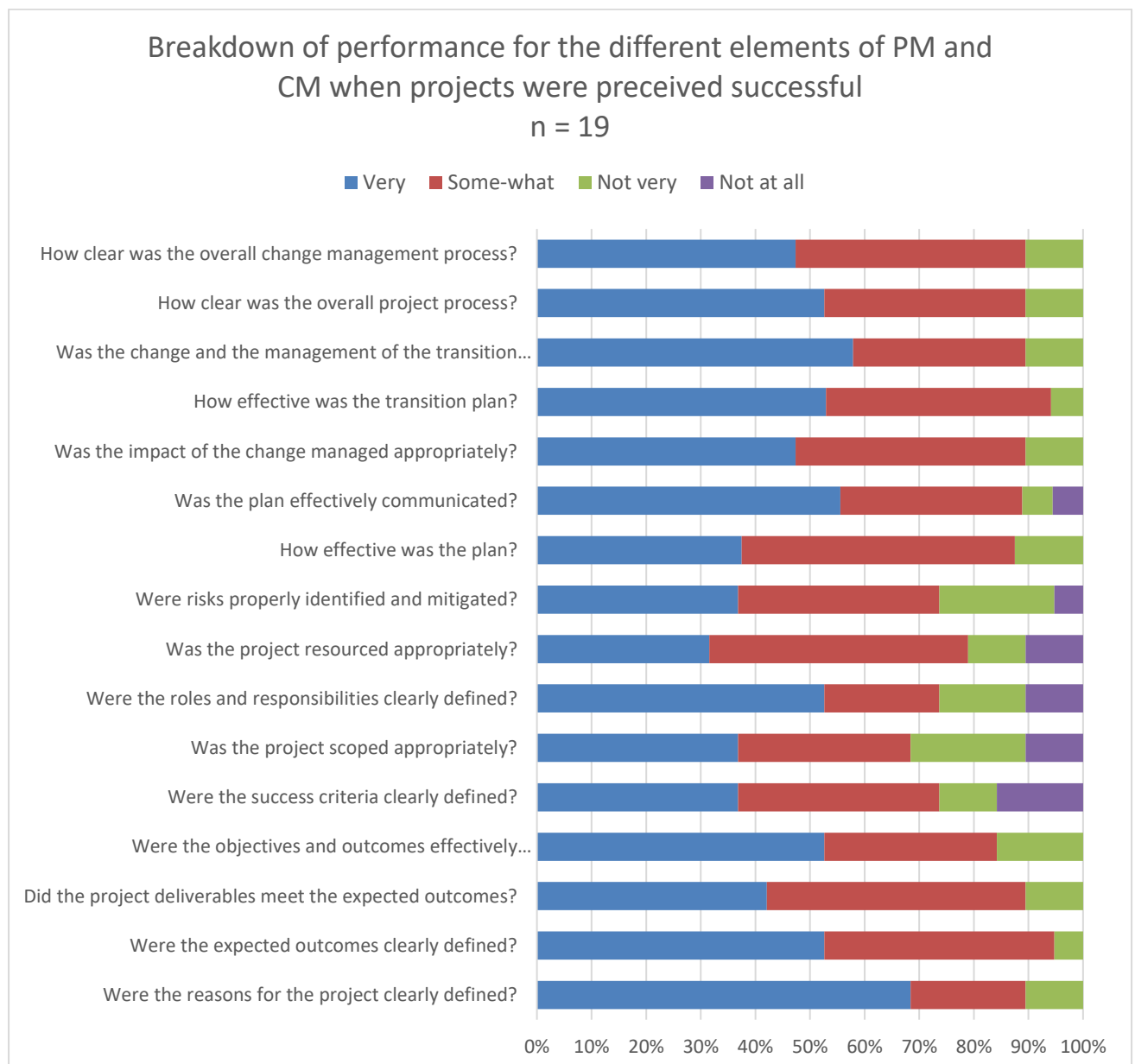
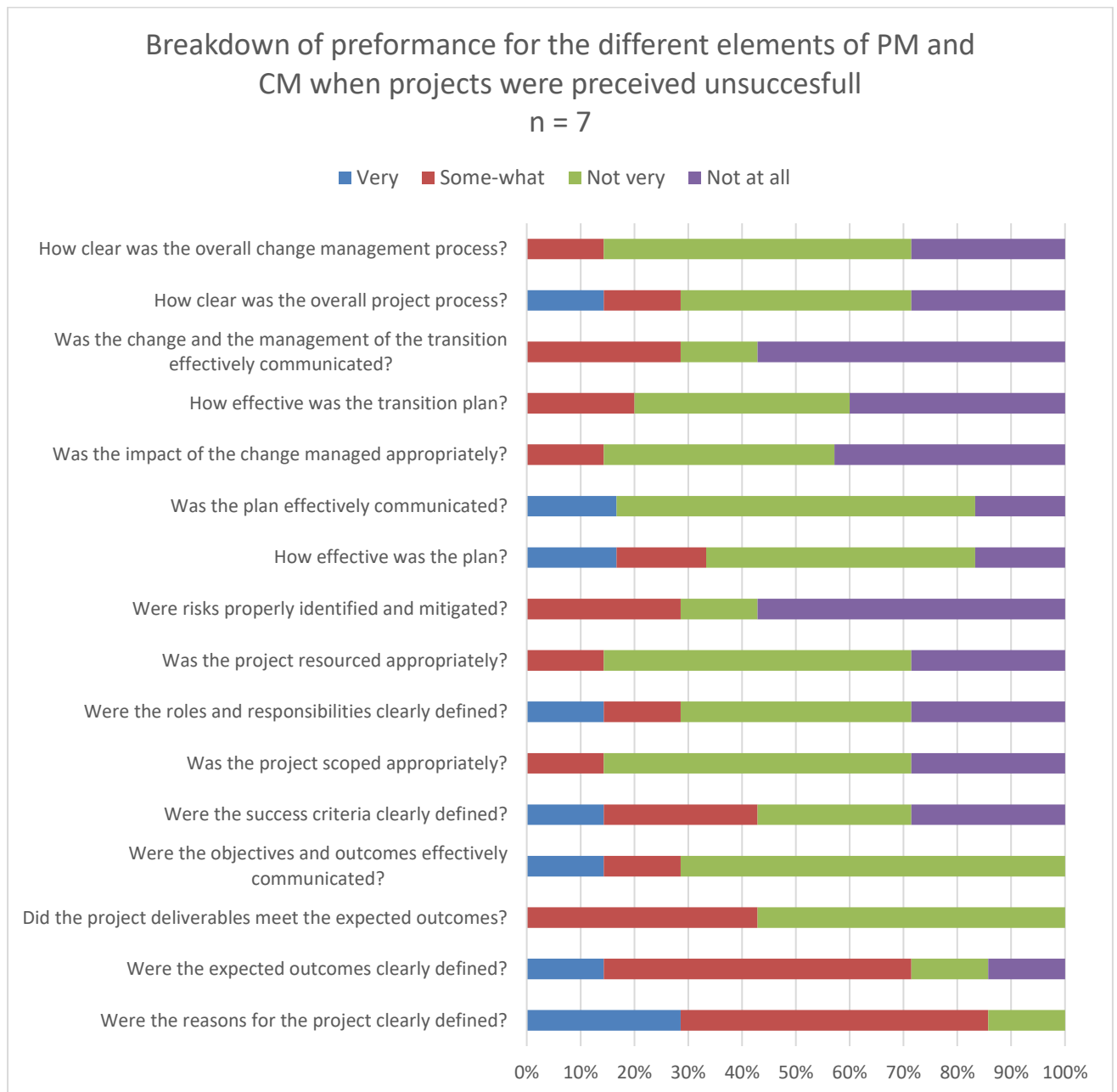


Chart 4.3 Survey Results for Perceived Unsuccessful Projects



A Mann-Witney test was performed to determine whether there was a significant difference in performance between the two groups; successful and unsuccessful. Mann-Whitney was used because of ordinal data, and a relatively small sample size meaning that the assumptions of a parametric t-test (especially the underlying normal distribution for sample means) were not sufficiently met. Mann-Whitney is a nonparametric equivalent to a t-test comparing group means. The four possible responses to the questions were assigned a numeric value, Very = 4, Somewhat = 3, Not very = 2 and Not at all = 1.

Table 4.4 compares the median result for each question between successful and unsuccessful projects. The questions highlighted in blue accept the null hypothesis; there is no difference in how the two groups performed these elements of PM and CM. Questions highlight in yellow are starting to show a difference in the performance of these elements. Unsuccessful projects did not clearly define the reason for doing the project or what the outcomes would be. Without these key elements, the “why” for the project is missing, which will affect “by in”. Questions highlighted in red reject the null hypothesis; stating that there is a significant difference in these elements' performance between the two groups. Unsuccessful project performed poorly in, Identifying risk, managing change impacts, providing transition plans and communicating the change. These elements assist with resistance management and adoption of the change.

Table 4.4 Results for the Mann Witney Test

Question	Median (successful)	Median (unsuccessful)	Sig	Conclusion
Were the reasons for the project clearly defined?	4	2	0.067	Sig diff at 10% level
Were the expected outcomes clearly defined?	4	2	0.08	Sig diff at 10% level
Did the project deliverables meet the expected outcomes?	3	3	0.436	No diff
Were the success criteria clearly defined?	2	2	0.451	No diff
Was the project scoped appropriately?	3	3	0.255	No diff
Were the roles and responsibilities clearly defined?	4	3	0.153	No diff
Was the project resourced appropriately?	2	3	0.566	No diff
Were risks properly identified and mitigated?	3	1	0.007	Sig diff at 5% level
How effective was the plan?	2.5	3	0.784	No diff
Was the plan effectively communicated?	4	3	0.477	No diff
Was the impact of the change managed appropriately?	3	2	0.034	Sig diff at 5% level
How effective was the transition plan?	4	2	0.05	Sig diff at 5% level
Was the change and the management of the transition effectively communicated?	4	1	0.001	Sig diff at 5% level
How clear was the overall project process?	4	3	0.133	No diff
How clear was the overall change management process?	3	3	0.114	No diff

4.1.2 Qualitative analysis of Survey Results

Open-ended questions were used to explore activities that respondents felt needed improvement in the projects that they involved in. These questions were optional; respondents completed them if they felt improvement was needed in a specific area. In total, there were 76 responses to the four questions below.

Questions:

- If applicable, what resource was lacking?
- If applicable, how could the plan or the communication of the plan be improved?
- If applicable, how could the change management or communication be improved?
- What did not work in the project process?

Analysis of the open-ended questions produced sixteen categories, which are listed in Table 4.5. The criteria column defines why a response was placed in a category. Responses varied in length, anywhere between one word to a couple of paragraphs and could be assigned to multiple categories. Hence, the percentage total is greater than 100. Table 4.6 provides sample statements extracted from the answers to the open-ended questions. They provide a snapshot of some of the type of responses that were given.

Table 4.5 Qualitative Analysis of Survey Results

Category Labels	Criteria	No. responses	%
Communication	The word communication is used in the response or and situations where the lack of information created issues	20	26%
Dedicated skilled staff	Where there was a shortage of skilled staff resource to work on the project	20	26%
Stakeholder engagement	Where there was a lack of stakeholder consultation	19	25%
Proper Governance	Where there was no project governance, or the governance did not know how to operate	17	22%
Poor Planning	Where the project was impacted due to inadequate planning	15	20%
External party issues	Issues with vendors, Ministry of Health or other external agencies	14	18%
Scope	Where the project was not scoped properly	12	16%
Time management	Delays in completion of tasks or allocated timeframes were too short	11	14%

Category Labels	Criteria	No. responses	%
Lack of Leadership	Where management did not provide appropriate leadership	11	14%
External IT issues	Issues with IT providers or vendor IT systems	10	13%
Testing	Insufficient testing is done before go live	9	12%
SME (Subject Matter Expert)	Where Subject matter expert's advice was needed but was not consulted or ignored	7	9%
Training	The word training, teaching, practice is used in the response	6	8%
Progress tracking	Where tracking was not done or was insufficient	5	7%
Documentation	Where written documents were needed and not done	3	4%
Ambiguous roles	Roles and responsibilities in the projects were not appropriately defined causing confusion	3	4%

Table 4.6 Sample Statements for Qualitative analysis

Category Labels	Sample Statements
Communication	"The key lesson was to ensure regular communications with the team and with stakeholders, so everyone was on the same page, and there were no surprises." "No clear communication, different departments had different ideas" "More discussion between the vendor and the team testing the product"
Training	"The issue was around staff not attending training" "Bench staff needed significantly more training in the software prior to go-live"
Documentation	"Software set-up documentation" "there were no defined Terms of Reference on the role and purpose of the Steering Group"
Dedicated skilled staff	"the project was reliant on LabPlus resources to do the testing, but they also had their BAU jobs to do" "there was insufficient senior-scientific staff availability (the department was very busy) and that slowed down the go-live" "Unrealistic expectations of staff in an environment where staff shortages impacted significantly on the success of each stage"
Time management	"the Steering Committee/ Project Sponsors had no confidence in the project's ability to deliver, as timeframes had pushed out from Nov 18 Go Live to March Go Live"
External party issues	"Better liaison between parties, particularly vendor and hA" "Changes in NSU staffing meant decision-making from them was slow"
External IT issues	"Better Labplus-specific guidance for the IT/hA requirements during the RFP process"

Category Labels	Sample Statements
	"The software was implemented but there were review meetings after as to mitigate all of the issues that were not resolved before implementation"
Testing	"Lab end testing was rushed" "users not testing very well leading to issues after the implementation"
Stakeholder engagement	"No engagement with labs prior to starting" "Some Lab departments were not aware that it would impact them" "Getting everyone's buy in was difficult in a busy Lab"
Proper Governance	"Hierarchy of decision making was at times confusing and frustrating" "Having the correct representation on the Steering group committee" "there were no defined Terms of Reference on the role and purpose of the Steering Group"
Lack of Leadership	"Better management support to ensure that staff attended training and signoff of their test plans where appropriate" "Lack of management leadership i.e. prioritising work"
Ambiguous roles	"staff involved did not have a clearly defined role" "Initial project management, roles and responsibilities were unclear"
SME (Subject Matter Expert)	"Subject matter experts (Microbiology and VIM) not part of initial scoping" "Experts in each area affected needed to be much more heavily involved in the background setup of the system"
Scope	"Clear expectations and constraints delivered at the start of the project" "Actually, having a scope and communicating that out would have been good"
Poor Planning	"Some facility upgrade requirements were not met prior to instrument installation with a subsequently long delay in achieving the upgrade post-installation" "co-ordination of different teams for specific phases impacted delivery Ideally we would have involved Facilities and Development earlier in the planning of the project"
Progress tracking	"Initially the testing process was very sporadic, results manually entered onto scraps of paper, and there was no clear visibility to anyone of how this was progressing." "no visibility for Project Sponsor on how the project was tracking against overall budget."

Communication is a key theme throughout this survey. In the first part, communication was lacking in unsuccessful projects. In follow up questions which further explored how things could be improved, participants wanted regular, clear, concise communication. Two resources that participants wanted more of was staffing and time. Without dedicated staff to do project work, the quality of work that is produced may decline, and the time it takes to accomplish a task can be prolonged. There is a continuous juggling of roles and tasks, which causes stress and frustration or stalls progress. Repeated comments were made on overburdened IT resources and lack of technical expertise while trying to maintain business as usual (BAU). A few factors contributed to the lack of time for a project: inadequate scoping, staff shortage, and scope creep.

Change management and project management both rely on effective governance. This includes sponsorship management, engaged steering committee and senior stakeholders. Several participants commented on not having either a sponsor or a dedicated project manager. Others felt that there was not enough engagement from these different groups, making decisions and moving forward difficult. There was an overall feeling that project and change management is an area where the scientific staff lacks training; this leads to either poor project management or ad-hoc decisions. Also, there is not enough time and training invested in preparing the staff with the skills they need to embrace the changes that arise from the project.

Chapter 5 Development of an Integrated Project and Change Management Framework (IPCMF)

In this chapter, the researcher addresses the third research question; What would an integrated project and change management framework look like in practice in a healthcare setting? At the start of this research, a gap analysis was conducted via a SharePoint survey to understand the capability that existed within LabPlus & APS to deliver projects and manage change. While organisational change management activities are being undertaken, the survey identified that leading change in a project's context is a skill that needs development. Respondents felt that when a project was deemed unsuccessful, the elements of change management such as transition plans, communication of the change and risk mitigation were not addressed as well as in successful projects.

The literature review supports these findings; Gordon and Pollack (2018) talk about healthcare integration projects typically involving significant organisational change. Leading practitioners in these projects to use change management combined with project management (Gordon & Pollack, 2018). Integration of project and change management practises is a necessity, especially in the healthcare domain (Gordon & Pollack, 2018; Hornstein, 2015). Bearing this in mind, the researchers approach to integrating the two practises focused on activity-based integration.

Pollack and Algeo (2014) highlighted the need for activity-based identity of the two disciplines to minimise conflict; both in terms of abstract disciplinary boundary and workplace responsibility division (Pollack & Algeo, 2014). Simply stated is architecting the relationship between the project team and the resource/s dedicated to change management - integrating at the “who is doing the work level”. This also includes identifying particular tools that can be extended to address the project's technical and people component. For example, risk assessment and communication plans are common to both discipline and can integrate effectively.

The researcher explored the strengths, weaknesses, and application of different project and change management methodologies through the literature review. However, a useful framework should be tailored to the specific environment and adaptable to projects' dynamic nature and stakeholder demands. Hence the researcher used ADHB's P3M3 project management framework, and ADKAR change model as the two methodologies to integrate. Using the framework and model endorsed by

the organisation where the research was conducted allowed the researcher to leverage both best practice and past experiences to ensure the new framework would be fit for purpose.

Once the two frameworks were selected the researcher compiled a list of activities within PM and CM using “The Guide to the Project Management Body of Knowledge PMBoK, PRINCE 2 for Beginners; From Introduction to passing your exam”, “ADKAR A Model for Change in Business Government and our Community”, and “Auckland DHB Project Management Framework; Guide, policies, & Standards”. Table 5.1 lists the activities for PM and CM side by side for ease of comparison. Activities that overlap between the two disciplines are highlighted with similar colours. The intention was to identify and consolidate overlapping activities.

Table 5.1 Comparison of ADKAR Activities against ADHB’s P3M3 Framework Activities.

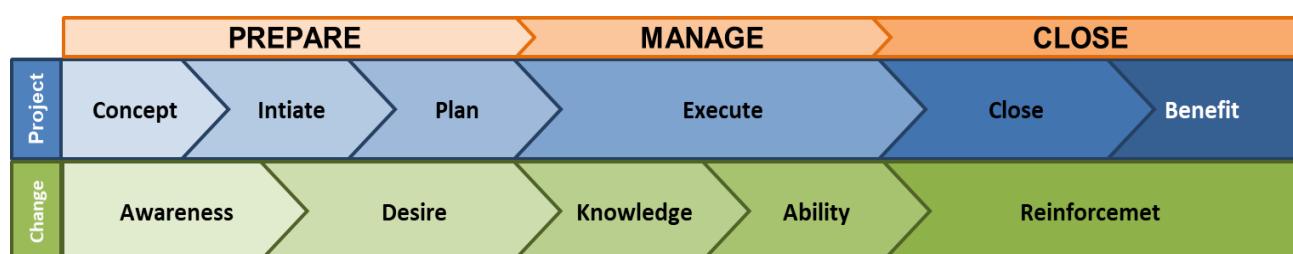
ADKAR	ADHB’s P3M3 Framework
Awareness • Effective communication Develop effective and targeted communications to share the business reasons for the change and the risk of not changing. Provide employees with ready access to business information. • Sponsorship Sponsor (lead) the change effectively at the right level in the organisation; share why the change is needed and how the change aligns with the overall business direction and vision. • Coach Enable managers and supervisors to be effective coaches during the change process; prepare them to manage change and help them to reinforce awareness messages with their employees.	Concept/ pre-project • Project mandate, define the problem or idea • Appoint a project manager and sponsor. • Ensure that the objectives of the project are known. Ascertain the customer’s quality expectations. • Check for lessons from any earlier projects from which the project can learn • Complete a project brief • Checks that there is sufficient justification for requesting the resources to initiate a project (outline Business Case).
Desire • Sponsorship coalition Enable business leaders to sponsor the change effectively; create a coalition of sponsorship at key levels in the organisation. • Coach Equip managers and supervisors to be effective change leaders; enable them to manage resistance. • Resistance management and communication Assess the readiness for change through engagement of employees at the earliest	Initiate • Define project objectives and high-level scope with the project sponsor • Identify and engage stakeholders • Confirm project governance • Identify and document initial risks, issues, actions, decisions • Identify the project tolerance set by senior management • Decide the approach which will be taken by the project to deliver the solution • Business case write up and submission

possible stages of the change process discuss the risk/issues of not doing and doing the change Anticipate resistance and design tactics to overcome them Align incentive and performance management systems to support the change	
Knowledge • Implement effective training and education programs • Use job aids that assist employees in the learning process • Provide one-on-one coaching • Create user groups and forums to share problems and lessons learned between peer groups	Plan • Refine scope • Define delivery methodology and project approach • Confirm roles and responsibilities • Create a work breakdown structure with schedule and milestones • Plan budget, resources • Plan risk and issue management • Define tolerance & change control • Communication plan with the stakeholders, sponsors and project team • Make transition plans
Ability • Foster the day-to-day involvement of supervisors • Provide access to subject-matter experts • Implement programs for performance monitoring • Provide hands-on exercises during training that allow employees to practice what they have learned	Execute • Manage, monitor & track work • Gather progress report about the work • Monitor change in requirements and decisions • Monitor change in risk and issues • Facilitate appropriate decisions and actions • Review stage status reporting • Give status reports back to sponsor, steering group and stakeholders • Take necessary corrective actions • Implement and train
Reinforcement • Celebrate successes and implement recognition programs • Give rewards for the successful implementation of the change • Gather feedback from employees • Conduct audits and develop performance measurement systems; identify root causes for low adoption and implement corrective action • Build accountability mechanisms into the normal day-to-day business operations	Close • note the extent to which the objectives set out at the start of the project have been met • confirm the user acceptance of the final products • confirm that maintenance and support arrangements are in place (where appropriate) • make any recommendations for follow-on actions • ensure that all lessons learned during the project are annotated for the benefit of future projects • report on whether the project management activity itself has been a success or not • prepare a plan to check on the achievement of the project's claimed benefits Benefit

	Perform a post-implementation review to check on the achievement of the project's claimed benefits
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The pattern that emerged when the activities were analysed side by side; Awareness and Desire corresponded with Concept, Initiate and Plan phases of the project. Knowledge and Ability corresponded with the Execute phase. Reinforcement corresponded with the Close and Benefit realization phase. Fig 5.1 depicts how the phases between project and change management could align. The new framework is split into three overarching steps; Prepare, Manage and Close.

Fig 5.1 Integrated Project and Change Management Framework IPCMF. Source: Author



Activities that overlapped were merged to create a common set of steps that can be applied to a project. For example, in ADHB's P3M3 framework, the communication plan is developed in the second phase of planning, while in ADKAR developing targeted, effective communication is top of the list. It makes sense to develop communication plans early and continue building on it throughout the project. As the framework evolved, the researcher submitted each draft to the working group for review and feedback; this was part of the agile, iterative cycle of design, development, validation, and reflection. Feedback was received through email correspondence and in-person meetings. Appendix 11 and 12 are some examples of earlier versions of the frame and the feedback received.

Figure 5.2 is the final version of the model, which provides a guide of activities to consider when running a project. It is important to note that the different stages' activities are not necessarily laid out in sequential order. The framework is not a process map; it is more of a checklist of activities that would be useful to facilitate different stages of the process. Not every document or artefact mentioned in this framework is required for every project. However, there needs to be clarity of what has been agreed upon concerning the project process, strategies, plans, roles and responsibilities.

Project Management

Activities

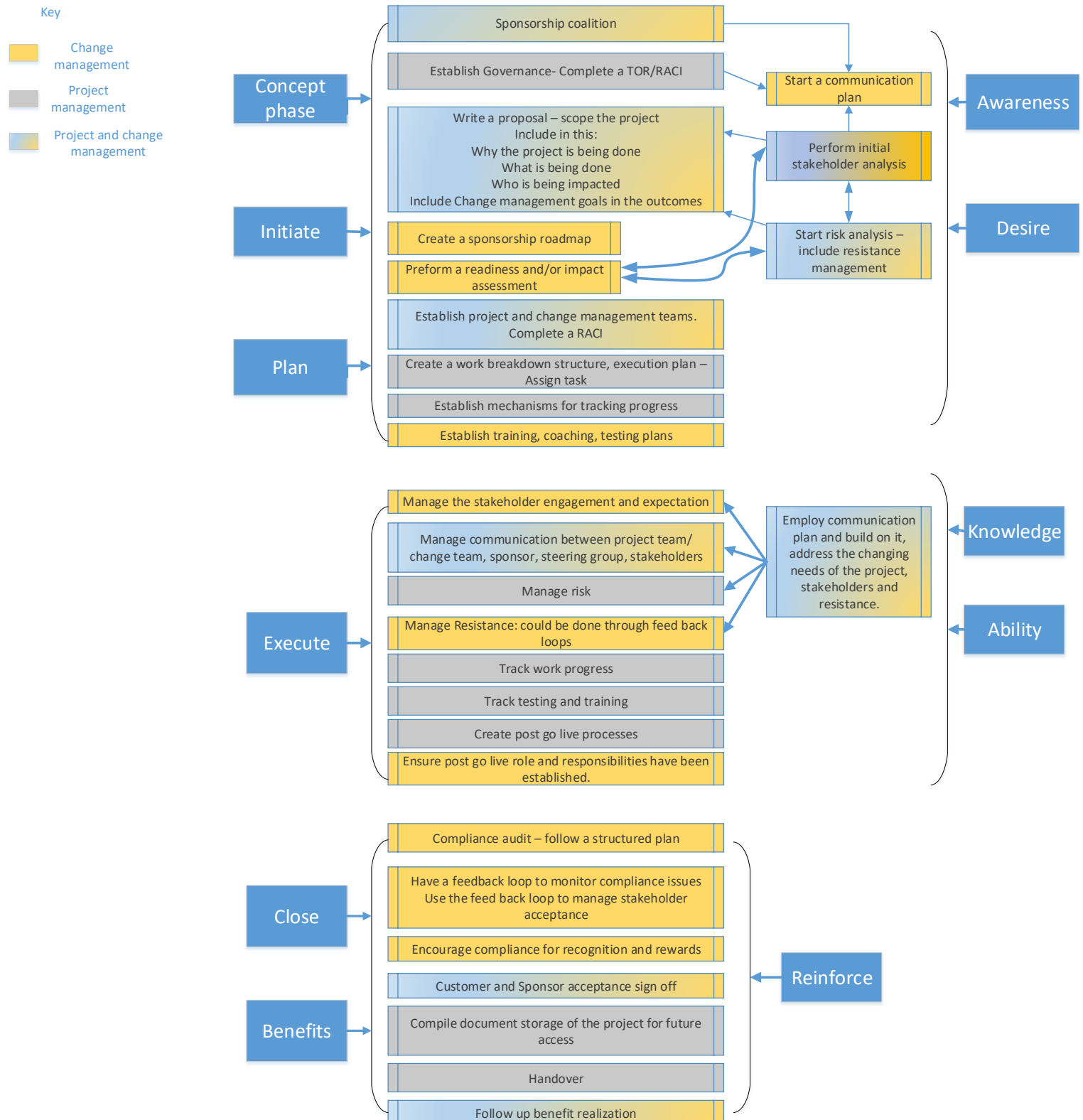
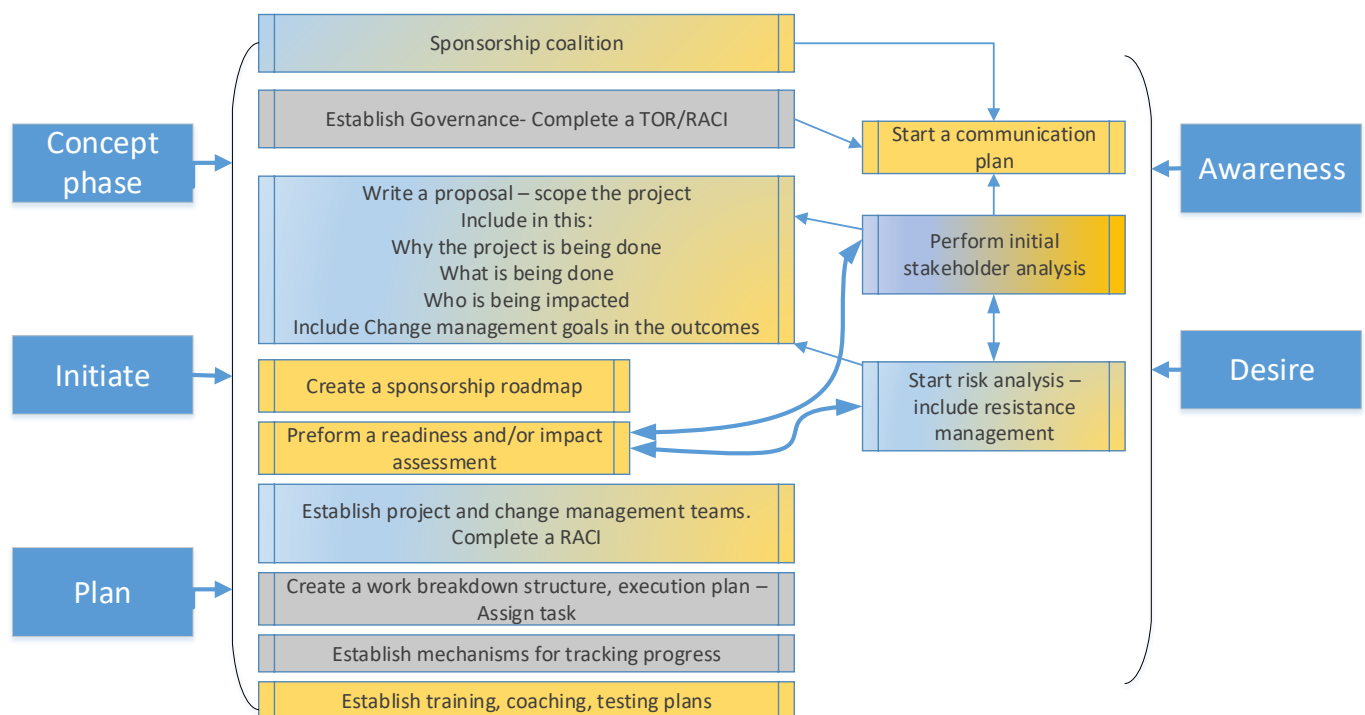


Fig 5.2 Integrated Project and Change Management Framework (IPCMF). Source: Author

Fig 5.3 is the first step, which is to “Prepare” the project for success. At the outset of the project, opening a two-way communication engages both the senders (i.e., project leaders) and receivers (i.e., stakeholders) in a meaningful dialogue about the vision and scope of the proposed change effort and its organisational and personal implications, thereby reducing natural resistance to change. This happens because a meaningful exchange (i.e., two-way communication) sends a clear message that the people affected by the change, and their ideas and feelings, are important; fostering the level of engagement and involvement needed to enable stakeholders to address their concerns satisfactorily and develop a sense of commitment to the project.

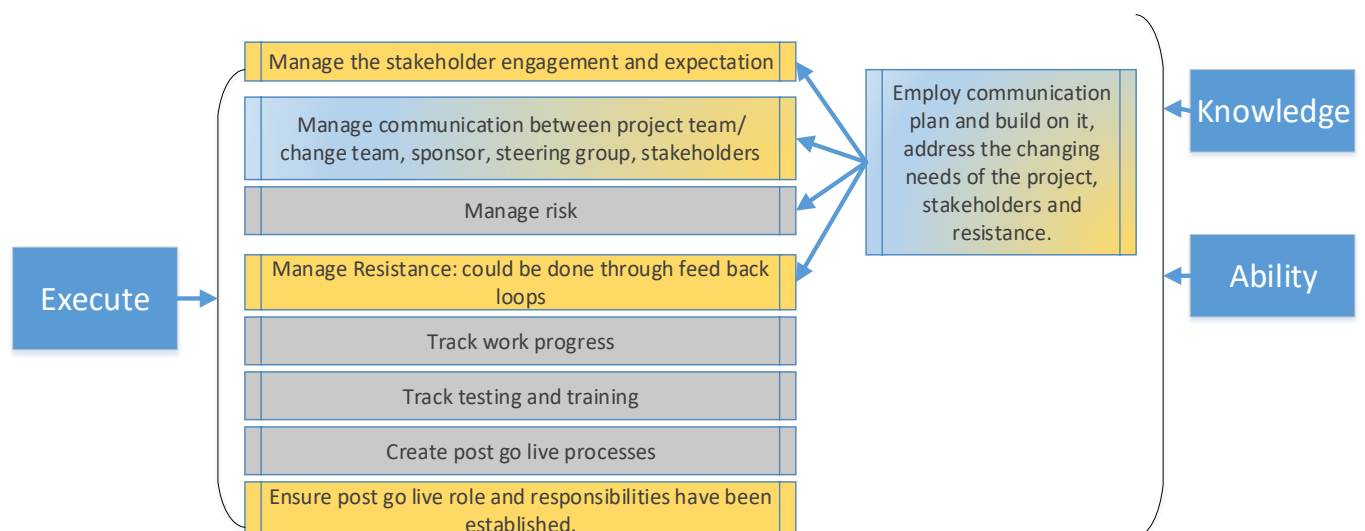
Fig 5.3 Prepare step of a project



Furthermore, people need a compelling reason for the change. The project scope should include what adoption of the change will look like and its benefits. This can provide a measurable goal which the project team can work toward. There are two key elements that help shape the case for change, the leadership of the project, and the stakeholders' needs. Creating a sponsorship coalition looks at identifying the leaders who will champion and drive the change. They should be visible, credible and often follow the organisational lines of management. Change leadership is crafting a vision that reinforces urgency and minimizes complacency, and then aligning and motivating people affected by

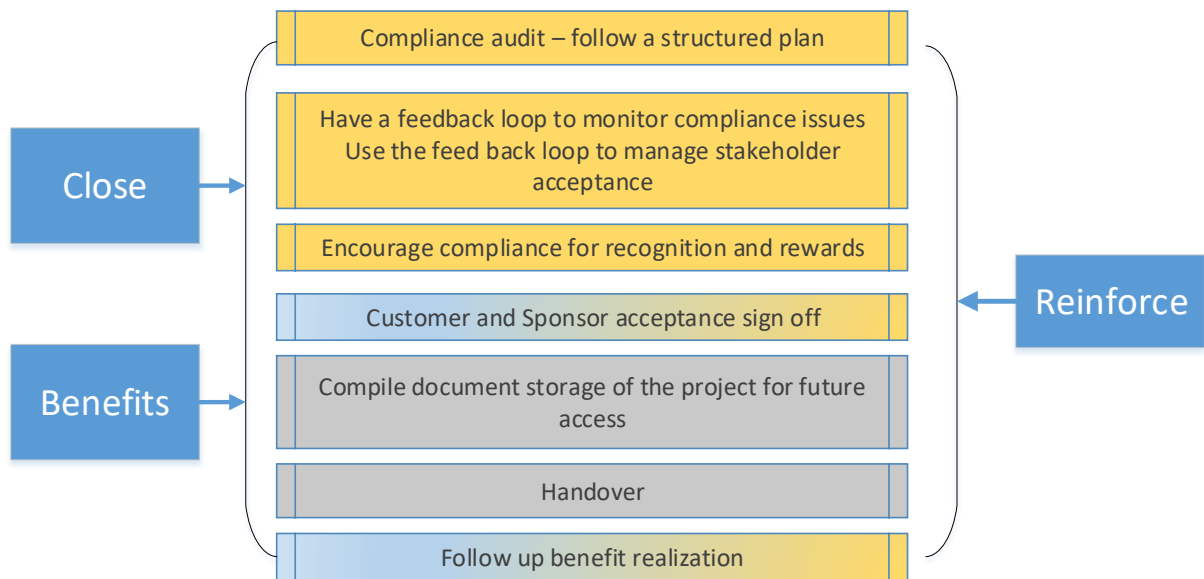
the change so that they are prepared to support and adopt it (Appelbaum et al., 2012; Hornstein, 2015)

Fig 5.4 summarises the activities in the second step, which is to “Manage” the project’s execution. As the project implementation progresses, active, two-way communication keeps vital information and progress about project goals, objectives, and milestones flowing throughout the system affected by the change effort. This step’s focus is to deliver the outputs of the project and while doing so, create the knowledge and ability to use the outputs.



The final stage of the project is the “Close” step. Activities in this include reinforcing the change so that adoption is maximised. Fig 5.5 goes through the activities that should be considered during this phase. Two crucial results have to be achieved; the smooth transition of the project outcomes to BAU and the adoption of the change, which will lead to benefit realization.

Fig 5.5 Close step of a project



Chapter 6 Building Project and Change Management Capability in LabPlus and APS

Growing capability is a change to the organisation's business model; hence the researcher chose to use the ADKAR model to build and deploy both practices. ADKAR provided a thoughtful, focused, and structured approach to the change. Create awareness around project and change management. Generate desire for both practices as an organisation-wide capability by focusing on “what’s in it for the employee”. Provide employees with the knowledge to embrace the two practices and the ability to use them in context. Reinforce the practice through socialising success.

In this research ‘improving’ capability is seen as the identification and customisation of a useful project and change methodology, which then is embedded into the organisation. An appropriate methodology needs to be strategic and tactical, coupled with an implementation process that should fit the organisation's context (Fernandes et al., 2015). The researchers integrated project and change management framework (IPCMF) provided a customised methodology. In respect of the embedding construct, Shi Qain’s “Value Adding Path Map” (VAPM) and PROSCI’s Enterprise Change Management ECM strategy map was used to identify factors which could contribute to its successful implementation.

6.1 Soft System Configuration

This system's focus is to create an environment that endorses the use of project and change management in the core functions of the business. While building this system, the researcher created awareness and desire to use project and change management in the organisation. Firstly, the focus was to build the management culture around project and change management. The general management structure should utilise PM and CM to achieve business strategies. Secondly, employees need to recognize how PM and CM contributed to the success of the organization.

6.1.1 Overall Management System and Culture

At LabPlus & APS the Project Gateway Group PGWG was created to align project delivery capability against the business strategy. Their core function is to gate the viability of upcoming projects by assessing the capacity required vs capacity plan for shared key resources, in doing so prioritising the

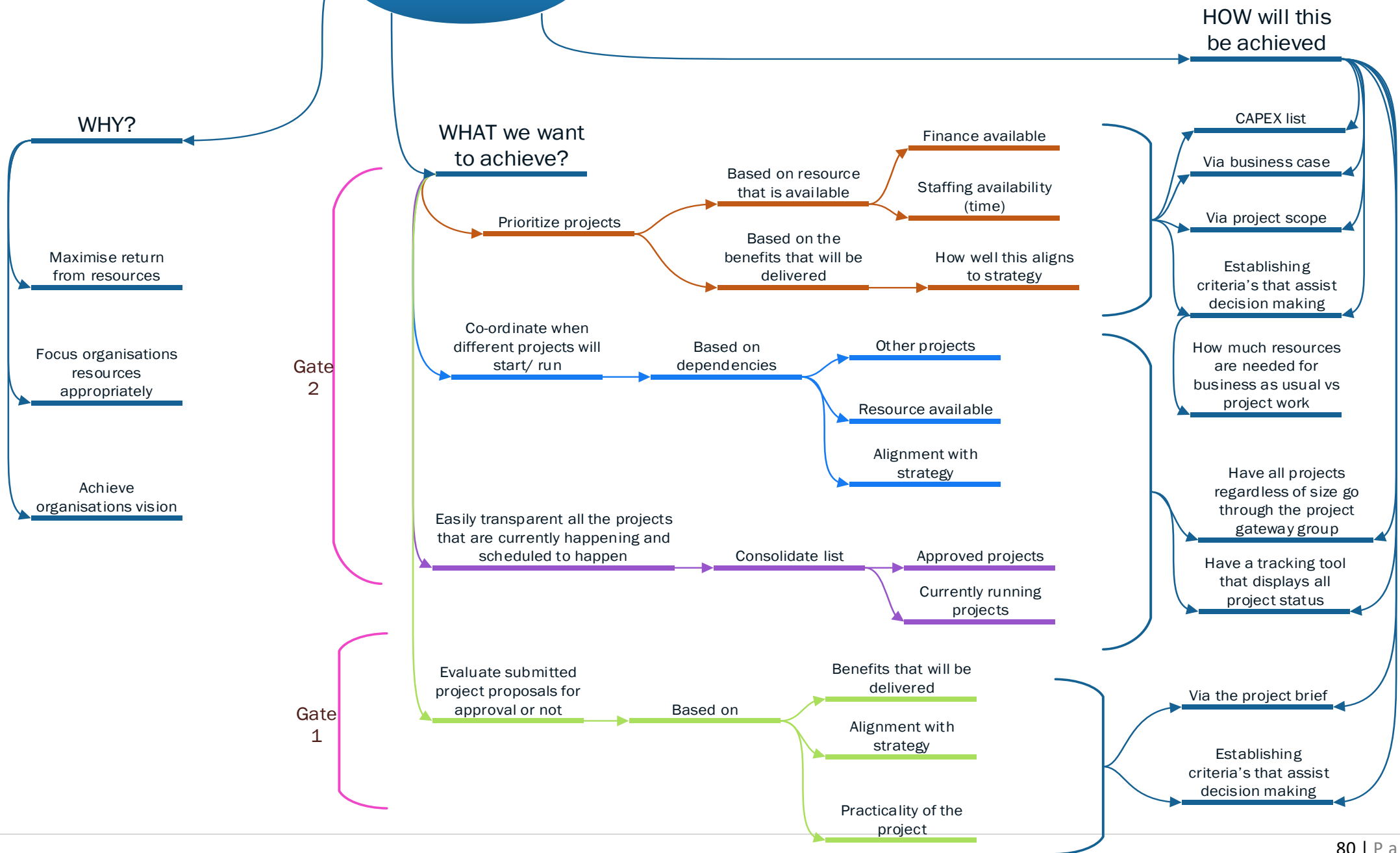
delivery of projects based on the business strategy, clinical risk and innovation requirements. Despite the existence of such a group, not all staff or senior leadership team were aware of its presences. There was an overall confusion as to which projects should go through this group and why.

Although the terms of reference TOR for the PGWG address both these questions, discrepancies were seen in how the group's individual members perceived them. In an attempt to clarify and synchronise the group's thought process, members of the group were asked to attend a one-hour workshop that was structured into a brainstorming session. The workshop's goal was to create cohesion among the members and review three questions; WHY the group existed, WHAT the group wants to achieve and How they plan to deliver it. A more cohesive PGWG would be able to advocate the use of PM and CM in the overall management system.

At the start of the workshop, participants wrote their thoughts and ideas for each question loosely on a whiteboard. Next, the group reviewed each statement on the board to determine whether it belonged to one of the three questions. For and counter-arguments were put forward around why a statement answered a question, and the group would have to agree in unison to place it with a question. Fig 6.1 summarises the outcome of the workshop:

Project Gateway Group

Fig 6.1 Mind Map from Brain Storming session with the Project Gateway Group



6.2 Hard System Configuration

This system focuses on implementing solutions and mechanisms that enable staff to practice both disciplines with a universal language and standardised approach. While working on this system, the researcher built knowledge for project and change management among staff by organising training courses and presentations. Ability was providing staff with the tools required to adopt the new process that was available on the SharePoint site and staff practising the new process and working through it.

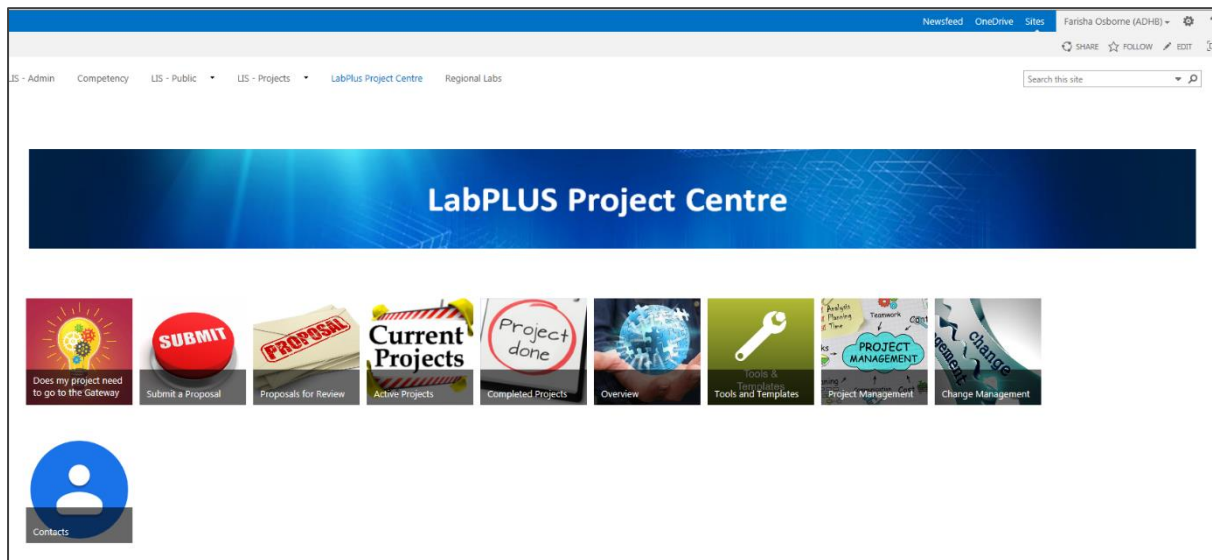
6.2.1 The Process

The integrated project and change management framework created by the researcher provided the base. The staff could use the process as a guide when working on a project. It also provided a standardised approach, meaning that staff would become familiar with managing both projects and change initiatives with time and repeated use of the process. PGWG was the platform from which the process was endorsed.

6.2.2 Tools and Techniques

Currently, within the industry, there are multiple software programs such as Changepoint Project Portfolio Management (Daptive), Jora.com, Microsoft teams, etc., which can assist users with managing projects and tasks. They are also useful for senior management to track and monitor project progress and resource allocation. Unfortunately, these programs are quite expensive and challenging for the public sector organisation to purchase. As an alternative, the researcher created an in house project management SharePoint site on ADHB's intranet site, Fig 6.2. The advantage of having an online platform is that information and can be centralised and made easily accessible. At the same time, it provides a means of tracking projects through electronic dashboards (refer to Appendix 6). This site also automated the PGWG submission processes (refer to Appendix 5).

Fig 6.2 LabPLUS Project Centre SharePoint Site



Another feature of the site is a tools and templates page which give staff access to different artefacts and documents that may be useful while running a project (refer to Appendix 8). Furthermore, there are links to information pages that can guide staff through different processes or provide an understanding of the different practices in project and change management (refer to Appendix 7).

Chapter 7 Conclusion

The traditional measures of scope, time, and cost are essential but are no longer sufficient indicators of project success. A project's ability to deliver what it set out to do - that is achieving expected outcomes that leads to benefit realisation is becoming increasingly important. Project management has become a form of investment management. In particular, healthcare industry project managers require more than just technical project management skills, but rather to be able to navigate the complex environment a useful skill to have would be; leading change in an organisation.

The literature review addressed the first research question; can elements of project and change management practices be integrated into one framework? Various literature Gordon and Pollack (2018); Hornstein (2012); Pollack and Algeo (2014) encourage the integration of project and change management practices. Integrating the two processes would create value for several reasons. Firstly the efforts of both disciplines can be focused towards a singular objective. The project team would be more proactive in managing the people side, addressing obstacles and resistances earlier on in the project, and ensuring that the information provided regarding the change is clear and concise. Secondly, employing a systematic project and change management methodologies and techniques, including procedures and templates in the implementation of project and change can help improve the effectiveness and efficiency of how well the project's changes are adopted, leading to improved benefit realization.

The researcher's initial survey highlighted that a project is more likely to be successful when certain practices are incorporated into the process. The survey provided evidence for research question two; Is there a need for both healthcare project practices? Things such as scope, planning, communication, governance, risk management and appropriate resources are practices that should be present in all projects. These practices are a combination of project and change management process if done well, contribute to the project's success. Furthermore, the survey results support the finding for the need for both practices in healthcare to increase the ability to deliver successful change projects.

In Chapter 6, the researcher works on the third research question; What would an integrated project and change management framework look like in practice in a healthcare setting? Trying to distil a rich set of change and project management principles, processes, and practices into a single

framework is challenging. The constant risk would be that the framework would either be too complicated or overly specific. Pollack and Algeo (2014) highlight the need for the two disciplines' activity-based identity to minimise conflict: both in terms of abstract disciplinary boundary and workplace responsibility division. Hence, this was the researcher's approach, combining the two practices by aligning each discipline's recommended activities and establishing the relationship between the project team and the resource/s dedicated to change management - integrating at the "who is doing the work level".

A project manager and change manager should be working together cohesively. The sponsor, project manager and change manager should form the first coalition, developing the strategy for both technical delivery and people side of the project. In organizational change projects, stakeholder management is often the key determinant of success, not optional. Hence, the new framework aligns the best way to overcome resistance to change by involving people affected by it in the change process as early and often as possible. Viewing change from a systemic perspective means acknowledging and embracing the interconnectedness of the people affected by the change, and argues strongly for an implementation strategy that emphasises early involvement of stakeholders in the process, instead of top-down, one-way communication, as the primary means of influencing stakeholder attitudes and behaviour at the onset of the project.

The full impact of change is often not taken into consideration in the development of project scope and plan. Viewing a change effort as a sequential process in which a small group develops an implementation strategy independent of others in the organisation and tries to sell it to individuals in the organisation affected by the change is an almost certain prescription for failure. A broader, more systemic view of change is crucial to project success. This also includes identifying particular tools that can be extended to address the project's technical and people component.

The integrated project and change management framework IPCMF created by the researcher provided the base. Staff could use the process as a guide when working on a project. It also provided a standardised approach, meaning that staff would become familiar with managing both projects and change initiatives with time and repeated use of the process. However, this research is broken into two constructs: integration of project and change management practices and improving project

and change management capability in an organisation. This leads to the final research question; How can capability for this framework be embedded into an organisation?

In order to maximise the value of PM and CM practices, two things should be addressed. Firstly, the identification of appropriate Methodology, both strategic and tactical, and implementation processes should fit the organisational context (Fernandes et al., 2015). Regarding the embedding construct, the research focused on identifying factors contributing to the successful embeddedness (Fernandes et al., 2015) of project and change management initiatives. The approach to build capability through the soft and hard system development (Creasey, 2019; Shi, 2011) provided the researcher with a structured approach.

Firstly, the focus was to build the management culture around project and change management. Employees need to recognize that PM and CM contributed to the success of the organization. This can be done by making sure PM and CM systems align with the business strategy. The structure of a general management system and the resource allocation should be highly project-oriented. Also, there needs to be a process of portfolio, program and project management that is clear and regular. Secondly, employing a systematic project and change management methodologies and techniques, including procedures and templates in the implementation of project and change. Use of complementary software can help improve the effectiveness and efficiency of project and change management.

7.1 Future Research

This research produced a framework; IPCMF, that has been vetted by experts in the field. However, due to the Master's programme's time limitation, it was not feasible to truly test the new framework's success rate. Further studies are encouraged to test the IPCMF framework's practicality both in the health sector and other industries. The need for an integrated framework is undeniable; IPCMF provides a foundation for this expanding research domain.

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Chapter 9 Appendix

9.1 Appendix 1

Information Sheet

I Farisha Osborne am conducting a research project for LabPLUS, where I am trying to integrate change management and project management practices in to one process. This research project is my thesis for my Master's in Quality Systems, which is through Massey University.

The objective of this project is to create a process for LabPLUS that address both change management and project management. Part of the project is also to align this process with the Auckland District Health Board requirements when a project is undertaken by LabPLUS. Once the process has been established it will be implemented via a SharePoint site and staff will be given appropriate training and tools so that the capability of LabPLUS staff to effectively manage projects is substantially improved.

To ensure that the process that is created is robust, achievable for staff, and reflects the need of the organization and the participants of projects in LabPLUS, I would like to invite you to participate in completing a SharePoint survey. You have been chosen to take part in this survey because you have in the past been involved in a project at LabPLUS in some capacity. Your feedback as to how the project went, and the lessons that were learnt will provide valuable insight of what works, what doesn't and where there are gaps in the current process.

Identity of participants in this project will be kept anonymous at all times. The nature of being part of a project can at times be a sensitive subject for staff. Hence any information obtained from this survey will be strictly confidential and will be only obtainable to the researcher. This information will only be used in a subjective manner to assist the development and design of a project and in no way will be used to evaluate a person or department. The data will be kept for the duration of this project and thereafter on a secure server. The data will be presented in a graphical summary in the finale thesis.

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Ask any questions about the study at an y time during the participation
- Provide information on the understanding that your name will not be used
- Be given access to a summary of the project findings when it is concluded
- Completing and return of the questionnaire implies consent. You have the right to decline to answer any particular question.

If you would like to contact the researcher:

Farisha Osborne

Email: [REDACTED]

If you would like to contact the supervisor:

Prof Nigel Grigg

+64 (06) 356 9099 ext 83921

Email: N.grigg@massey.ac.nz

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research."

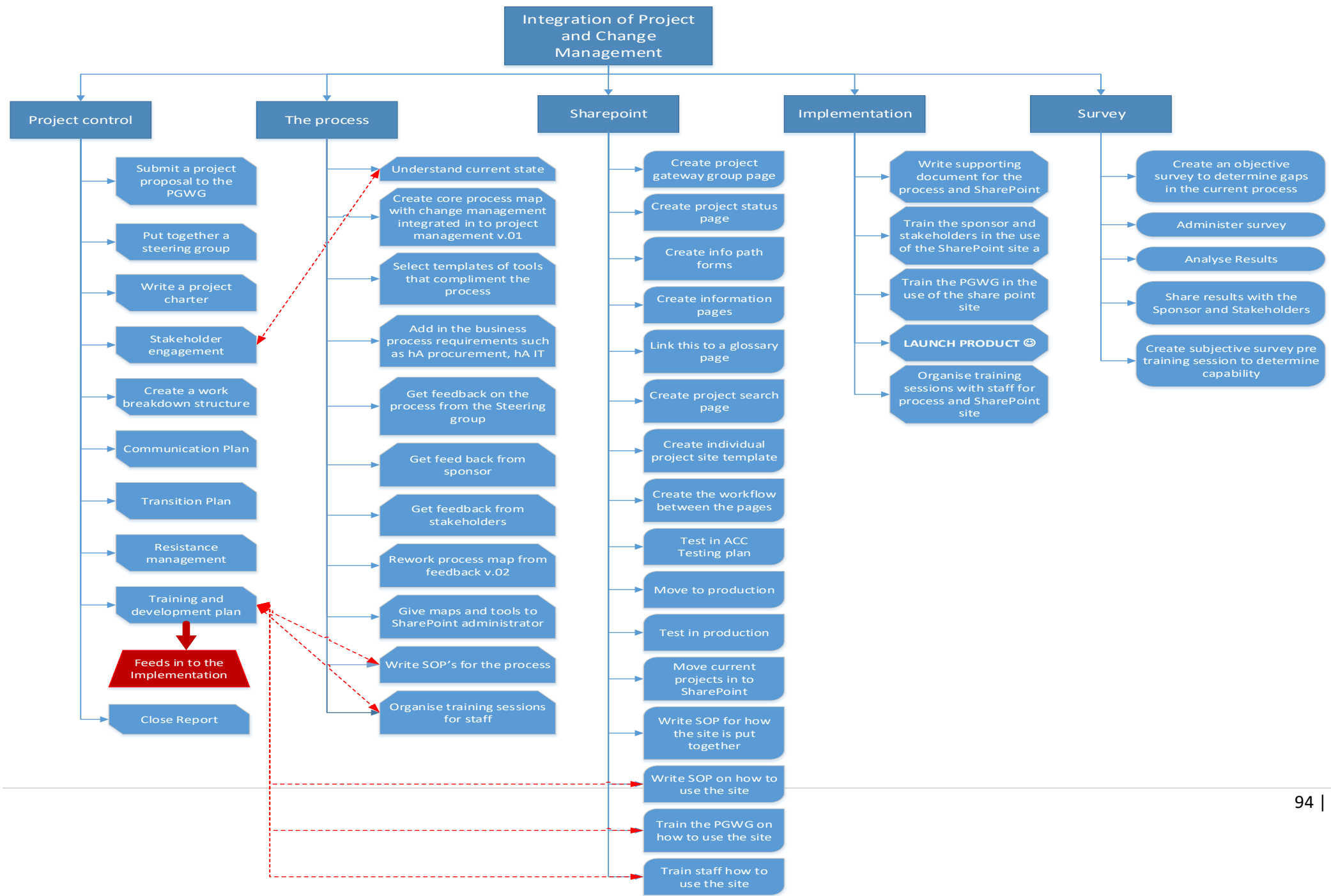
If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Prof Craig Johnson, Director, Research Ethics, telephone 06 356 9099 x 85271, email humanethics@massey.ac.nz."

9.2 Appendix 2

Survey Questions

Questions	Option 1	Option 2	Option 3	Option 4
What project were you involved in?	Free Text			
What was your role in the project?	Free Text			
Were the reasons for the project clearly defined?	very	some what	not very	not at all
Were the expected outcomes clearly defined?	very	some what	not very	not at all
Did the project deliverables meet the expected outcomes?	very	some what	not very	not at all
Were the objectives and outcomes effectively communicated?	very	some what	not very	not at all
Would you deem this project a success?	very	some what	not very	not at all
Were the success criteria clearly defined?	very	some what	not very	not at all
Was the project scoped appropriately?	very	some what	not very	not at all
Were the roles and responsibilities clearly defined?	very	some what	not very	not at all
Was the project resourced appropriately?	very	some what	not very	not at all
If applicable, what resource was lacking?	Free Text			
Were risks properly identified and mitigated?	very	some what	not very	not at all
Was there a plan on how the project was to be executed?	very	some what	not very	not at all
How effective was the plan?	very	some what	not very	not at all
Was the plan effectively communicated?	very	some what	not very	not at all
If applicable, how could the plan or the communication of the plan be improved?	Free Text			
What was the level of change as a result of this project?	high	medium	low	
Was the impact of the change managed appropriately?	very	some what	not very	not at all
Was there a plan to manage the transition?	very	some what	not very	not at all
How effective was the transition plan?	very	some what	not very	not at all
Was the change and the management of the transition effectively communicated?	very	some what	not very	not at all
If applicable, how could the change management or communication be improved?	Free Text			
How clear was the overall project process?	very	some what	not very	not at all
What worked in the project process?	very	some what	not very	not at all
What did not work in the project process?	very	some what	not very	not at all
How clear was the overall change management process?	very	some what	not very	not at all
What worked in the change management process?	Free Text			
What did not work in the change management process?	Free Text			

Describe your overall project experience and satisfaction.	negative	positive		
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9.4 Appendix 4

WORKSHEET 1

Mann-Whitney: Reasons_s, Reasons_u

Method

η_1 : median of Reasons_s

η_2 : median of Reasons_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Reasons_s	19	4
Reasons_u	7	2

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1	(-0.0000000, 2)	95.06%

Test

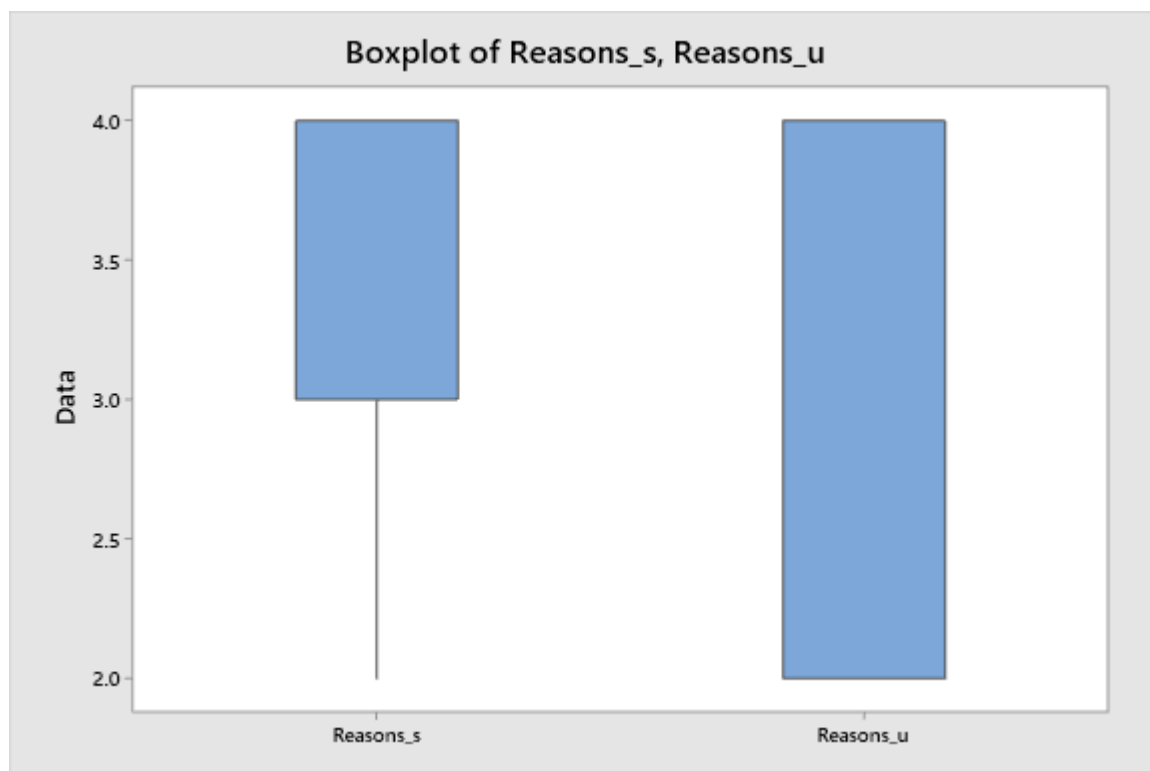
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	285.00	0.106
Adjusted for ties	285.00	0.067

WORKSHEET 1

Boxplot of Reasons_s, Reasons_u



WORKSHEET 1

Mann-Whitney: Outcomes_s, Outcomes_u

Method

η_1 : median of Outcomes_s

η_2 : median of Outcomes_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Outcomes_s	19	4
Outcomes_u	7	2

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1	(0.000000, 2)	95.06%

Test

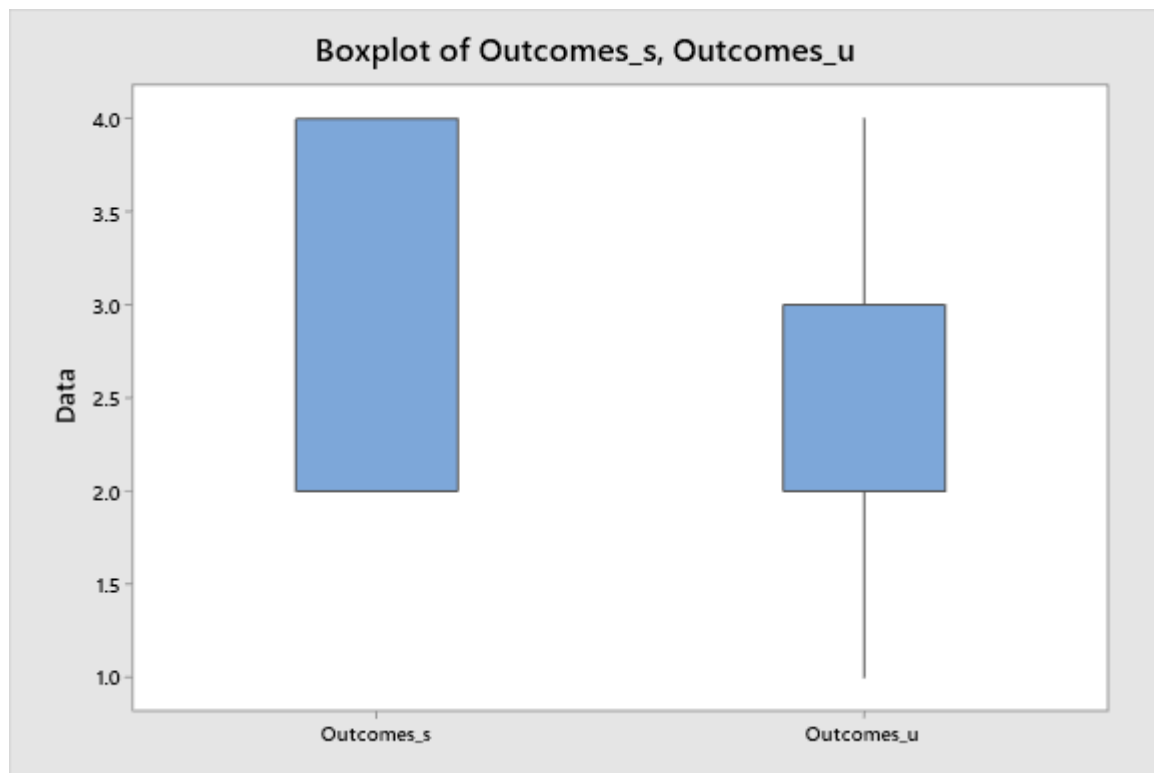
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	284.50	0.112
Adjusted for ties	284.50	0.080

WORKSHEET 1

Boxplot of Outcomes_s, Outcomes_u



WORKSHEET 1

Mann-Whitney: Deliv_s, Deliv_u

Method

η_1 : median of Deliv_s

η_2 : median of Deliv_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Deliv_s	19	3
Deliv_u	7	3

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
0.0000000	(-1, 1)	95.06%

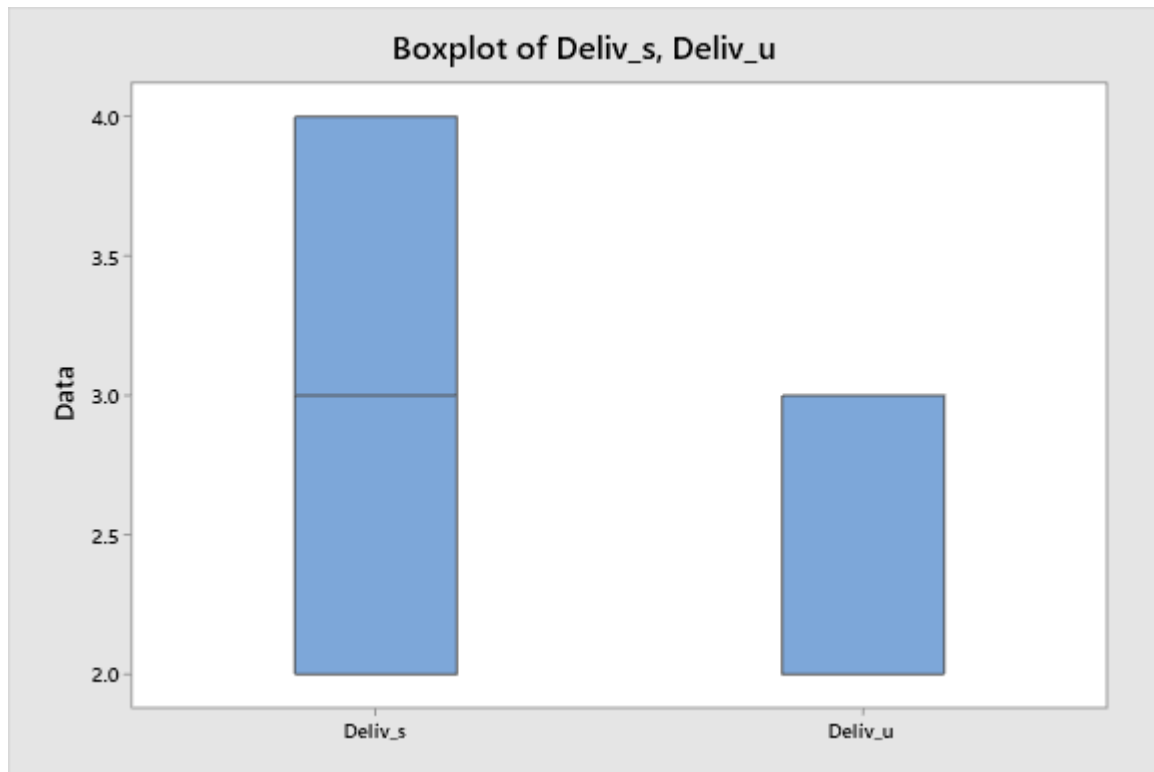
Test

Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	269.50	0.470
Adjusted for ties	269.50	0.436

Boxplot of Deliv_s, Deliv_u



Mann-Whitney: Criteria_s, Criteria_u

Method

η_1 : median of Criteria_s

η_2 : median of Criteria_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Criteria_s	19	2
Criteria_u	7	2

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
0.0000000	(-1, 1)	95.06%

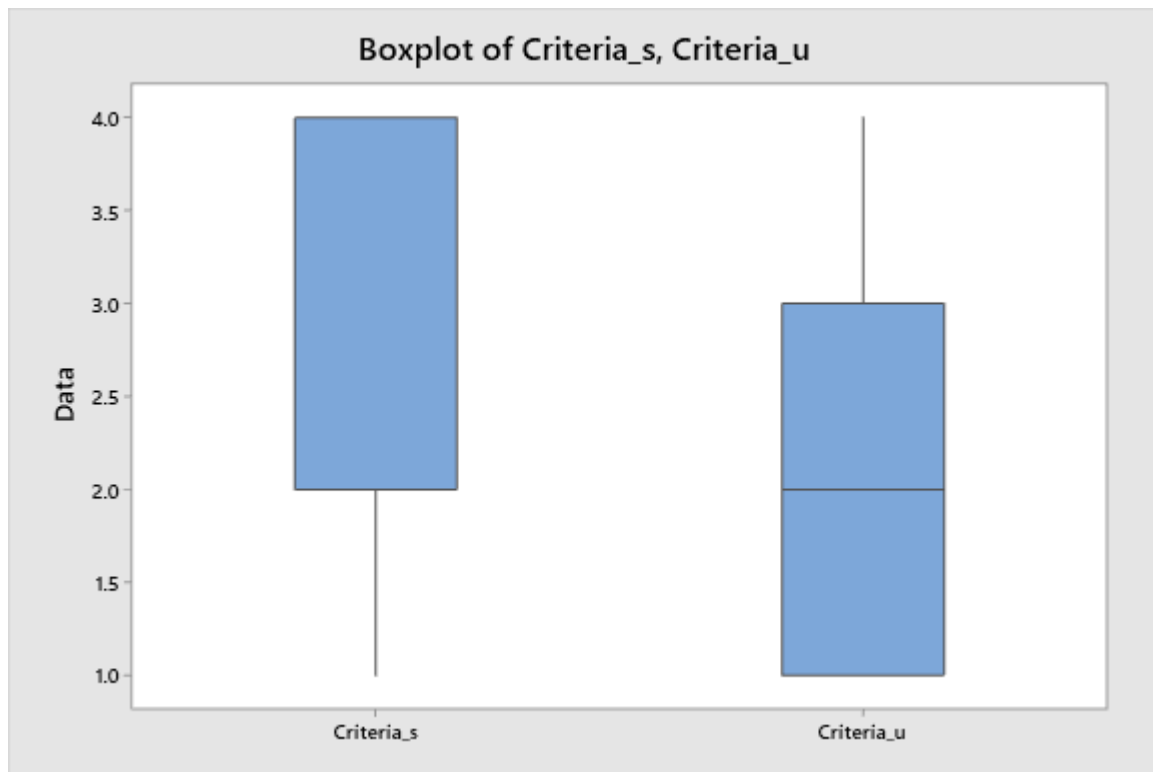
Test

Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	269.50	0.470
Adjusted for ties	269.50	0.451

Boxplot of Criteria_s, Criteria_u



Mann-Whitney: Scoped_s, Scoped_u

Method

η_1 : median of Scoped_s

η_2 : median of Scoped_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Scoped_s	19	3
Scoped_u	7	3

Estimation for Difference

	CI for Difference	Achieved Confidence
1	(-1, 1)	95.06%

Test

Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

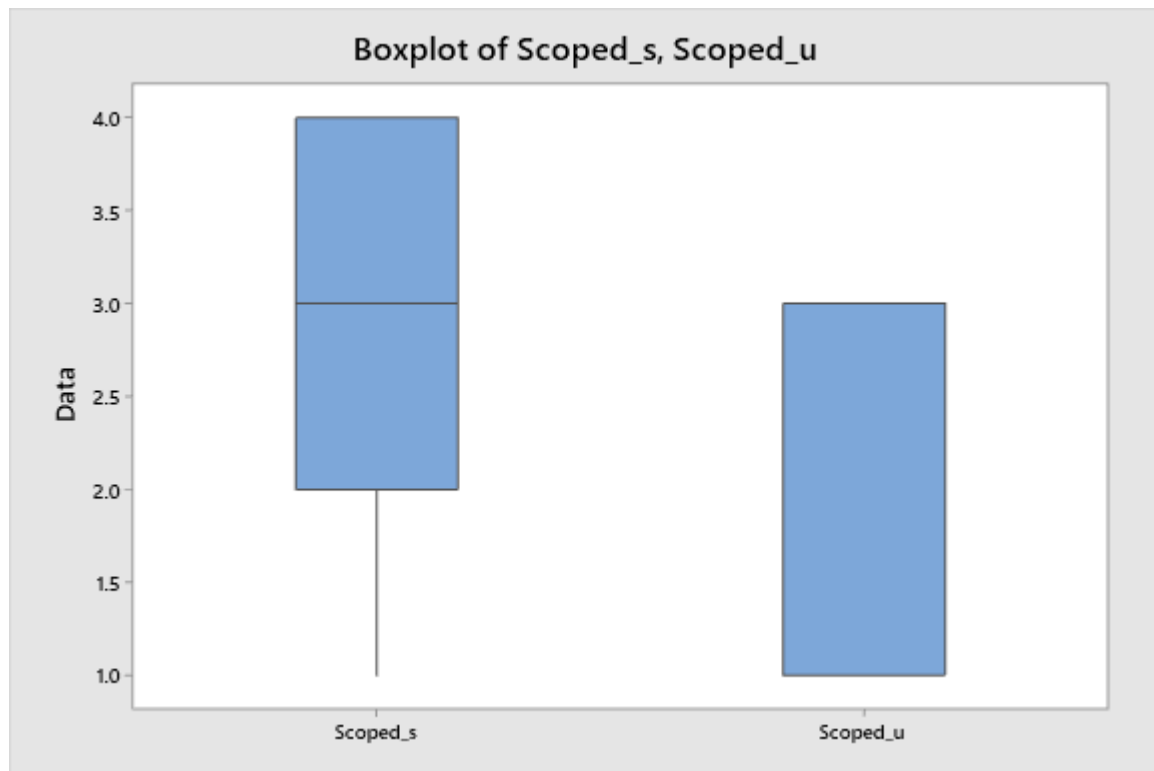
Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	276.00	0.272

Adjusted for ties 276.00 0.255

WORKSHEET 1

Boxplot of Scoped_s, Scoped_u



WORKSHEET 1

Mann-Whitney: Roles_Resp_s, Roles_Resp_u

Method

η_1 : median of Roles_Resp_s

η_2 : median of Roles_Resp_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Roles_Resp_s	19	4
Roles_Resp_u	7	3

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1	(-0.0000000, 2)	95.06%

Test

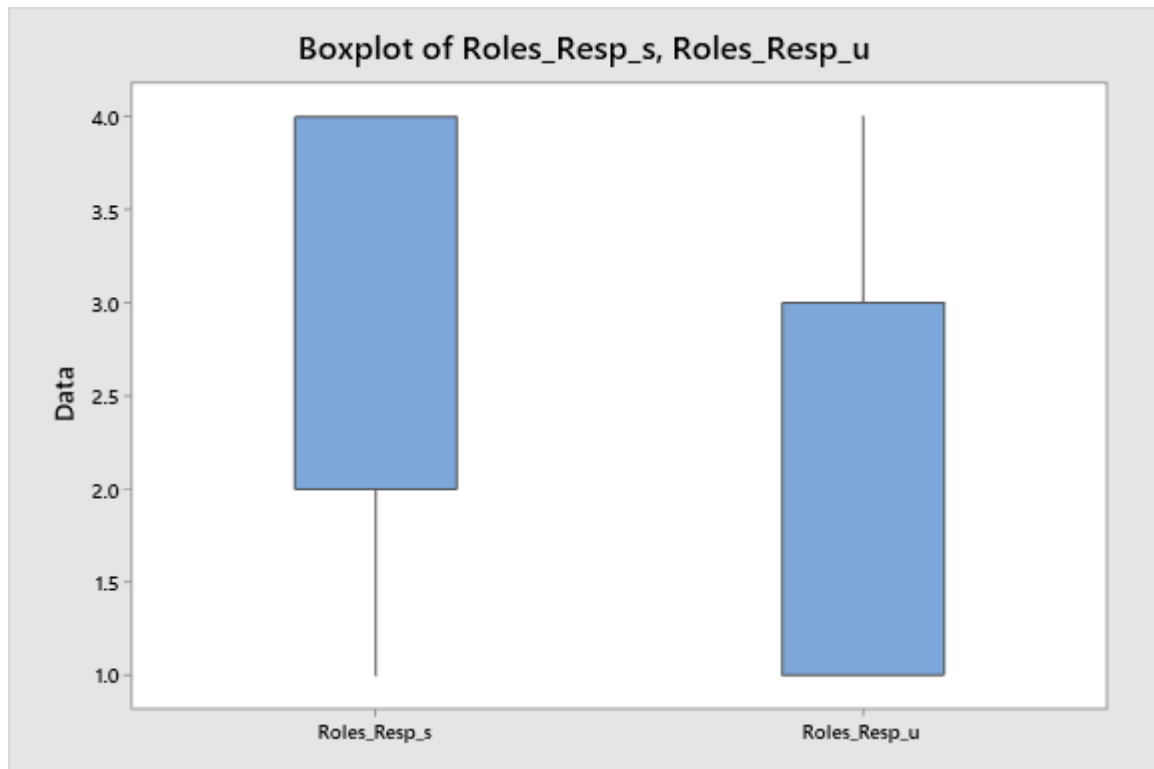
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	280.50	0.174
Adjusted for ties	280.50	0.153

WORKSHEET 1

Boxplot of Roles_Resp_s, Roles_Resp_u



WORKSHEET 1

Mann-Whitney: resourced_s, Resourced_u

Method

η_1 : median of resourced_s

η_2 : median of Resourced_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
resourced_s	19	2
Resourced_u	7	3

Estimation for Difference

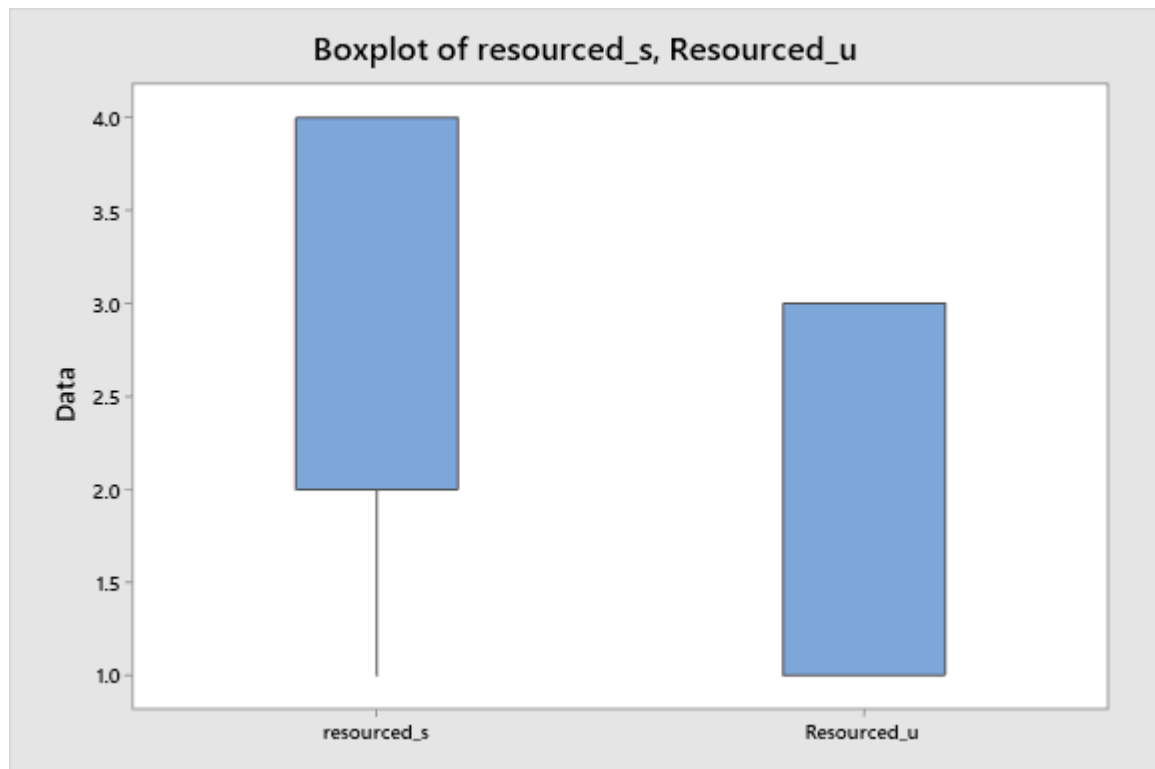
Difference	CI for Difference	Achieved Confidence
0.0000000	(-1, 1)	95.06%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	266.50	0.583
Adjusted for ties	266.50	0.566

WORKSHEET 1

Boxplot of resourced_s, Resourced_u



WORKSHEET 1

Mann-Whitney: Risks_s, Risks_u

Method

η_1 : median of Risks_s
 η_2 : median of Risks_u
Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Risks_s	19	3
Risks_u	7	1

Estimation for Difference

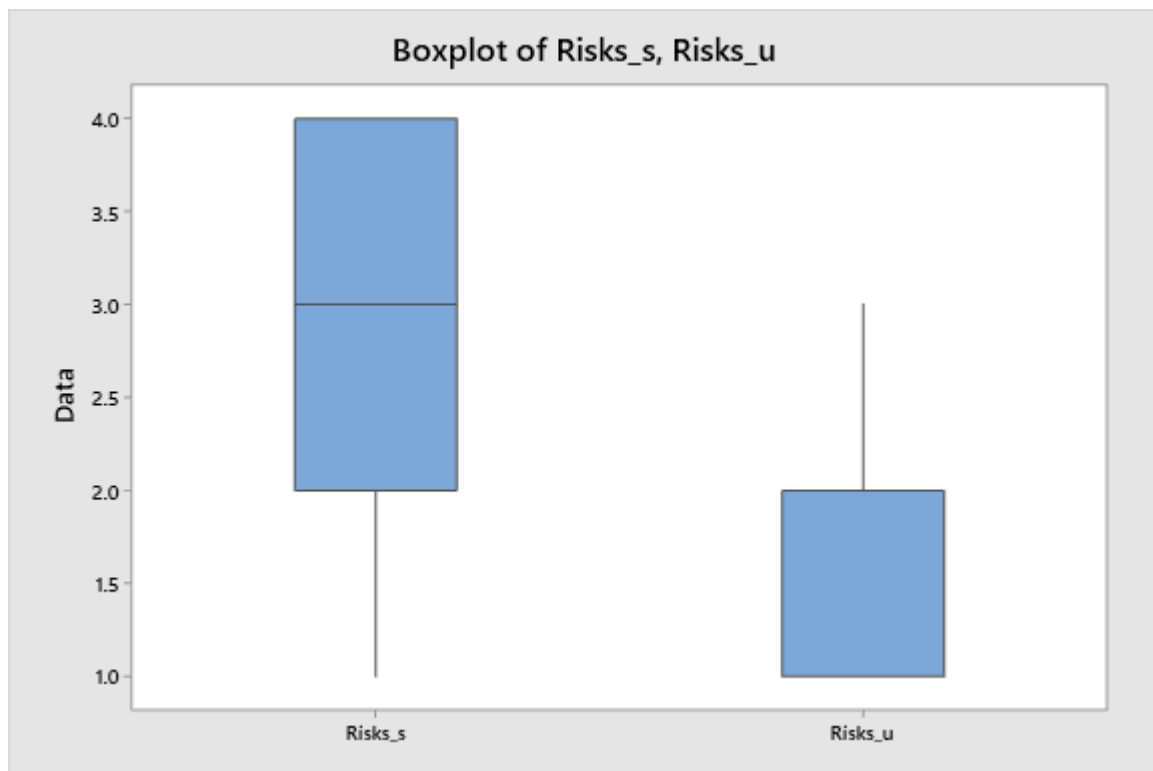
Difference	CI for Difference	Achieved Confidence
1	(1, 2)	95.06%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	302.00	0.009
Adjusted for ties	302.00	0.007

WORKSHEET 1

Boxplot of Risks_s, Risks_u



WORKSHEET 1

Mann-Whitney: Eff_plan_s, Eff_plan_u

Method

η_1 : median of Eff_plan_s
 η_2 : median of Eff_plan_u
Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Eff_plan_s	16	2.5
Eff_plan_u	6	3.0

Estimation for Difference

	CI for Difference	Achieved Confidence
0.0000000	(-1, 1)	95.74%

Test

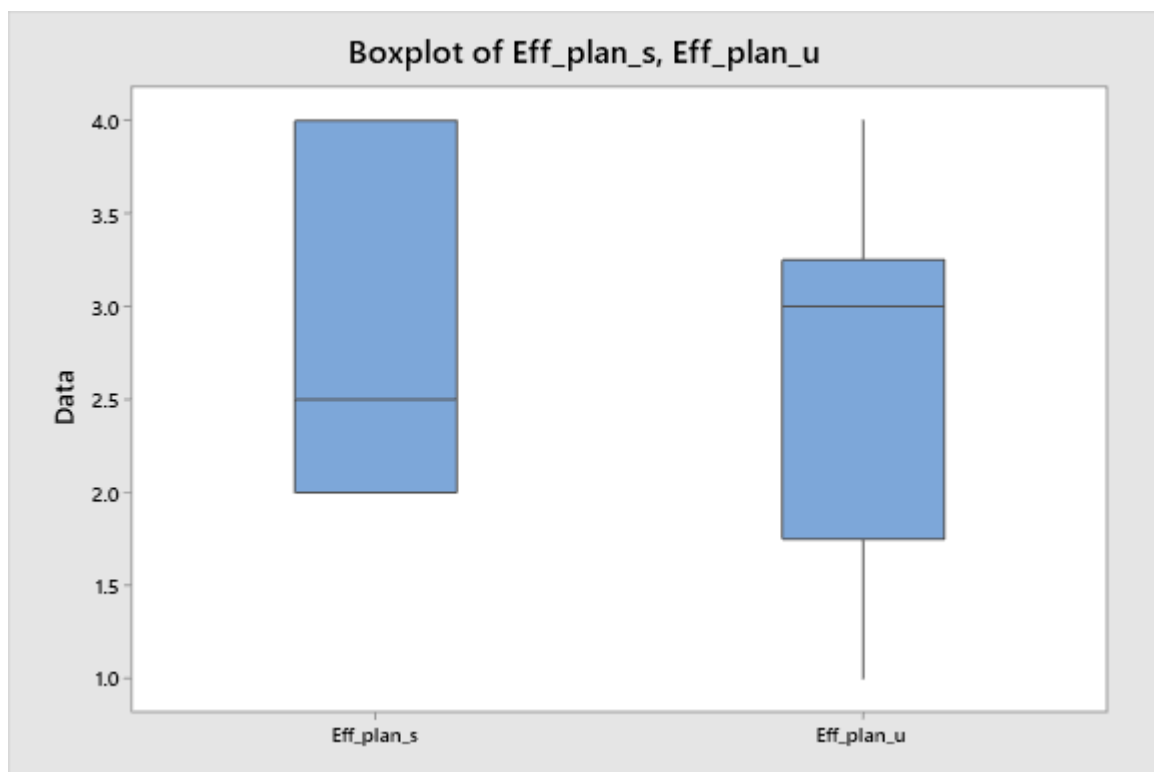
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	188.00	0.796
Adjusted for ties	188.00	0.784

WORKSHEET 1

Boxplot of Eff_plan_s, Eff_plan_u



WORKSHEET 1

Mann-Whitney: Plan_comm_s, Plan_comm_u

Method

η_1 : median of Plan_comm_s

η_2 : median of Plan_comm_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Plan_comm_s	18	4
Plan_comm_u	6	3

Estimation for Difference

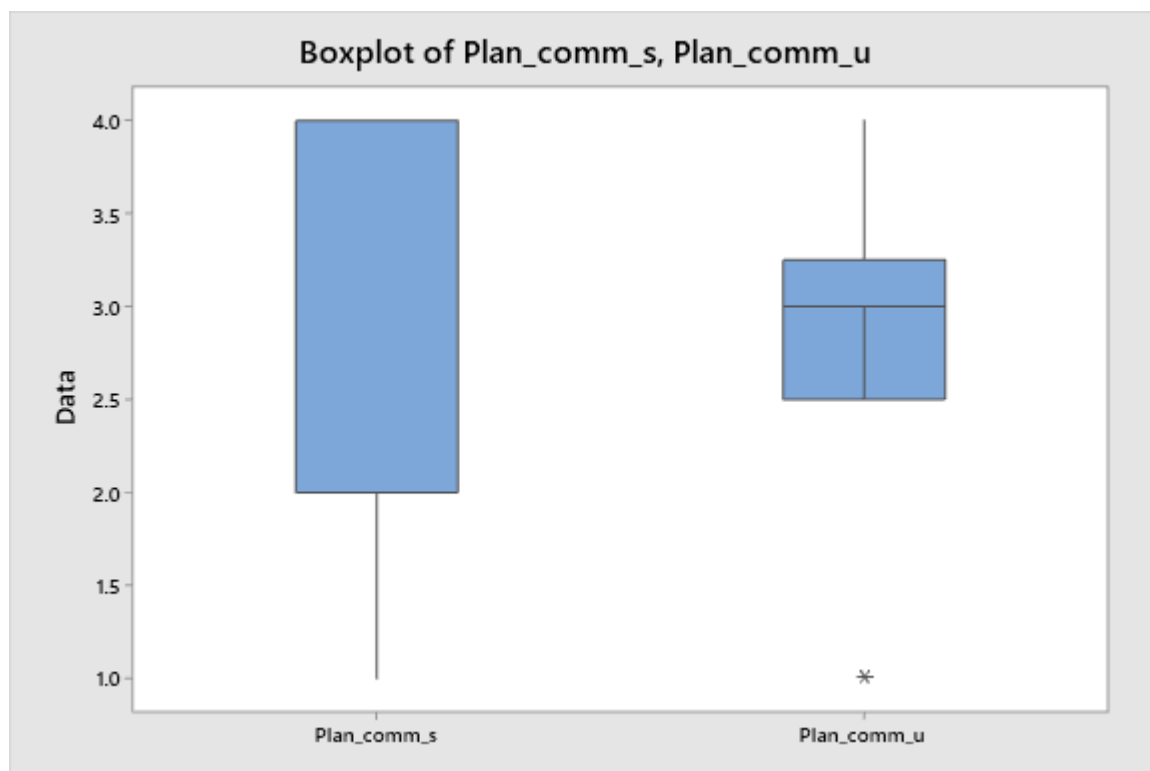
	CI for Difference	Achieved Confidence
1	(-1, 1)	95.08%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	235.50	0.505
Adjusted for ties	235.50	0.477

WORKSHEET 1

Boxplot of Plan_comm_s, Plan_comm_u



WORKSHEET 1

Mann-Whitney: Impact_s, Impact_u

Method

η_1 : median of Impact_s
 η_2 : median of Impact_u
 Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
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Impact_s 19 3
Impact_u 7 2

Estimation for Difference

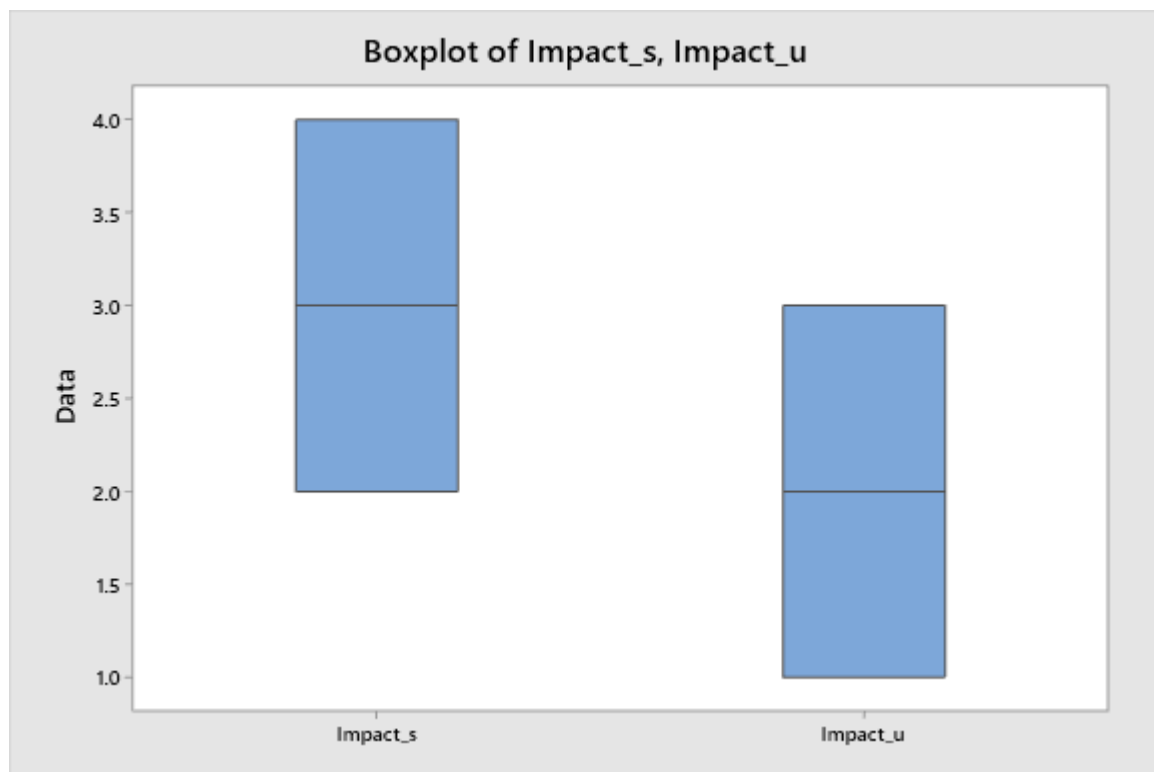
Difference	CI for Difference	Achieved Confidence
1	(-0.0000000, 2)	95.06%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	292.00	0.043
Adjusted for ties	292.00	0.034

WORKSHEET 1

Boxplot of Impact_s, Impact_u



WORKSHEET 1

Mann-Whitney: Transition_s, Transition_u

Method

η_1 : median of Transition_s
 η_2 : median of Transition_u
 Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Transition_s	17	4
Transition_u	5	2

Estimation for Difference

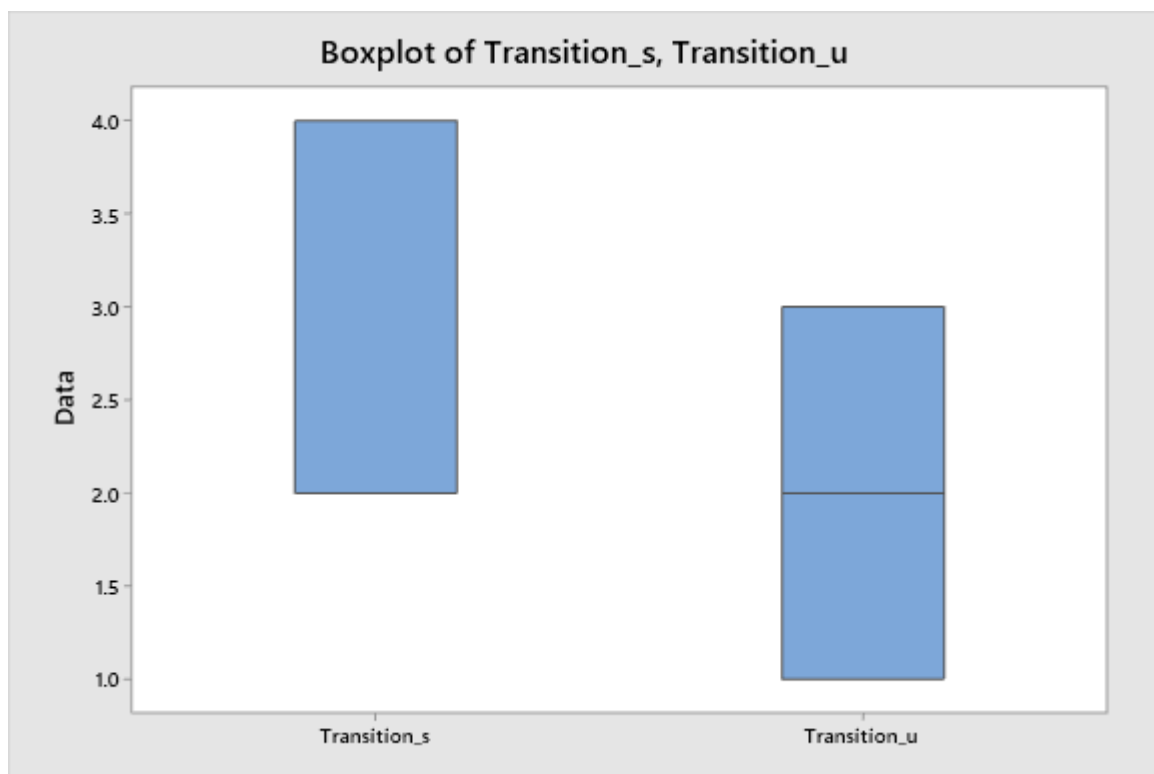
Difference	CI for Difference	Achieved Confidence
1	(0.0000000, 3)	95.83%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	219.50	0.066
Adjusted for ties	219.50	0.050

WORKSHEET 1

Boxplot of Transition_s, Transition_u



WORKSHEET 1

Mann-Whitney: Trans_comm_s, Trans_comm_u

Method

η_1 : median of Trans_comm_s
 η_2 : median of Trans_comm_u
Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Trans_comm_s	19	4
Trans_comm_u	7	1

Estimation for Difference

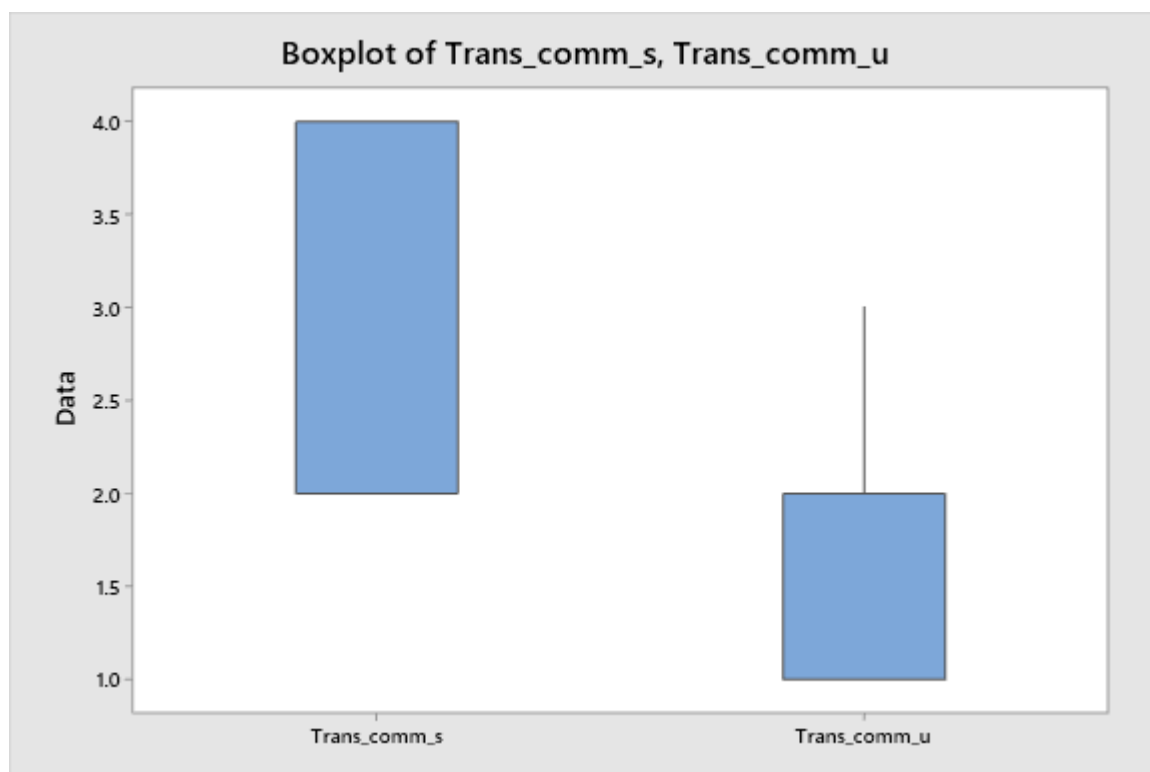
	CI for Difference	Achieved Confidence
2	(1, 3)	95.06%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$	
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$	
Method	W-Value	P-Value
Not adjusted for ties	310.00	0.002
Adjusted for ties	310.00	0.001

WORKSHEET 1

Boxplot of Trans_comm_s, Trans_comm_u



WORKSHEET 1

Mann-Whitney: Clear_succ_s, Clear_succ_u

Method

η_1 : median of Clear_succ_s

η_2 : median of Clear_succ_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Clear_succ_s	19	4
Clear_succ_u	7	3

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1	(-0.0000000, 2)	95.06%

Test

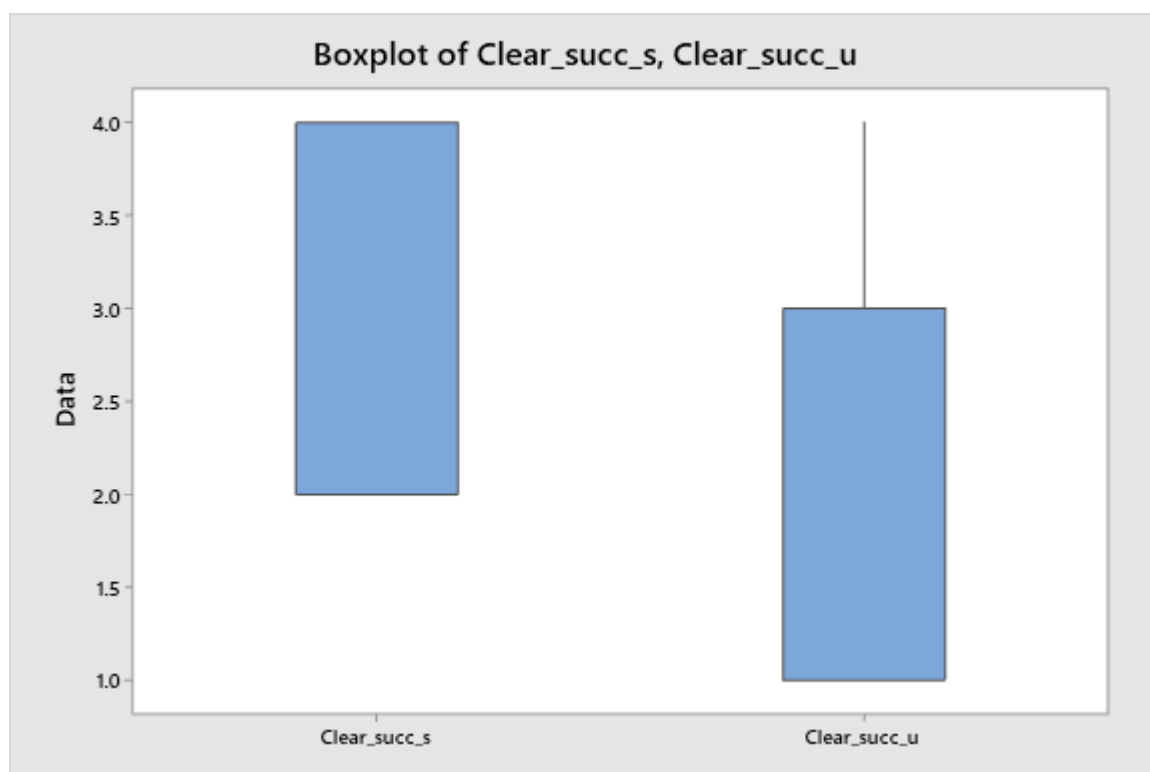
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	281.50	0.157
Adjusted for ties	281.50	0.133

WORKSHEET 1

Boxplot of Clear_succ_s, Clear_succ_u



WORKSHEET 1

Mann-Whitney: OCMP_s, OCMP_u

Method

η_1 : median of OCMP_s

η_2 : median of OCMP_u

Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
OCMP_s	19	3
OCMP_u	7	3

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
1	(0.0000000, 1)	95.06%

Test

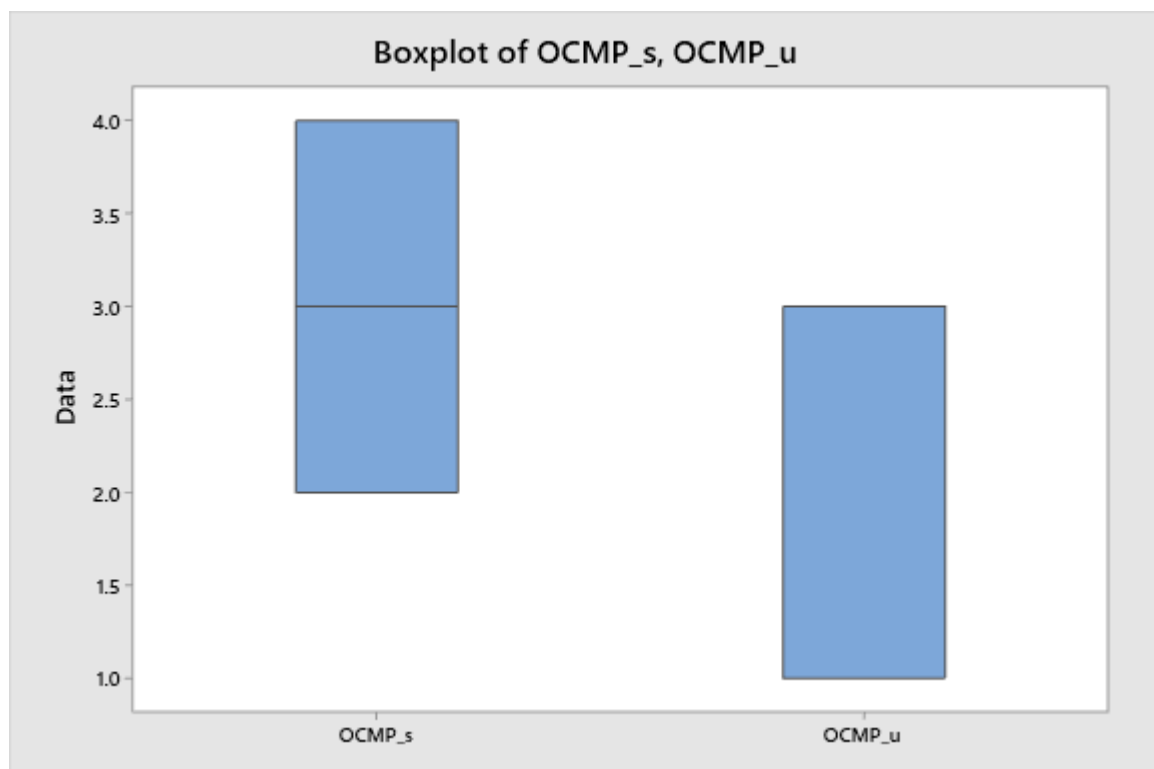
Null hypothesis $H_0: \eta_1 - \eta_2 = 0$

Alternative hypothesis $H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	283.00	0.133
Adjusted for ties	283.00	0.114

WORKSHEET 1

Boxplot of OCMP_s, OCMP_u



9.5 Appendix 5

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Submit a Proposal

Complete a [Project Proposal Document](#) and Submit to the Project Gate Way group using the link below:

[Submit a Proposal](#)

How the submission process works

- Complete a Project [Proposal Document](#) and save it to your computer.
- Submit the proposal document using the link above.
- You will receive an email confirming your submission. All the members of the Project Gateway group will be emailed your proposal for review.
- The group will review your submission at their next monthly meeting. They will either Approve or Decline the project.
- Their decision will be emailed to you with any further comments or requests for information as required.
- Approved projects will be added to the [Current Project](#) dashboard where it can be tracked.
- A SharePoint Project Site specific to your project will be created by LIS to manage and share documents via SharePoint.
- Project Status updates can be done via this site.
- Refer to the [Overview](#) page, [Tools and Templates](#) page, [Project Management Home](#) and [Change Management Home](#) for guidance on managing a project and change.
- Workflow for [PGWG process](#)
- Terms of reference [TOR for the PGWG](#)

9.6 Appendix 6

SharePoint

Newsfeed OneDrive Sites

Farisha Osborne (ADHB)

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Proposals For Review									
Task Name	Due Date	Proposal	Project Title	Submit Date	Project Manager	Project Sponsor	Last Modified	GWG Outcome	Submitted By
IPad Internal Audit	15/06/2020	Proposal	IPad Internal Audit	15/06/2020	Glen Devenie	Susan Corboy	15/06/2020 12:44		Glen Devenie (ADHB)
BI Tools Discovery	24/06/2020	Proposal	BI Tools Discovery	24/06/2020	Faith Taylor	Matthew Grace	24/06/2020 14:42		Colin Osborne (ADHB)

SharePoint

NewsfeedOneDriveSitesFarisha Osborne (AZHB)

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Project Dashboard

Project Title	Key Result Area	Priority	Change	Capital	Sponsor	Project Manager	Comments	Approved End Date	Estimated End Date	Status	Resourcing	Budget	Benefit Expectations	Project Site	Modified
Project Type : Facility Projects (3)															
Histology Dissection Room Upgrade	Safety	M	I	H	Ian Costello	Steven Martin	Finishing soon. Paths may not be able to move back from Small Rangitoto.	29/03/2020	29/04/2020						14/05/2020 11:24
LabPlus Facilities Review with Klien Architects	Economic Sustainability	M	S	H	Daniel Hunt	Steven Martin	Prepare options report	30/05/2020	30/05/2020						9/03/2020 14:57
Facilities for Mass Spectrometer in Chemistry	Economic Sustainability	H	I	M	Colleen Harvey	Steven Martin	delayed due to COVID	27/03/2020	28/03/2020						6/04/2020 11:30
Project Type : IT Projects (5)															
Electronic Order Entry	Patient Safety	H	T	VH	Daniel Hunt	Faith Taylor	June 2020 - Application for seedfunding will be reviewed at CAMPC at June meeting.		31/10/2021					URL	9/06/2020 08:24
BSP data to MoH National Screening Solution	Quality Care	H	I	M	James Polcai	Charmaine Marshall	All changes migrated to PROduction, now awaiting Go-Live. On hold due to COVID, awaiting revised timeframes from MoH.		31/08/2020					URL	29/06/2020 07:03
Lifecycle software upgrade 4.1.1 to 7 (LC7) for screening	Quality Care	H	I	L	Colleen Harvey	Dianne Webster	Testing continues with issues still being found, working with PE however with the pandemic this is increasingly problematic.		30/09/2020						29/06/2020 08:17
HL7 Receiving of Results	Quality Care	L	I	L	Faith Taylor	Colin Osborne	Hvae updated the list of tests that we send to CHCH so we are not working on irrelevant tests.	18/12/2020	18/12/2020					URL	1/07/2020 11:21
Cytology Reporting from Lab 59		L	I	L	Philippa Coles	Amy Tam								URL	8/06/2020 14:55

9.7 Appendix 7

Project Management

Auckland DHB has created a **Project Management Framework PMF** and a Project Hub site with a specific goal to:

- develop consistency in project approach
- ensure clarity over project roles and responsibilities
- put a focus on principles of best practice, rather than prescriptive process - regardless of methodology
- Provide templates, tools, and guides that can be scaled as appropriate.

What is a project management framework? It is a combination of processes, tasks, and tools used to transition a project from start to finish. The Auckland DHB PMF is based around the Auckland DHB standard project lifecycle - which has four phases.

Auckland DHB project lifecycle



For more information go to the [Project Management Home](#)

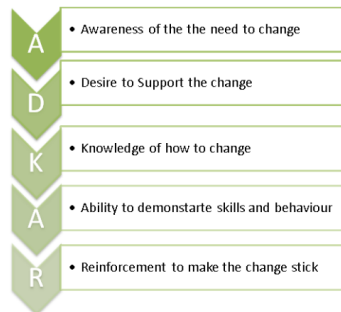
An overview of a generic process used by this framework is:

Phase	Description
Initiate	Focuses on the understanding and agreement of what the project is aiming to achieve, and why. This phase is used to ensure that the Sponsor, and other relevant project authorities/stakeholders want the project to proceed, based on clearly articulated drivers, objectives, and outcomes – and that the proposed outputs/solutions are feasible.
Plan	Focuses on the 'What, Who, When, Where, and How' of the project. This includes planning and documenting how the project will be managed and the work executed. This involves identifying the cost, quality, available resources, a realistic timetable/schedule and establishing baselines and performance measures.
Execute	Focuses on the production of the project's outputs and on executing project management strategies and plans. This includes the ongoing management of stakeholders, risks, quality, resources, issues and work of the project, the measuring of project progress and performance, and planning the handover/transition of outputs to Change Owners.
Close	Focuses on ensuring that outputs have been delivered and that benefits have, or are on track to be realised. Close phase activities are designed to ensure that the project organisation can be disbanded, or transitioned, and to provide a final assessment of project performance. An important aspect of the close phase is capturing lessons learned (both success and failure) to help improve project delivery in the future

Change Management

Change Management is the discipline that guides how we prepare, equip and support individuals to successfully adopt change in order to drive organisations success and outcomes. Project management intent is to ensure that the solution is designed, developed and delivered effectively. Change management intent is to ensure that the solution is embraced, adopted and used by employees impacted by the change.

Auckland DHB has adopted the **ADKAR model** for their approach to change management. ADKAR is an acronym that represents the five milestones or outcomes an individual must achieve for change to be successfully realised: Awareness, Desire, Knowledge, Ability and Reinforcement. When applied to organisational change, this model allows leaders and change management teams to focus their activities on what will drive individual change and produce organisational results collectively.

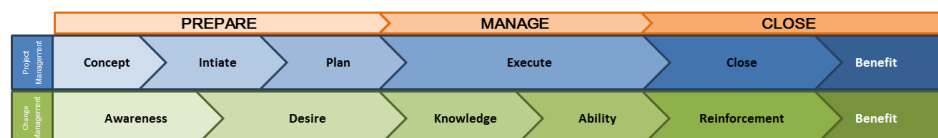


For more information go to the [Change Management Home](#)

Integrated Change and Project Management Model

Project and Change management are complimentary disciplines with a common objective. The common objective, in times of change, is to improve the performance of the organisation with a project initiative to reach a desired future state. They each provide focus, processes and tools for moving through the transition toward the future state. A successful change is characterised by a solution that is effectively designed, developed and delivered (project management) and that is embraced, adopted and used by impacted employees (change management).

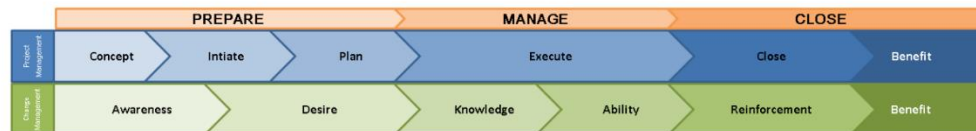
The model below demonstrates how the two disciplines could be integrated:



By: Farisha Osborne

9.8 Appendix 8

Tools and Templates



Mandatory Documents:

Tools and Templates	Information page	Phase	Change or Project Management
Project Proposal	Project Gateway Group Project Gateway Group TOR Submit a Proposal	Concept	Project Management
Project Charter Project Charter - Lean Six Sigma	Scope or Charter Manage Scope	Initiate Plan Execute	Change and Project Management
Business Case	Capital Investment	Concept	Project Management

Prepare



- Check if your project needs to go to the Project Gateway Group PGWG.
- If it needs to go to the PGWG complete the Project Proposal Document and Submit via this Site
- Project Gate Way Group Workflow
- Approved projects will get a SharePoint site to manage and share documents. Also to track project progress.
- Complete a Project Charter or a Business Case - high level scope
- Project and Change management Workflow

Prepare



- Check if your project needs to go to the Project Gateway Group PGWG.
- If it needs to go to the PGWG complete the Project Proposal Document and Submit via this Site
- Project Gate Way Group Workflow
- Approved projects will get a SharePoint site to manage and share documents. Also to track project progress.
- Complete a Project Charter or a Business Case - high level scope
- Project and Change management Workflow

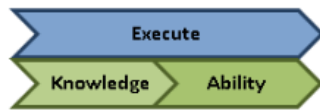
Mandatory Documents

- Project Proposal
- Project Charter *(if no funding is required)*
- Business Case *(if requesting funds through CAMPc, or CAPEX process)*
- Steering Group TOR *(if there is a steering group)*
- IT Checklist
- Status Report
- Work Breakdown Structure

Recommended Documents

- Benefit Mapping
- Stakeholder Register
- Communication Plan
- Readiness Assessment
- Risk Register
- Sponsorship Road Map
- RACI
- Q and A

Manage



- Once the project has started regular updates should be made to the sponsor, Steering Group and the PGWG
- Determine how (email, status report, meeting) and how often at the beginning of the project. This is an agreement between Sponsor and Project manager
- Track project progress against the plans
- Manage communication, budget, stakeholders, risk, issues, decisions, resistance, quality, training and delivery
- Escalate issues where appropriate

Mandatory Documents

- Status Report
- Meeting Minutes
- Meeting Agenda

Recommended Documents

- Action Log
- Issue Registry
- Risk Registry
- Decision Registry
- Communication Plan
- Resistance Management
- Q and A
- Stakeholder Register
- Training plan

Close



- The formal handover of the outputs of the project to the Change Owner and close of the project organisation. This includes documenting any outstanding risks, or issues, and/or documenting agreement by stakeholders that the project has met its objectives, or that it should be terminated early, and why.
- Identify, acknowledge and capture project achievements, failures and any lessons learned.

Mandatory Documents

- New Analyser form

Recommended Documents

- Q and A
- Stakeholder Register
- Action Log
- Issue Registry
- Risk Registry
- Decision Registry
- Resistance Management

9.9 Appendix 9

SharePoint

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 **LabPLUS Project Gateway Group**

 **ADHB Project Management Framework**

 **Initiate Phase**

 **Scope or Charter**

 **Business Case**

 **Capex Process**

 **IT Process**

 **Plan Phase**

 **Development and Delivery Methods**

 **Lean Six Sigma Green Belt**

 **Tolerance**

 **Success Criteria**

 **Execute Phase**

 **Manage scope**

9.10 Appendix 10

SharePoint

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 **Change Curve**

 **Change Management Framework**

 **Awareness**

 **Desire**

 **Knowledge**

 **Ability**

 **Reinforcement**

 **Change Management Process**

 **Roles in Change Management**

 **Change Manager**

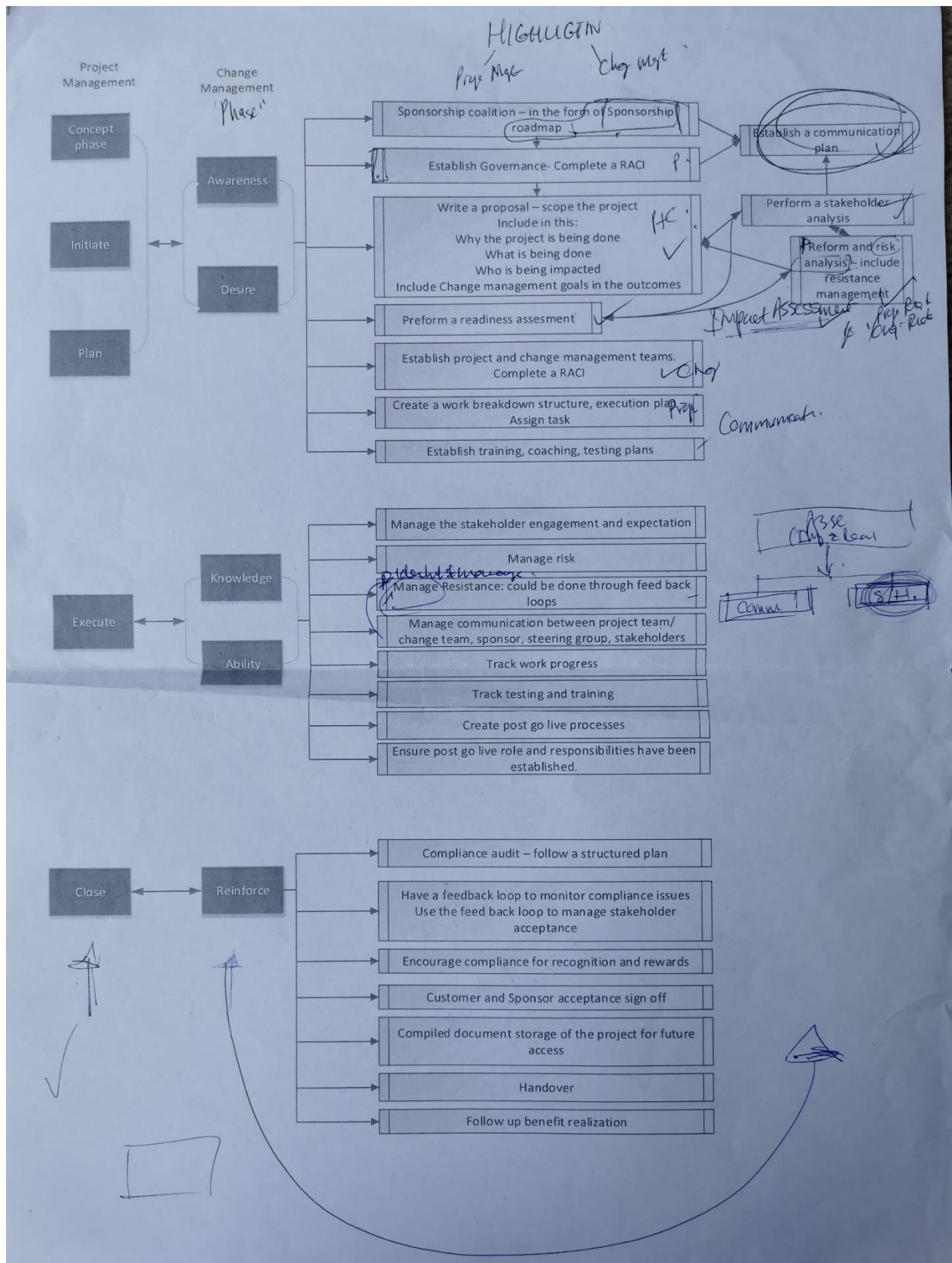
 **Change Owner**

 **Sponsorship Management**

 **Readiness and Impact Assessment**

 **Stakeholder Management**

9.11 Appendix 11



9.12 Appendix 12

